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Following completion of decommissioning operations, site restoration activities will begin. Efficient removal of the contaminated materials and verification that residual radionuclide concentrations are below the NRC limits will result in substantial damage to many of the structures. Although performed in a controlled and safe manner, blasting, coring, drilling, scarification (surface removal), and the other decontamination activities will substantially degrade power block structures including the reactor and auxiliary buildings. Under certain circumstances, verifying that subsurface radionuclide concentrations meet NRC site release requirements will require removal of grade slabs and lower floors, potentially weakening footings and structural supports. This removal activity will be necessary for those facilities and plant areas where historical records, when available, indicate the potential for radionuclides having been present in the soil, where system failures have been recorded, or where it is required to confirm that subsurface process and drain lines were not breached over the operating life of the station.

Dismantling of site structures following decommissioning is clearly the most appropriate and cost-effective option. It is unreasonable to anticipate that these structures would be repaired and preserved after the radiological contamination is removed. The effort to dismantle site structures with a work force already mobilized on site is more efficient than if the process were deferred. Site facilities quickly degrade without maintenance, adding additional expense and creating potential hazards to the public as well as to future workers. Abandonment creates a breeding ground for vermin infestation as well as other biological hazards.

This cost study presumes that non-essential structures and site facilities are dismantled as a continuation of the decommissioning activity. Foundations and exterior walls are completely removed, including foundations and basemats as required by Minnesota regulations.^[27] Site areas affected by the dismantling activities are restored and the plant area graded as required to prevent ponding, establish erosion control by the planting of native vegetation, and inhibit the refloating of subsurface materials.

Non-contaminated concrete rubble produced by demolition activities is processed to remove reinforcing steel and miscellaneous embedments. All non-contaminated materials are trucked to an off-site area for

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disposal as construction debris. Subgrade voids are backfilled with clean construction fill, suitable under Minnesota regulations.

2.1.4 ISFSI Operations and Decommissioning

The ISFSI will continue to operate under a site-specific license as authorized by 10 CFR Part 72 following the amendment of the operating license to release the adjacent (power block) property. Assuming that Prairie Island spent fuel shipments begin in 2037, the process is not expected to be completed until 2074 (Scenario 1). Any delay in the transfer process, for example, due to a delay in the scheduled opening of the geologic repository, a slower acceptance rate, or a combination of both, can result in a longer on-site residence time for the fuel discharge from the reactor, as well as additional caretaking expenses. Scenarios 3 and 4 address extended delay periods, which includes the assumption that the spent fuel DSCs will need to be replaced every fifty years.

The assumed design for the ISFSI is based upon the use of the existing TN-40 casks from Transnuclear, plus the use of a multi-purpose dry shielded storage canister and a NUHOMS horizontal storage module for pad storage for those fuel assemblies packaged after plant shutdown.

At the conclusion of the spent fuel transfer process, the ISFSI will be decommissioned. The Commission will terminate the license if it determines that the remediation of the ISFSI has been performed in accordance with an ISFSI license termination plan and that the final radiation survey and associated documentation demonstrate that the facility is suitable for release. Once the requirements are satisfied, the NRC can terminate the license for the ISFSI.

For purposes of this cost analysis, it is assumed that once the TN-40s and DSCs containing the spent fuel assemblies have been removed, any required decontamination is performed on the storage overpacks (some minor neutron-induced activation is assumed), and the license for the facility terminated, the concrete overpacks can be dismantled using conventional techniques for the demolition of reinforced concrete. The concrete storage pad is then removed and the area regraded. This topic is discussed in greater detail in section 3.4.1.

2.2 SAFSTOR

The NRC defines SAFSTOR as "the alternative in which the nuclear facility is placed and maintained in a condition that allows the nuclear facility to be

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safely stored and subsequently decontaminated (deferred decontamination) to levels that permit release for unrestricted use." The facility is left intact (during the dormancy period), with structures maintained in a sound condition. Systems not required to operate in support of the spent fuel pool or site surveillance and security are drained, de-energized, and secured. Minimal cleaning/removal of loose contamination and/or fixation and sealing of remaining contamination are performed. Access to contaminated areas is secured to provide controlled access for inspection and maintenance.

The engineering and planning requirements are similar to those for the DECON alternative. Site preparations are also similar to those for the DECON alternative. However, with the exception of the required radiation surveys and site characterizations, the mobilization and preparation of site facilities is less extensive.

2.2.1 Period 1 - Preparations

Preparations for long-term storage include the planning for permanent defueling of the reactors, revision of technical specifications appropriate to the operating conditions and requirements, a characterization of the facility and major components, and the development of the PSDAR.

The process of placing the plant in safe-storage includes, but is not limited to, the following activities:

- Isolation of the spent fuel storage services and fuel handling systems located in the auxiliary building so that safe-storage operations may commence on the balance of the plant. This activity may be carried out by plant personnel in accordance with existing operating technical specifications. Activities are scheduled around the fuel handling systems to the greatest extent possible.
- Draining and de-energizing of the non-contaminated systems not required to support continued site operations or maintenance.
- Disposing of contaminated filter elements and resin beds not required for processing wastes from layup activities for future operations.
- Draining of the reactor vessels, with the internals left in place and the vessel heads secured.
- Draining and de-energizing non-essential, contaminated systems with decontamination as required for future maintenance and inspection.

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- Preparing lighting and alarm systems whose continued use is required; de-energizing portions of fire protection, electric power, and HVAC systems whose continued use is not required.
- Cleaning of the loose surface contamination from building access pathways.
- Performing an interim radiation survey of plant, posting warning signs where appropriate.
- Erecting physical barriers and/or securing all access to radioactive or contaminated areas, except as required for inspection and maintenance.
- Installing security and surveillance monitoring equipment and relocating security fence around secured structures, as required.

2.2.2 Period 2 - Dormancy

The second phase identified by the NRC in its rule addresses licensed activities during a storage period and is applicable to the dormancy phases of the deferred decommissioning alternatives. Dormancy activities include a 24-hour security force, preventive and corrective maintenance on security systems, area lighting, general building maintenance, heating and ventilation of buildings, routine radiological inspections of contaminated structures, maintenance of structural integrity, and a site environmental and radiation monitoring program. Resident maintenance personnel perform equipment maintenance, inspection activities, routine services to maintain safe conditions, adequate lighting, heating, and ventilation, and periodic preventive maintenance on essential site services.

An environmental surveillance program is carried out during the dormancy period to ensure that releases of radioactive material to the environment are prevented and/or detected and controlled. Appropriate emergency procedures are established and initiated for potential releases that exceed prescribed limits. The environmental surveillance program constitutes an abbreviated version of the program in effect during normal plant operations.

Security during the dormancy period is conducted primarily to protect the spent nuclear fuel while it is on site, prevent unauthorized entry, and to protect the public from the consequences of their own actions. The security fence, sensors, alarms, and other surveillance equipment provide security. Fire and radiation alarms are also monitored and

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maintained. While remote surveillance is an option, it does not offer the immediate response time of a physical presence.

The length of the dormancy period is such that decommissioning (license termination) of the station (excluding the ISFSI) is accomplished within 60 years of final shutdown. During Scenario 5, the transfer of the spent fuel to a DOE facility continues during this period until complete. The Scenario 6 SAFSTOR has the site remain in dormancy following spent fuel removal to the maximum extent possible, such that the licenses are terminated within the required 60-year time period. Scenarios 7 and 8 address extended delay periods, which include the assumption that the spent fuel DSCs will need to be replaced every fifty years.

It is required that the licensee submit an application to terminate each license, along with a LTP (described in Section 2.1.2), thereby initiating delayed decommissioning.

2.2.3 Periods 3 and 4 - Delayed Decommissioning

With the beginning of the third phase, prior to the commencement of decommissioning operations, preparations are undertaken to reactivate site services and prepare for decommissioning. Preparations include engineering and planning, a detailed site characterization, and the assembly of a decommissioning management organization. Final planning for activities and the writing of activity specifications and detailed procedures are also initiated at this time.

Much of the work in developing a termination plan is relevant to the development of the detailed engineering plans and procedures. The activities associated with this phase and the follow-on decontamination and dismantling processes are detailed in Sections 2.1.1 and 2.1.2. The primary difference between the sequences anticipated for the DECON and SAFSTOR scenarios is the absence, in the latter, of any constraint on the availability of the fuel storage pool located within the auxiliary building for decommissioning.

Variations in the length of the dormancy period are expected to have some effect upon the quantities of radioactive wastes generated from system and structure removal operations. However, given the levels of radioactivity and spectrum of radionuclides expected from approximately sixty years of plant operation, no plant process system identified as being contaminated upon final shutdown will become releasable due to the decay period alone. (i.e., there is no significant

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reduction in the waste generated from the decommissioning activities). Due to the lower activity levels, a greater percentage of the waste volume can be designated for off-site processing and recovery.

The delay in decommissioning also yields lower working area radiation levels. As such, the estimate for the delayed scenarios incorporate reduced ALARA controls for the SAFSTOR's lower occupational exposure potential.

Although the initial radiation levels due to ^{60}Co will substantially decrease during the dormancy period, the internal components of the reactor vessels will still exhibit sufficiently high radiation dose rates to require remote sectioning under water due to the presence of long-lived radionuclides such as ^{94}Nb , ^{59}Ni , and ^{63}Ni . Therefore, the dismantling procedures described for the DECON alternative would still be employed during this scenario. Portions of the biological shield wall will still be radioactive due to the presence of activated trace elements with long half-lives (^{152}Eu and ^{154}Eu). Decontamination will require controlled removal and disposal. It is assumed that radioactive corrosion products on inner surfaces of piping and components will not have decayed to levels that will permit unrestricted use or allow conventional removal. These systems and components will be surveyed as they are removed and disposed of in accordance with the existing radioactive release criteria.

2.2.4 Period 5 - Site Restoration

Following completion of decommissioning operations, site-restoration activities can begin. Dismantling, as a continuation of the decommissioning process, is a cost-effective option, as described in Section 2.1.3. The basis for the dismantling cost in this scenario is consistent with that described for DECON, presuming the removal of structures and site facilities to include the existing foundations and basemats, and the limited restoration of the site.

2.2.5 ISFSI Operations and Decommissioning

For Scenarios 7 and 8, the ISFSI will continue to operate under a site-specific license as authorized by 10 CFR Part 72 following the amendment of the operating license to release the adjacent (power block) property. Assuming that Prairie Island spent fuel shipments begin in 2093, the process is not expected to be completed until 2117 (Scenario 7). Assuming that Prairie Island spent fuel shipments begin in 2193, the process is not expected to be completed until 2217 (Scenario 8). Any

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delay in the transfer process, for example, due to a delay in the scheduled opening of the geologic repository, a slower acceptance rate, or a combination of both, can result in a longer on-site residence time for the fuel, as well as additional caretaking expenses. ISFSI operations will include the assumption that the spent fuel DSCs will need to be replaced every fifty years.

Operations and decommissioning activities for Scenarios 7 and 8 during a SAFSTOR scenario proceed in a similar fashion to the Scenario 3 and 4 following DECON, as discussed in Section 2.1.4.

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3. COST ESTIMATES

The cost estimates prepared for decommissioning Prairie Island consider the unique features of the site, including the NSSS, power generation systems, support services, site buildings, and ancillary facilities. The basis of the estimates, including the sources of information relied upon, the estimating methodology employed, site-specific considerations, and other pertinent assumptions, is described in this section.

3.1 BASIS OF ESTIMATES

The estimates were developed using the site-specific, technical information from the 2017 analysis. The plant inventory, the basis for the decontamination and dismantling requirements and cost, and the decommissioning waste streams, was reviewed for this analysis; no substantive changes were identified over the three-year period (between estimates) to the configuration of the plant or site facilities that would impact decommissioning. The site-specific considerations and assumptions used in the previous evaluation were also revisited; no necessary modifications were identified.

3.2 METHODOLOGY

The methodology used to develop the estimates follows the basic approach originally presented in the AIF/NESP-036 study report, "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates,"^[28] and the DOE "Decommissioning Handbook."^[29] These documents present a unit factor method for estimating decommissioning activity costs, which simplifies the estimating calculations. Unit factors for concrete removal (\$/cubic yard), steel removal (\$/ton), and cutting costs (\$/inch) were developed using local labor rates. The activity-dependent costs were estimated with the item quantities (cubic yards and tons), developed from plant drawings and inventory documents. Removal rates and material costs for the conventional disposition of components and structures relied upon information available in the industry publication, "Building Construction Cost Data," published by RSMeans.^[30]

The unit factor method provides a demonstrable basis for establishing reliable cost estimates. The detail provided in the unit factors, including activity duration, labor costs (by craft), and equipment and consumable costs, ensures that essential elements have not been omitted. Appendix A presents the detailed development of a typical unit factor. Appendix B provides the values contained within one set of factors developed for this analysis.

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Regulatory Guide 1.184 ^[31] describes the methods and procedures that are acceptable to the NRC staff for implementing the requirements that relate to the initial activities and the major phases of the decommissioning process. The costs and schedules presented in this analysis follow the general guidance and sequence in the regulations. The format and content of the estimates is also consistent with the recommendations of Regulatory Guide 1.202. ^[32]

The estimates also reflect lessons learned from TLG's involvement in the Shippingport Station Decommissioning Project, completed in 1989, as well as the decommissioning of the Cintichem reactor, hot cells and associated facilities, completed in 1997. In addition, the planning and engineering for the Rancho Seco, Trojan, Yankee Rowe, Big Rock Point, Maine Yankee, Humboldt Bay-3, Oyster Creek, Connecticut Yankee, Crystal River, Vermont Yankee, Fort Calhoun, Pilgrim, and Indian Point nuclear units have provided additional insight into the process, the regulatory aspects, and the technical challenges of decommissioning commercial nuclear units.

Work Difficulty Factors

The estimates follow the principles of ALARA through the use of work duration adjustment factors. These factors address the impact of activities such as radiological protection instruction, mock-up training, and the use of respiratory protection and protective clothing. The factors lengthen a task's duration, increasing costs and lengthening the overall schedule. ALARA planning is considered in the costs for engineering and planning, and in the development of activity specifications and detailed procedures. Changes to worker exposure limits may impact the decommissioning cost and project schedule.

Work difficulty adjustment factors (WDFs) account for the inefficiencies in working in a power plant environment. The factors are assigned to each unique set of unit cost factors, commensurate with the inefficiencies associated with working in confined, hazardous environments. The ranges used for the WDFs are as follows:

- | | |
|---------------------------------|------------|
| • Access Factor | 10% to 20% |
| • Respiratory Protection Factor | 10% to 50% |
| • Radiation/ALARA Factor | 10% to 40% |
| • Protective Clothing Factor | 10% to 30% |
| • Work Break Factor | 8.33% |

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The factors and their associated range of values were developed in conjunction with the AIF/NESP-036 study. The application of the factors is discussed in more detail in that publication.

Scheduling Program Durations

The unit factors, adjusted by the WDFs as described above, are applied against the inventory of materials to be removed in the radiologically controlled areas. The resulting man-hours, or crew-hours, are used in the development of the decommissioning program schedule, using resource loading and event sequencing considerations. The scheduling of conventional removal and dismantling activities are based upon productivity information available from the RSMeans "Building Construction Cost Data" publication. Dismantling of the fuel handling systems and decontamination of the spent fuel pool is also dependent upon the timetable for the transfer of the spent fuel assemblies from the pool to the ISFSI.

The program schedule is used to determine the period-dependent costs for program management, administration, field engineering, equipment rental, contracted services, etc. The study relies upon regional or site-specific salary and wage rates for the personnel associated with the intended program.

3.3 IMPACT OF DECOMMISSIONING MULTIPLE REACTOR UNITS

In estimating the near simultaneous decommissioning of two co-located reactor units there can be opportunities to achieve economies of scale, by sharing costs between units, and coordinating the sequence of work activities. There will also be schedule constraints, particularly where there are requirements for specialty equipment and staff, or practical limitations on when final status surveys can take place. For purposes of the estimates, Units 1 and 2 are assumed to be essentially identical. Common facilities have been assigned to Unit 2. A summary of the principal impacts is listed below.

- The sequence of work generally follows the principal that the work is done at Unit 1 first, followed by similar work at Unit 2. This permits the experience gained at Unit 1 to be applied by the workforce at the second unit. It should be noted however, that the estimates do not consider productivity improvements at the second unit, since there is little documented experience with decommissioning two units simultaneously. The work associated with developing activity specifications and procedures can be considered essentially identical between the two units, therefore the second unit costs are assumed to be a fraction of the first unit (~ 43%).

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- Segmenting the reactor vessel and internals will require the use of special equipment. The cost of procuring that equipment is assumed to be shared on an equal basis between the two units. In addition, the decommissioning project will be scheduled such that Unit 2's reactor internals and vessel are segmented immediately after the activities at Unit 1 have been completed.
- Duplication of some program management and support costs, particularly costs associated with the more senior positions, can be avoided with two reactors undergoing decommissioning simultaneously. As a result, the estimates are based on a "lead" unit that includes these senior positions, and a "second" unit that excludes these positions. The designation as lead is based on the unit undertaking the most complex tasks (for instance vessel segmentation) or performing tasks for the first time.
- The final radiological survey schedule is also affected by a two-unit decommissioning schedule. Trying to complete the final status survey of Unit 1, while Unit 2 still has ongoing radiological remediation work and waste handling in process is considered impractical. As a result, Unit 1 and Unit 2 delay durations awaiting spent fuel pool availability for decommissioning are synchronized, such that the spent fuel pool area decommissioning and subsequent final status survey can be completed for the station. During the spent fuel storage period, program management costs are reduced accordingly.
- The final demolition of buildings at Units 1 and 2 are considered to take place concurrently.
- Unit 1, as the first unit to enter decommissioning, incurs the majority of site characterization costs.
- Shared systems and structures are generally assigned to Unit 2.
- Station costs such as ISFSI operations, emergency response fees, regulatory agency fees, and insurance are generally allocated on an equal basis between the two units.

3.4 FINANCIAL COMPONENTS OF THE COST MODEL

TLG's proprietary decommissioning cost model, DECCER, produces a number of distinct cost elements. These direct expenditures, however, do not comprise the total cost to accomplish the project goal, i.e., license termination and site restoration.

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Section 3, Page 5 of 88*****3.4.1 Contingency**

Inherent in any cost estimate that does not rely on historical data is the inability to specify the precise source of costs imposed by factors such as tool breakage, accidents, illnesses, weather delays, and labor stoppages. In the DECCER cost model, contingency fulfills this role. Contingency is added to each line item to account for costs that are difficult or impossible to develop analytically. Such costs are historically inevitable over the duration of a job of this magnitude; therefore, this cost analysis includes funds to cover these types of expenses.

The activity- and period-dependent costs are combined to develop the total decommissioning cost. A contingency is then applied on a line-item basis, using one or more of the contingency types listed in the AIF/NESP-036 study. "Contingencies" are defined in the American Association of Cost Engineers "Project and Cost Engineers' Handbook"^[33] as "specific provision for unforeseeable elements of cost within the defined project scope; particularly important where previous experience relating estimates and actual costs has shown that unforeseeable events which will increase costs are likely to occur." The cost elements in this analysis are based upon ideal conditions and maximum efficiency; therefore, consistent with industry practice, a contingency factor has been applied. In the AIF/NESP-036 study, the types of unforeseeable events that are likely to occur in decommissioning are discussed and guidelines are provided for percentage contingency in each category. It should be noted that contingency, as used in this analysis, does not account for price escalation and inflation in the cost of decommissioning over the remaining operating life of the station.

The use and role of contingency within decommissioning estimates is not a "safety factor issue." Safety factors provide additional security and address situations that may never occur. Contingency funds are expected to be fully expended throughout the program. They also provide assurance that sufficient funding is available to accomplish the intended tasks. An estimate without contingency, or from which contingency has been removed, can disrupt the orderly progression of events and jeopardize a successful conclusion to the decommissioning process.

For example, the most technologically challenging task in decommissioning a commercial nuclear plant is the disposition of the reactor vessels and internal components, now highly radioactive after a lifetime of exposure to core activity. The disposition of these components

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forms the basis of the critical path (schedule) for decommissioning operations. Cost and schedule are interdependent, and any deviation in schedule has a significant impact on cost for performing a specific activity.

Disposition of the reactor vessel internals involves the underwater cutting of complex components that are highly radioactive. Costs are based upon optimum segmentation, handling, and packaging scenarios. The schedule is primarily dependent upon the turnaround time for the heavily shielded shipping casks, including preparation, loading, and decontamination of the containers for transport. The number of casks required is a function of the pieces generated in the segmentation activity, a value calculated on optimum performance of the tooling employed in cutting the various subassemblies. The expected optimization, however, may not be achieved, resulting in delays and additional program costs. For this reason, contingency must be included to mitigate the consequences of the expected inefficiencies inherent in this complex activity, along with related concerns associated with the operation of highly specialized tooling, field conditions, and water clarity.

Contingency funds are an integral part of the total cost to complete the decommissioning process. Exclusion of this component puts at risk a successful completion of the intended tasks and, potentially, subsequent related activities. For this study, TLG examined the major activity-related problems (decontamination, segmentation, equipment handling, packaging, transport, and waste disposal) that necessitate a contingency. Individual activity contingencies ranged from 10% to 75%, depending on the degree of difficulty judged to be appropriate from TLG's actual decommissioning experience. The contingency values used in this study are as follows:

Decontamination	50%
Contaminated Component Removal	25%
Contaminated Component Packaging	10%
Contaminated Component Transport	15%
Low-Level Radioactive Waste Disposal	25%
Low-Level Radioactive Waste Processing	15%
Reactor Segmentation	75%
NSSS Component Removal	25%
Reactor Waste Packaging	25%
Reactor Waste Transport	25%

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Reactor Vessel Component Disposal	50%
GTCC Disposal	15%
Staffing	15%
Spent Fuel Management	15%
Non-Radioactive Component Removal	15%
Heavy Equipment and Tooling	15%
Supplies	25%
Engineering	15%
Energy	15%
Insurance and Fees	10%
Characterization and Termination Surveys	30%
Operations and Maintenance Expense	15%
Construction	15%
Property Taxes	10%
ISFSI Decommissioning	25%

The contingency values are applied to the appropriate components of the estimates on a line item basis. A composite value is then reported at the end of each detailed estimate (as provided in Appendices C through J). Appendix K, the ISFSI decommissioning calculation, uses a flat 25% contingency added at the end of the calculation.

3.4.2 Financial Risk

In addition to the routine uncertainties addressed by contingency, another cost element that is sometimes necessary to consider when bounding decommissioning costs relates to uncertainty, or risk. Examples can include changes in work scope, pricing, job performance, and other variations that could conceivably, but not necessarily, occur. Consideration is sometimes necessary to generate a level of confidence in the estimate, within a range of probabilities. TLG considers these types of costs under the broad term “financial risk.” Included within the category of financial risk are:

- Transition activities and costs: ancillary expenses associated with eliminating 50% to 80% of the site labor force shortly after the cessation of plant operations, added cost for worker separation packages throughout the decommissioning program, national or company-mandated retraining, and retention incentives for key personnel.

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- Delays in approval of the decommissioning plan due to intervention, public participation in local community meetings, legal challenges, and national and local hearings.
- Changes in the project work scope from the baseline estimate, involving the discovery of unexpected levels of contaminants, contamination in places not previously expected, contaminated soil previously undiscovered (either radioactive or hazardous material contamination), variations in plant inventory or configuration not indicated by the as-built drawings.
- Regulatory changes (e.g., affecting worker health and safety, site release criteria, waste transportation, and disposal).
- Policy decisions altering national commitments (e.g., in the ability to accommodate certain waste forms for disposition) or in the timetable for such, for example, the start and rate of acceptance of spent fuel by the DOE.
- Pricing changes for basic inputs such as labor, energy, materials, and disposal. Items subject to widespread price competition (such as materials) may not show significant variation; however, others such as waste disposal could exhibit large pricing uncertainties, particularly in markets where limited access to services is available.

This cost study does not add any additional costs to the estimate for financial risk, since there is insufficient historical data from which to project future liabilities. Consequently, the areas of uncertainty or risk are revisited periodically and addressed through repeated revisions or updates of the base estimates.

3.5 SITE-SPECIFIC CONSIDERATIONS

There are a number of site-specific considerations that affect the method for dismantling and removal of equipment from the site and the degree of restoration required. The cost impacts of the considerations identified below are included in this cost study.

3.5.1 Spent Fuel Management

The cost to dispose of spent fuel generated from plant operations is not reflected within the estimates to decommission Prairie Island. Ultimate disposition of the spent fuel is within the province of the DOE's Waste Management System, as defined by the Nuclear Waste Policy Act. As such, the disposal cost was financed by a 1 mill/kWhr surcharge paid

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into the DOE's waste fund during operations. On November 19, 2013, the U.S. Court of Appeals for the D.C. Circuit ordered the Secretary of the Department of Energy to suspend collecting annual fees for nuclear waste disposal from nuclear power plant operators until the DOE has conducted a legally adequate fee assessment.

The NRC does, however, require licensees to establish a program to manage and provide funding for the management of all irradiated fuel at the reactor site until title of the fuel is transferred to the Secretary of Energy. This requirement is prepared for through inclusion of certain high-level waste cost elements within the estimates, as described below.

Xcel Energy's current spent fuel management plan for the Prairie Island spent fuel is based in general upon:

- 1) Fuel transferred from the pool to the ISFSI within 4 years of shutdown;
- 2) Exchange of Prairie Island and Monticello spent fuel acceptance rights to best manage the overall cost of spent fuel storage for both plants;
- 3) Fuel will be shipped in the existing Transnuclear TN-40 casks, plus NUHOMS DSCs for fuel removed after final plant shutdown (Scenarios 1, 2, 5, and 6); the canisters and NUHOMS are periodically replaced in Scenarios 3, 4, 7 and 8. Spent fuel assemblies from TN-40 casks that are replaced will be put into NUHOMS DSCs. Canisters that are unloaded in the spent fuel transfer operation will be surveyed for neutron activation.
- 4) As an allowance, some of these canisters and NUHOMS modules from the first off-load operation are assumed to be mildly neutron activated and therefore must be disposed of as radioactive waste.
- 5) For the 100 and 200 year dry fuel storage scenarios (Scenarios 3, 4, 7 and 8) the canisters and casks will be replaced on a 50 year schedule using a dry transfer facility.

This analysis assumes that the existing ISFSI is modified at the cessation of plant operations to accommodate the fuel present in the storage pool at shutdown.

The DOE's repository program assumes that spent fuel will be accepted for disposal from the nation's commercial nuclear plants in the order (the "queue") in which it was removed from service ("oldest fuel first").^[34] Repository operations were based upon annual industry-wide receipt of

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400 Metric Tons Heavy Metal (MTHM) in the first year of operation, a total of 3,800 MTHM in years 2 through 4 and 3,000 MTHM for year 5 and beyond.^[35] This logic supports the spent fuel schedules for Scenarios 1 and 5. All other spent fuel scenarios are consistent with those identified by the Minnesota PSC.

Operation and maintenance costs for the spent fuel pool and ISFSI are included within the estimates and address the costs for staffing the facility, as well as security, insurance, and licensing fees. The estimates also include the costs to purchase, load, and transfer the NUHOMs DSCs from the pool to the ISFSI. Costs are also provided for the final disposition of the ISFSI once the transfer of the TN-40s and DSCs from the ISFSI to the DOE is complete.

Storage Canister Design

The design and capacity of the ISFSI is based upon the Monticello Transnuclear NUHOMS system (with a 61-fuel assembly capacity). The system consists of a multi-purpose (storage and transport) dry shielded storage canister (DSC) and a horizontal storage module (HSM). The PWR equivalent for a NUHOMS system of 32 assemblies is assumed for this estimate. The existing TN-40 casks will remain in the ISFSI until they are either shipped to the DOE, or emptied and disposed of during recasking.

Canister Loading and Transfer

The estimates include an average cost of \$626,000 for the labor to load/transport the spent fuel from the pool to the ISFSI pad. For estimating purposes an allowance of \$361,000 is used for the cost to transfer each fuel canister from the ISFSI pad to the DOE transport vehicle.

Operations and Maintenance

An annual cost (excluding labor) of approximately \$845,000 and \$112,000 are used for operation and maintenance of the spent fuel pool and the ISFSI, respectively.

At shutdown, the spent fuel pool is expected to contain freshly discharged assemblies (from the most recent refueling cycles). Over the next four years the assemblies are packaged into DSCs for transfer to the ISFSI for transfer to the DOE. It is assumed that the four years

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provides the necessary cooling period for the final cores to meet the decay heat requirements for dry storage. Once the pool is emptied, the spent fuel storage and handling facilities are available for decommissioning.

Replacement of DSCs during ISFSI fuel storage period

Scenarios 1, 2, 5, and 6 do not assume any replacement of the spent fuel storage DSCs (recasking).

The other four cost estimates, Scenarios 3, 4, 7 and 8, include costs to recask the spent fuel, based upon an assumption that the DSC has a limited lifetime of approximately 50 years.

Scenarios 3 and 7, which are 100 years (nominally) in length, considers two repackaging efforts for each DSC in the ISFSI.

Scenario 4 and 8, which are a (nominal) 200-year scenario, assumes that when any DSC in the ISFSI reaches the 50 years of storage milestone, the DSC is replaced. The fuel will be recasked four times following final shutdown of Prairie Island.

Since the auxiliary building, spent fuel storage pool, and fuel handling facilities are removed by the year 2037, a dry fuel transfer facility is assumed to be constructed on site to perform the transfers from the old to the new DSCs. Scenarios 3, 4, 7 and 8 include the cost to construct such a transfer facility, as well as additional staffing positions for support of the dry transfer activities, and additional NRC oversight associated with the transfer operations. The decommissioning of this transfer facility is also included in these scenarios.

ISFSI Decommissioning

In accordance with 10 CFR §72.30, licensees must have a proposed decommissioning plan for the ISFSI site and facilities that includes a cost estimate for the plan. The plan should contain sufficient information on the proposed practices and procedures for the decontamination of the ISFSI and for the disposal of residual radioactive materials after all spent fuel, high-level radioactive waste, and reactor-related GTCC waste have been removed.

The NUHOMS multi-purpose dry shielded storage canister with a horizontal, reinforced concrete storage module is used as a basis for the

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ISFSI decommissioning cost analyses. The modules are assumed to have some level of neutron-induced activation, as a result of the long-term storage of the fuel, i.e., to levels exceeding free-release limits. As an allowance, 8 modules are assumed to require remediation, equivalent to the number of modules required to accommodate the final core offloads at Prairie Island (121 assemblies per unit). The cost of the disposition of this material, as well as the demolition of the ISFSI facility, is included in the estimates.

The existing ISFSI pad, supporting the TN-40 casks, is not expected to be contaminated and will be demolished accordingly after a confirmation survey.

In accordance with the specific requirements of 10 CFR §72.30 for the ISFSI work scope, the cost estimate for decommissioning the ISFSI reflects: 1) the cost of an independent contractor performing the decommissioning activities; 2) an adequate contingency factor; and 3) the cost of meeting the criteria for unrestricted use. The cost summary for decommissioning the ISFSI is presented in Appendix K. It contains four different scenarios reflecting the different number of casks present at the end of the ISFSI operations. The demolition of the ISFSI for all eight scenarios is reflected within the estimates.

GTCC

The dismantling of the reactor internals is expected to generate radioactive waste considered unsuitable for shallow land disposal (i.e., low-level radioactive waste with concentrations of radionuclides that exceed the limits established by the NRC for Class C radioactive waste (GTCC)). The Low-Level Radioactive Waste Policy Amendments Act of 1985 assigned the federal government the responsibility for the disposal of this material. The Act also stated that the beneficiaries of the activities resulting in the generation of such radioactive waste bear all reasonable costs of disposing of such waste.^[36]

Although the material is not classified as high-level waste, federal regulations under the Act designate that disposal of this material is a federal responsibility under Section 3(b)(1)(D). However, the DOE has not been forthcoming with an acceptance criteria or disposition schedule for this material, and numerous questions remain as to the ultimate disposal cost and waste form requirements.

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As such, for purposes of this study, the GTCC has been packaged and disposed of in the same manner as high-level waste, at a cost equivalent to that envisioned for the spent fuel. The number of DSCs required and the packaged volume for GTCC was based upon experience at Maine Yankee (e.g., the constraints on loading as identified in the canister's certificate of compliance), but adjusted for the increased spent fuel capacity of the current DSCs.

It is assumed that the DOE would not accept this waste prior to completing the transfer of spent fuel. Therefore, until such time the DOE is ready to accept GTCC waste, it is reasonable to assume that this material would remain in storage at Prairie Island (for the four DECON scenarios (1 through 4) and the SAFSTOR scenarios 7 and 8. alternatives). In SAFSTOR scenarios 5 and 6, the GTCC material is shipped directly to a DOE facility as it is generated since the fuel will have been removed from the site prior to the completion of delayed dismantling. GTCC costs have been segregated and included within the "License Termination" expenditures.

3.5.2 Reactor Vessel and Internal Components

The reactor pressure vessel and internal components are segmented for disposal in shielded, reusable transportation casks. Segmentation is performed underwater in the refueling canal, where a turntable and remote cutter are installed. The vessels are segmented in place, using a mast-mounted cutter supported off the lower head and directed from a shielded work platform installed overhead in the reactor cavity. Transportation cask specifications and transportation regulations dictate the segmentation and packaging methodology. The control elements are disposed of along with the spent fuel; there is no additional cost provided for their disposal.

Intact disposal of reactor vessel shells has been successfully demonstrated at several of the sites that have been decommissioned. Access to navigable waterways has allowed these large packages to be transported to the Barnwell disposal site with minimal overland travel. Intact disposal of the reactor vessel and internal components can provide savings in cost and worker exposure by eliminating the complex segmentation requirements, isolation of the GTCC material, and transport/storage of the resulting waste packages. Portland General Electric (PGE) was able to dispose of the Trojan reactor as an intact package (including the internals). However, its location on the Columbia River simplified the transportation analysis since:

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- the reactor package could be secured to the transport vehicle for the entire journey, i.e., the package was not lifted during transport,
- there were no man-made or natural terrain features between the plant site and the disposal location that could produce a large drop, and
- transport speeds were very low, limited by the overland transport vehicle and the river barge.

As a member of the Northwest Compact, PGE had a site available for disposal of the package - the US Ecology facility in Washington State. The characteristics of this arid site proved favorable in demonstrating compliance with land disposal regulations.

It is not known whether this option will be available when Prairie Island ceases operation. Future viability of this option will depend upon the ultimate location of the disposal site, as well as the disposal site licensee's ability to accept highly radioactive packages and effectively isolate them from the environment. As such, the estimates assume segmentation of the reactor vessel, as a bounding condition. With lower levels of activation, the vessel shell can be packaged more efficiently than the curie-limited internal components. This will allow the use of more conventional waste packages rather than shielded casks for transport.

3.5.3 Primary System Components

In the DECON scenarios, the reactor coolant system components are assumed to be decontaminated using chemical agents prior to the start of cutting operations. This type of decontamination can be expected to have a significant ALARA impact in the DECON scenarios, since the removal work is done within the first few years of shutdown. A decontamination factor (average reduction) of 10 is assumed for the process. Disposal of the decontamination solution effluent is included within the estimate as a "process liquid waste" charge. The SAFSTOR scenarios do not include any decontamination of the reactor system; radioactive decay from the delay period in the dormancy results in similar results.

The following discussion deals with the removal and disposition of the steam generators, but the techniques involved are also applicable to other large radioactively-contaminated components, such as heat

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exchangers, component coolers, and the pressurizer. The steam generators' size and weight, their location within the reactor building, as well as the disposal facility waste acceptance criteria, and access to transportation will ultimately determine the removal, transportation, and disposal strategy.

A trolley crane is set up for the removal of the generators. It can also be used to move portions of the steam generator cubicle walls and floor slabs from the reactor building to a location where they can be decontaminated and transported to the material handling area. Interferences within the work area, such as grating, piping, and other components are removed to create sufficient lay-down space for processing these large components.

The generators are rigged for removal, disconnected from the surrounding piping and supports, and maneuvered into the open area where they are lowered onto a down-ending cradle. Each generator is rotated into the horizontal position for extraction from the containment and placed onto a multi-wheeled vehicle for transport to an on-site preparation area.

Disposal costs are based upon the displaced volume and weight of the primary side portions of the steam generators. Each component is then loaded onto a rail car for transport to the disposal facility. The secondary side is assumed to be sent to an off-site waste processor.

Reactor coolant piping is cut from the reactor vessel once the water level in the vessel (used for personnel shielding during dismantling and cutting operations in and around the vessel) is dropped below the nozzle zone. The piping is boxed and transported by shielded van. The reactor coolant pumps and motors are lifted out intact, packaged, and transported for processing and/or disposal.

3.5.4 Main Turbine and Condenser

The main turbine and condenser are assumed to have only minor levels of contamination. As such, the components are dismantled using conventional maintenance procedures. The turbine rotors and shafts will be removed to a laydown area. The lower turbine casings will be removed from their anchors by controlled demolition. The main condensers will also be disassembled and moved to a laydown area. Material is then prepared for transportation to an off-site recycling facility where it will be surveyed and designated for either

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decontamination or volume reduction, or controlled disposal. Components will be packaged and readied for transport in accordance with the intended disposition.

3.5.5 Transportation Methods

Contaminated piping, components, and structural material other than the highly activated reactor vessels and internal components will qualify as LSA-I, II or III or Surface Contaminated Object, SCO-I or II, as described in Title 49. [37] The contaminated material will be packaged in Industrial Packages (IP-1, IP-2, or IP-3, as defined in subpart 10 CFR 173.411) for transport unless demonstrated to qualify as their own shipping containers. The reactor vessel and internal components are expected to be transported in accordance with 10 CFR Part 71, as Type B. It is conceivable that the reactor, due to its limited specific activity, could qualify as LSA II or III. However, the high radiation levels on the outer surface would require that additional shielding be incorporated within the packaging so as to attenuate the dose to levels acceptable for transport.

Any fuel cladding failure that occurred during the lifetime of the plant is assumed to have released fission products at sufficiently low levels that the buildup of quantities of long-lived isotopes (e.g., ¹³⁷Cs, ⁹⁰Sr, or transuranics) has been prevented from reaching levels exceeding those that permit the major reactor components to be shipped under current transportation regulations and disposal requirements.

Transport of the highly activated metal, produced in the segmentation of the reactor vessel and internal components, will be by shielded truck cask. Cask shipments may exceed 95,000 pounds, including vessel segment(s), supplementary shielding, cask tie-downs, and tractor-trailer. The maximum level of activity per shipment assumed permissible was based upon the license limits of the available shielded transport casks. The segmentation scheme for the vessel and internal segments is designed to meet these limits.

The transport of large intact components (e.g., large heat exchangers and other oversized components) will be by a combination of truck, rail, and/or multi-wheeled transporter. Transportation costs for Class A radioactive material requiring controlled disposal are based upon the mileage to the EnergySolutions facility in Clive, Utah. Transportation costs for the higher activity Class B and C radioactive material are based upon the mileage to the WCS facility in Andrews County, Texas.

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The transportation cost for the GTCC material is assumed to be contained within the disposal cost. Transportation costs for off-site waste processing are based upon the mileage to Oak Ridge, Tennessee. Truck transport costs were estimated using published tariffs from Tri-State Motor Transit.^[38]

3.5.6 Low-Level Radioactive Waste Disposal

To the greatest extent practical, metallic material generated in the decontamination and dismantling processes is processed to reduce the total cost of controlled disposal. Material meeting the regulatory and/or site release criterion, is released as scrap, requiring no further cost consideration. Conditioning (preparing the material to meet the waste acceptance criteria of the disposal site) and recovery of the waste stream is performed off site at a licensed processing center. Any material leaving the site is subject to a survey and release charge, at a minimum.

The mass of radioactive waste generated during the various decommissioning activities at the site is shown on a line-item basis in the detailed Appendices C through J, and summarized in Section 5. The quantified waste summaries shown in these tables are consistent with 10 CFR Part 61 classifications. Commercially available steel containers are presumed to be used for the disposal of piping, small components, and concrete. Larger components can serve as their own containers, with proper closure of all openings, access ways, and penetrations. The volumes are calculated based on the exterior package dimensions for containerized material or a specific calculation for components serving as their own waste containers.

The more highly activated reactor components will be shipped in reusable, shielded truck casks with disposable liners. In calculating disposal costs, the burial fees are applied against the liner volume and weight, with surcharges added for the special handling requirements and the radiological characteristics of the payload. Packaging efficiencies are lower for the highly activated materials (greater than Type A quantity waste), where high concentrations of gamma-emitting radionuclides limit the capacity of the shipping canisters.

The cost to dispose of the lowest level and majority of the material generated from the decontamination and dismantling activities is based upon representative costs for disposal at EnergySolutions facility in Clive, Utah. Disposal costs for the higher activity waste (Class B and C)

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were based upon preliminary and indicative information from WCS for the Andrews County facility.

Material exceeding Class C limits (limited to material closest to the reactor core and comprising less than 1% of the total waste volume) is generally not suitable for shallow-land disposal. This material is packaged in the same multipurpose canisters used for spent fuel storage/transport, for eventual transfer to the DOE for disposal.

3.5.7 Site Conditions Following Decommissioning

The NRC will amend or terminate each unit's license if it determines that site remediation has been performed in accordance with the license termination plan, and that the terminal radiation survey and associated documentation demonstrate that the facility is suitable for release. The NRC's involvement in the decommissioning process will end at this point. Building codes and environmental regulations will dictate the next step in the decommissioning process, as well as Xcel Energy's own future plans for the site, e.g., the electrical switchyard will remain in support of the regional transmission and distribution system.

Asphalt surfaces in the immediate vicinity of site buildings are broken up and the material disposed of as construction debris. The site access road will remain.

Only existing site structures are considered in the dismantling cost. All subgrade structures are removed. The voids are backfilled with clean debris and capped with soil. The site is then re-graded to conform to the adjacent landscape. Vegetation is established to inhibit erosion. These "non-radiological costs" are included in the total cost of decommissioning.

Bulk excavation of soil and material in the immediate vicinity of the power block is included to remove various duct banks, catch basins, and underground utilities that may exist.

The estimates do not assume the remediation of any significant volume of contaminated soil. This assumption may be affected by continued plant operations and/or future regulatory actions, such as the development of site-specific release criteria.

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Section 3, Page 19 of 88*****3.6 ASSUMPTIONS**

The following are the major assumptions made in the development of the estimates for decommissioning the site.

3.6.1 Estimating Basis

Decommissioning costs are reported in the year of projected expenditure; however, the values are provided in 2020 dollars. Costs are not inflated, escalated, or discounted over the periods of performance.

The estimates rely upon the physical plant inventory that was the basis for the 2017 analysis (updated to reflect any material changes to the plant over the past three years).

The study follows the principles of ALARA through the use of work duration adjustment factors. These factors address the impact of activities such as radiological protection instruction, mock-up training, and the use of respiratory protection and protective clothing. The factors lengthen a task's duration, increasing costs and lengthening the overall schedule. ALARA planning is considered in the costs for engineering and planning, and in the development of activity specifications and detailed procedures. Changes to worker exposure limits may impact the decommissioning cost and project schedule.

3.6.2 Labor Costs

For purposes of this analysis, it is assumed that Xcel Energy will hire a Decommissioning Operations Contractor (DOC) to manage the decommissioning. Xcel Energy will provide site security, radiological health and safety, quality assurance and overall site administration during the decommissioning and demolition phases. Contract personnel will provide engineering services (e.g., for preparing the activity specifications, work procedures, neutron activation, and structural analyses) under the direction of Xcel Energy.

Utility labor costs were provided by Xcel Energy. Average costs were provided by department or work group and included payroll overheads. Decommissioning Operations Contractor (DOC) labor costs were based on utility labor costs with modified markups to account for employee benefits, DOC overhead and profit.

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The craft labor required to decontaminate and dismantle the nuclear station will be acquired through standard site contracting practices. Craft labor costs were based upon information from Xcel Energy. Craft labor costs include applicable overheads and profit.

Security levels are assumed to be maintained at “operating levels” for approximately 18 months after operations ceases. Additional reductions in force size are assumed when the pool is empty and with the completion of the decommissioning and site restoration activities.

Staffing levels are assigned by sub-period and functional area. Economies of a multi-unit decommissioning are recognized by establishing a primary and a secondary staff level. The unit assigned the primary staff will include common supervisory positions and positions that may be shared across both units. The types of positions and staffing levels are adjusted based upon the type of activity occurring in each sub-period.

Representative profiles of the staffing level for decommissioning, including contractors and craft, is provided in Figures 3.1 and 3.2 for the DECON (Scenario 2) and SAFSTOR (Scenario 6) estimates. Utility staffing levels will gradually decrease after completing the removal of physical systems. Staffing levels and management support will vary based upon the amount and type of decommissioning work. Craft manpower levels decrease after systems removal and structures decontamination and drop substantially during the delay period and the license termination survey period. However, craft levels increase again during the site restoration period due to the work associated with structures demolition. During SAFSTOR dormancy, following transfer of the spent fuel to the ISFSI, staffing levels for the power block are reduced to a minimum, then rise as the delayed dismantling operations begin.

Security, while reduced from operating levels, is maintained throughout the decommissioning for access control, material control, and to safeguard the spent fuel (in accordance with the requirements of 10 CFR Part 37, Part 72, and Part 73). Once the fuel has been transferred to the DOE in scenarios 5 and 6, the security organization will be reduced to Part 37 requirements.

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3.6.3 Design Conditions

Any fuel cladding failure that occurred during the lifetime of the plant is assumed to have released fission products at sufficiently low levels that the buildup of quantities of long-lived isotopes (e.g., ^{137}Cs , ^{90}Sr , or transuranics) has been prevented from reaching levels exceeding those that permit the major NSSS components to be shipped under current transportation regulations and disposal requirements.

The curie contents of the vessels and internals at final shutdown are derived from those listed in NUREG/CR-3474.^[39] Actual estimates are derived from the curie/gram values contained therein and adjusted for the different mass of the Prairie Island components, projected operating life, and different periods of decay. Additional short-lived isotopes were derived from NUREG/CR-0130^[40] and NUREG/CR-0672,^[41] and benchmarked to the long-lived values from NUREG/CR-3474.

It is anticipated that there will be control element assemblies (CEAs) in the spent fuel pool at the cessation of operations, including those CEAs from the final core. This analysis assumes that the CEAs can be disposed of along with the spent fuel at no additional cost (in accordance with Appendix E of the Standard Contract ^[42]).

Neutron activation of the reactor building structure is confined to the reactor biological shield.

3.6.4 General

Transition Activities

Existing warehouses will be cleared of non-essential material and remain for use by Xcel Energy and subcontractors. The plant's operating staff will perform the following activities at no additional cost or credit to the project during the transition period:

- Drain and collect fuel oils, lubricating oils, and transformer oils for recycle and/or sale.
- Drain and collect acids, caustics, and other chemical stores for recycle and/or sale.
- Processes operating waste inventories, i.e., the estimates do not address the disposition of any legacy wastes; the disposal of

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operating wastes during this initial period is not considered a decommissioning expense.

Scrap and Salvage

The existing plant equipment is considered obsolete and suitable for scrap as deadweight quantities only. Xcel Energy will make economically reasonable efforts to salvage equipment following final plant shutdown. However, dismantling techniques assumed by TLG for equipment in this analysis are not consistent with removal techniques required for salvage (resale) of equipment. Experience has indicated that some buyers wanted equipment stripped down to very specific requirements before they would consider purchase. This required expensive rework after the equipment had been removed from its installed location. Since placing a salvage value on this machinery and equipment would be speculative, and the value would be small in comparison to the overall decommissioning expenses, this analysis does not attempt to quantify the possible salvage value that Xcel Energy may realize based upon those efforts.

It is assumed, for purposes of this analysis, that any value received from the sale of scrap generated in the dismantling process would be offset by the on-site processing costs. The dismantling techniques assumed in the decommissioning estimates do not include the additional cost for size reduction and preparation to meet “furnace ready” conditions. For example, the recovery of copper from electrical cabling may require the removal and disposition of any contaminated insulation, an added expense. With a volatile market, the potential profit margin in scrap recovery is highly speculative, regardless of the ability to free release this material. This assumption is an implicit recognition of scrap value in the disposal of clean metallic waste at no additional cost to the project.

Furniture, tools, mobile equipment such as forklifts, trucks, bulldozers, and other property will be removed at no cost or credit to the decommissioning project. Disposition may include relocation to other facilities. Spare parts will also be made available for alternative use.

The concrete debris resulting from building demolition activities is crushed on site to reduce the size of the debris. The resulting crushed concrete is disposed offsite as construction debris. The rebar removed from the concrete crushing process is disposed of as scrap steel in a similar fashion as other scrap metal as discussed previously.

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Section 3, Page 23 of 88***Asbestos

At the time of Prairie Island's construction, asbestos was still being used for system component and piping insulation, and as fireproofing material for structures. No inventory of asbestos at Prairie Island was available, so TLG developed an estimated quantity. The allowance for the remediation of this asbestos is captured in the detailed cost analyses (Appendices C through J).

Energy

For estimating purposes, the plant is assumed to be de-energized, except for those facilities associated with spent fuel storage. Replacement power costs are used for the cost of energy consumption during decommissioning for tooling, lighting, ventilation, and essential services.

Emergency Planning

FEMA and state fees associated with emergency planning are assumed to continue for approximately 18 months following the cessation of operations. At this time, the FEMA fees are discontinued. The timing is based upon the anticipated condition of the spent fuel (i.e., the hottest spent fuel assemblies are assumed to be cool enough that no substantial Zircaloy oxidation and off-site event would occur with the loss of spent fuel pool water). State and local fees are continued until all spent fuel is transferred out of the spent fuel pool.

Insurance

Costs for continuing coverage (nuclear liability and property insurance) following cessation of plant operations and during decommissioning are included and based upon current operating premiums. Reductions in premiums, throughout the decommissioning process, are based upon the guidance provided in SECY-00-0145, "Integrated Rulemaking Plan for Nuclear Power Plant Decommissioning."^[43] The NRC's financial protection requirements are based on various reactor (and spent fuel) configurations.

Site Non-Labor Overhead

These estimates include costs for site non-labor overhead charges. These costs include telephones, copy machines, computers, IT infrastructure, office supplies, janitorial supplies, training expenses, etc. Xcel Energy

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provided a two-part cost to address these costs. A variable charge of \$5,648 per person per year of the Xcel Energy staff is included throughout the estimate. A fixed annual overhead charge is also included, starting at \$1.5 million per reactor at the time of unit shut down and decreasing at various intervals to approximately \$163 thousand per reactor.

Severance Program

Severance for personnel retained for the decommissioning organization is included in this estimate.

Taxes

Property taxes are included for all decommissioning periods. Xcel Energy provided a schedule of decreasing tax payments against the current tax assessment. These payments are maintained for the balance of the decommissioning program.

NRC Fees

These estimates include charges from the NRC to support the Prairie Island decommissioning program. Charges are included for the yearly license held by Xcel Energy for the Part 50 licenses, as well as engineering support charges by the NRC to review activities at the site. The Part 50 license fee for a reactor in a decommissioning or possession-only status and which has spent fuel onsite is \$188 thousand per year. Once the reactors have been decommissioned, the site Part 50 license continues at the same fee until final removal of the spent fuel. The hourly rate for NRC review is \$279.00. The level of effort of NRC participation is commensurate with the decommissioning alternative and schedule.

Disposal of Processed Water

This estimate assumes that processed water which meets state and federal release limits can be disposed of without additional cost.

Site Modifications

The perimeter fence and in-plant security barriers will be moved, as appropriate, to conform to the Site Security Plan in force during the various stages of the project.

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Section 3, Page 25 of 88*****Prairie Island Indian Community Payments**

This estimate includes a \$2.5 million annual payment to the Prairie Island Indian Community while spent fuel is still on the Prairie Island site.

Minnesota state regulations regarding concrete

This estimate complies with the Minnesota state regulations regarding the removal of all subterranean concrete during demolition, plus the survey and confirmation of the suitability of the clean fill used for backfill of the subgrade structures following concrete removal.

3.7 COST ESTIMATE SUMMARY

The estimates presented in this document reflects the total cost to decontaminate the nuclear units, manage the spent fuel until the DOE is able to complete the transfer to a federal facility, dismantle the plant and restore the site for alternative use.

Schedules of expenditures are provided in Tables 3.1 through 3.16. The tables delineate the cost contributors by year of expenditures as well as cost contributor (e.g., labor, materials, and waste disposal).

Additional tables in Appendices C through J provide detailed costs elements. The cost elements are also assigned to one of three subcategories: "License Termination," "Spent Fuel Management," and "Site Restoration." The subcategory "License Termination" is used to accumulate costs that are consistent with "decommissioning" as defined by the NRC in its financial assurance regulations (i.e., 10 CFR §50.75). In situations where the long-term management of spent fuel is not an issue, the cost reported for this subcategory is generally sufficient to terminate each unit's operating license, recognizing that there may be some additional cost impact from spent fuel management.

The "Spent Fuel Management" subcategory contains costs associated with the containerization and transfer of spent fuel from the pool to the ISFSI for interim storage, and the transfer of the multipurpose canisters from the ISFSI to the DOE. Costs are also included for the operations of the pool and management of the ISFSI until such time that the transfer of all fuel from this facility to an off-site location (e.g., interim storage facility) is complete.

"Site Restoration" is used to capture costs associated with the dismantling and demolition of buildings and facilities demonstrated to be free from

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contamination. This includes structures never exposed to radioactive materials, as well as those facilities that have been decontaminated to appropriate levels. Structures are completely removed, including foundations and basemats and backfilled to conform to local grade.

As discussed in Section 3.5.1, it is assumed that the DOE will not accept the GTCC waste prior to completing the transfer of spent fuel. Therefore, the cost of GTCC disposal is shown in the final year of ISFSI operation (for the DECON alternative). While designated for disposal at a federal facility along with the spent fuel, GTCC waste is still classified as low-level radioactive waste and, as such, included as a "License Termination" expense.

Decommissioning costs are reported in 2020 dollars. Costs are not inflated, escalated, or discounted over the period of expenditure (or projected lifetime of the plant).

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TABLE 3.1
SCENARIO 1: DECON WITH 42 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	23,782	923	741	25	10,292	35,762
2034	67,414	9,626	2,605	5,533	21,280	106,458
2035	68,591	29,172	1,970	24,644	23,300	147,677
2036	64,154	24,188	1,598	31,001	24,350	145,292
2037	45,558	25,073	1,398	22,010	19,293	113,333
2038	25,712	31,391	1,284	1,217	11,074	70,678
2039	34,084	5,035	599	4,110	6,754	50,583
2040	20,889	6,593	253	16	4,536	32,287
2041	15,747	9,087	186	0	4,139	29,160
2042	9,317	4,776	88	0	3,765	17,945
2043	3,430	467	0	0	3,431	7,328
2044	3,387	311	0	0	3,440	7,139
2045	3,482	623	0	0	3,431	7,536
2046	3,482	623	0	0	3,431	7,536
2047	3,430	467	0	0	3,431	7,328
2048	3,491	623	0	0	3,440	7,554
2049	3,482	623	0	0	3,431	7,536
2050	3,430	467	0	0	3,431	7,328
2051	3,482	623	0	0	3,431	7,536
2052	3,439	467	0	0	3,440	7,346
2053	3,378	311	0	0	3,431	7,120
2054	3,378	311	0	0	3,431	7,120
2055	3,378	311	0	0	3,431	7,120
2056	3,284	0	0	0	3,440	6,724
2057	3,275	0	0	0	3,431	6,705
2058	3,275	0	0	0	3,431	6,705
2059	3,275	0	0	0	3,431	6,705
2060	3,387	311	0	0	3,440	7,139
2061	3,378	311	0	0	3,431	7,120
2062	3,378	311	0	0	3,431	7,120

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TABLE 3.1 (continued)
SCENARIO 1: DECON WITH 42 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	3,378	311	0	0	3,431	7,120
2064	3,387	311	0	0	3,440	7,139
2065	3,378	311	0	0	3,431	7,120
2066	3,378	311	0	0	3,431	7,120
2067	3,378	311	0	0	3,431	7,120
2068	3,387	311	0	0	3,440	7,139
2069	3,378	311	0	0	3,431	7,120
2070	3,378	311	0	0	3,431	7,120
2071	3,378	311	0	0	3,431	7,120
2072	3,387	311	0	0	3,440	7,139
2073	3,378	311	0	0	3,431	7,120
2074	3,378	2,116	0	0	13,408	18,902
2075	886	554	20	3,165	1,924	6,549
Total	484,624	159,120	10,742	91,722	250,544	996,753

Note: Columns may not add due to rounding

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TABLE 3.2
SCENARIO 1: DECON WITH 42 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	8,346	600	327	10	5,287	14,570
2035	49,894	6,051	2,191	2,472	28,487	89,096
2036	67,057	30,095	2,409	22,189	20,301	142,050
2037	75,292	40,738	1,676	30,330	20,209	168,245
2038	82,522	47,557	1,284	36,708	18,369	186,439
2039	39,423	5,799	599	5,008	6,511	57,340
2040	25,047	10,813	253	16	5,209	41,339
2041	18,516	15,396	186	0	5,303	39,401
2042	10,621	7,749	88	0	4,313	22,771
2043	3,430	467	0	0	3,431	7,328
2044	3,387	311	0	0	3,440	7,139
2045	3,482	623	0	0	3,431	7,536
2046	3,482	623	0	0	3,431	7,536
2047	3,430	467	0	0	3,431	7,328
2048	3,491	623	0	0	3,440	7,554
2049	3,482	623	0	0	3,431	7,536
2050	3,430	467	0	0	3,431	7,328
2051	3,482	623	0	0	3,431	7,536
2052	3,439	467	0	0	3,440	7,346
2053	3,378	311	0	0	3,431	7,120
2054	3,378	311	0	0	3,431	7,120
2055	3,378	311	0	0	3,431	7,120
2056	3,284	0	0	0	3,440	6,724
2057	3,275	0	0	0	3,431	6,705
2058	3,275	0	0	0	3,431	6,705
2059	3,275	0	0	0	3,431	6,705
2060	3,387	311	0	0	3,440	7,139
2061	3,378	311	0	0	3,431	7,120
2062	3,378	311	0	0	3,431	7,120
2063	3,378	311	0	0	3,431	7,120

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TABLE 3.2 (continued)
SCENARIO 1: DECON WITH 42 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	3,387	311	0	0	3,440	7,139
2065	3,378	311	0	0	3,431	7,120
2066	3,378	311	0	0	3,431	7,120
2067	3,378	311	0	0	3,431	7,120
2068	3,387	311	0	0	3,440	7,139
2069	3,378	311	0	0	3,431	7,120
2070	3,378	311	0	0	3,431	7,120
2071	3,378	311	0	0	3,431	7,120
2072	3,387	311	0	0	3,440	7,139
2073	3,378	311	0	0	3,431	7,120
2074	3,378	2,116	0	0	13,408	18,902
2075	886	554	20	3,165	1,924	6,549
Total	486,095	178,053	9,033	99,899	235,749	1,008,829

Note: Columns may not add due to rounding

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TABLE 3.3
SCENARIO 2: DECON WITH 60 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	23,782	923	741	25	10,292	35,762
2034	67,414	9,626	2,605	5,533	21,280	106,458
2035	68,591	29,172	1,970	24,644	23,300	147,677
2036	64,127	24,105	1,598	31,001	24,350	145,182
2037	45,510	24,928	1,398	22,010	19,293	113,140
2038	25,609	31,083	1,284	1,217	11,074	70,267
2039	33,735	3,985	599	4,110	6,754	49,183
2040	20,663	5,915	253	16	4,536	31,383
2041	15,525	8,421	186	0	4,139	28,272
2042	9,047	3,968	88	0	3,758	16,861
2043	3,275	0	0	0	3,418	6,692
2044	3,284	0	0	0	3,427	6,711
2045	3,275	0	0	0	3,418	6,692
2046	3,275	0	0	0	3,418	6,692
2047	3,275	0	0	0	3,418	6,692
2048	3,284	0	0	0	3,427	6,711
2049	3,275	0	0	0	3,418	6,692
2050	3,275	0	0	0	3,418	6,692
2051	3,275	0	0	0	3,418	6,692
2052	3,284	0	0	0	3,427	6,711
2053	3,378	311	0	0	3,418	7,107
2054	3,482	623	0	0	3,418	7,523
2055	3,482	623	0	0	3,418	7,523
2056	3,543	778	0	0	3,427	7,749
2057	3,430	467	0	0	3,418	7,315
2058	3,586	934	0	0	3,418	7,938
2059	3,430	467	0	0	3,418	7,315
2060	3,387	311	0	0	3,427	7,126
2061	3,482	623	0	0	3,418	7,523
2062	3,482	623	0	0	3,418	7,523

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TABLE 3.3 (continued)
SCENARIO 2: DECON WITH 60 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	3,430	467	0	0	3,418	7,315
2064	3,491	623	0	0	3,427	7,541
2065	3,482	623	0	0	3,418	7,523
2066	3,430	467	0	0	3,418	7,315
2067	3,482	623	0	0	3,418	7,523
2068	3,491	623	0	0	3,427	7,541
2069	3,430	467	0	0	3,418	7,315
2070	3,482	623	0	0	3,418	7,523
2071	3,482	623	0	0	3,418	7,523
2072	3,491	623	0	0	3,427	7,541
2073	3,482	623	0	0	3,418	7,523
2074	3,482	623	0	0	3,418	7,523
2075	3,842	1,702	0	0	3,418	8,962
2076	3,491	623	0	0	3,427	7,541
2077	3,482	2,428	0	0	13,395	19,305
2078	886	554	20	3,165	1,924	6,549
Total	494,817	160,199	10,742	91,722	260,384	1,017,865

Note: Columns may not add due to rounding

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TABLE 3.4
SCENARIO 2: DECON WITH 60 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	8,346	600	327	10	5,287	14,570
2035	49,894	6,051	2,191	2,472	28,487	89,096
2036	67,020	29,984	2,409	22,189	20,301	141,903
2037	75,245	40,598	1,676	30,330	20,209	168,058
2038	82,427	47,271	1,284	36,708	18,369	186,059
2039	39,073	4,749	599	5,008	6,511	55,940
2040	24,821	10,135	253	16	5,209	40,435
2041	18,294	14,730	186	0	5,303	38,514
2042	10,352	6,941	88	0	4,306	21,688
2043	3,275	0	0	0	3,418	6,692
2044	3,284	0	0	0	3,427	6,711
2045	3,275	0	0	0	3,418	6,692
2046	3,275	0	0	0	3,418	6,692
2047	3,275	0	0	0	3,418	6,692
2048	3,284	0	0	0	3,427	6,711
2049	3,275	0	0	0	3,418	6,692
2050	3,275	0	0	0	3,418	6,692
2051	3,275	0	0	0	3,418	6,692
2052	3,284	0	0	0	3,427	6,711
2053	3,378	311	0	0	3,418	7,107
2054	3,482	623	0	0	3,418	7,523
2055	3,482	623	0	0	3,418	7,523
2056	3,543	778	0	0	3,427	7,749
2057	3,430	467	0	0	3,418	7,315
2058	3,586	934	0	0	3,418	7,938
2059	3,430	467	0	0	3,418	7,315
2060	3,387	311	0	0	3,427	7,126
2061	3,482	623	0	0	3,418	7,523
2062	3,482	623	0	0	3,418	7,523
2063	3,430	467	0	0	3,418	7,315

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TABLE 3.4 (continued)
SCENARIO 2: DECON WITH 60 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	3,491	623	0	0	3,427	7,541
2065	3,482	623	0	0	3,418	7,523
2066	3,430	467	0	0	3,418	7,315
2067	3,482	623	0	0	3,418	7,523
2068	3,491	623	0	0	3,427	7,541
2069	3,430	467	0	0	3,418	7,315
2070	3,482	623	0	0	3,418	7,523
2071	3,482	623	0	0	3,418	7,523
2072	3,491	623	0	0	3,427	7,541
2073	3,482	623	0	0	3,418	7,523
2074	3,482	623	0	0	3,418	7,523
2075	3,842	1,702	0	0	3,418	8,962
2076	3,491	623	0	0	3,427	7,541
2077	3,482	2,428	0	0	13,395	19,305
2078	886	554	20	3,165	1,924	6,549
Total	496,288	179,133	9,033	99,899	245,588	1,029,941

Note: Columns may not add due to rounding

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TABLE 3.5
SCENARIO 3: DECON WITH 100 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	23,782	923	741	25	10,292	35,762
2034	67,414	9,626	2,605	5,533	21,280	106,458
2035	68,591	29,172	1,970	24,644	23,300	147,677
2036	64,616	25,575	1,598	31,001	24,350	147,141
2037	46,367	27,499	1,398	22,010	19,293	116,568
2038	26,103	32,563	1,284	1,217	11,074	72,241
2039	33,735	3,985	599	4,110	6,754	49,183
2040	20,722	5,915	253	16	4,536	31,442
2041	15,615	8,421	186	0	4,139	28,362
2042	9,448	3,968	88	0	3,744	17,249
2043	3,952	0	0	0	3,392	7,344
2044	3,963	0	0	0	3,401	7,364
2045	5,466	4,542	0	0	3,392	13,400
2046	4,962	3,028	0	0	3,392	11,382
2047	4,962	3,028	0	0	3,392	11,382
2048	3,963	0	0	0	3,401	7,364
2049	4,962	3,028	0	0	3,392	11,382
2050	5,466	4,542	0	0	3,392	13,400
2051	5,412	4,378	0	0	3,392	13,181
2052	5,477	4,542	0	0	3,401	13,421
2053	3,952	0	0	0	3,392	7,344
2054	3,952	0	0	0	3,392	7,344
2055	5,466	4,542	0	0	3,392	13,400
2056	4,972	3,028	0	0	3,401	11,402
2057	4,962	3,028	0	0	3,392	11,382
2058	3,952	0	0	0	3,392	7,344
2059	4,907	2,864	0	0	3,392	11,162
2060	4,972	3,028	0	0	3,401	11,402
2061	4,962	3,028	0	0	3,392	11,382
2062	3,952	0	0	0	3,392	7,344

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TABLE 3.5 (continued)
SCENARIO 3: DECON WITH 100 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	6,980	9,085	0	0	3,392	19,457
2064	5,927	5,892	0	0	3,401	15,220
2065	4,962	3,028	0	0	3,392	11,382
2066	3,952	0	0	0	3,392	7,344
2067	3,952	0	0	0	3,392	7,344
2068	5,982	6,057	0	0	3,401	15,439
2069	5,466	4,542	0	0	3,392	13,400
2070	3,952	0	0	0	3,392	7,344
2071	3,952	0	0	0	3,392	7,344
2072	6,432	7,406	0	0	3,401	17,239
2073	3,952	0	0	0	3,392	7,344
2074	3,952	0	0	0	3,392	7,344
2075	6,836	8,650	0	0	3,392	18,877
2076	3,963	0	0	0	3,401	7,364
2077	3,952	0	0	0	3,392	7,344
2078	6,476	7,571	0	0	3,392	17,438
2079	3,952	0	0	0	3,392	7,344
2080	3,963	0	0	0	3,401	7,364
2081	3,952	0	0	0	3,392	7,344
2082	6,366	7,242	0	0	3,392	17,000
2083	3,952	0	0	0	3,392	7,344
2084	3,963	0	0	0	3,401	7,364
2085	3,952	0	0	0	3,392	7,344
2086	3,952	0	0	0	3,392	7,344
2087	3,952	0	0	0	3,392	7,344
2088	19,160	45,618	0	2,988	3,924	71,690
2089	3,952	0	0	0	3,392	7,344
2090	3,952	0	0	0	3,392	7,344
2091	3,952	0	0	0	3,392	7,344
2092	3,963	0	0	0	3,401	7,364

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TABLE 3.5 (continued)
SCENARIO 3: DECON WITH 100 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2093	4,056	311	0	0	3,392	7,759
2094	4,212	778	0	0	3,392	8,382
2095	5,730	5,335	0	0	3,392	14,457
2096	5,287	3,972	0	0	3,401	12,659
2097	5,120	3,504	0	0	3,392	12,017
2098	4,315	1,090	0	0	3,392	8,797
2099	5,120	3,504	0	0	3,392	12,017
2100	5,575	4,868	0	0	3,392	13,834
2101	5,730	5,335	0	0	3,392	14,457
2102	5,730	5,335	0	0	3,392	14,457
2103	4,108	467	0	0	3,392	7,967
2104	4,171	623	0	0	3,401	8,194
2105	5,679	5,179	0	0	3,392	14,249
2106	5,120	3,504	0	0	3,392	12,017
2107	5,172	3,660	0	0	3,392	12,224
2108	4,171	623	0	0	3,401	8,194
2109	5,120	3,504	0	0	3,392	12,017
2110	5,172	3,660	0	0	3,392	12,224
2111	5,172	3,660	0	0	3,392	12,224
2112	4,171	623	0	0	3,401	8,194
2113	7,197	9,735	0	0	3,392	20,324
2114	6,185	6,698	0	0	3,392	16,274
2115	5,532	4,739	0	0	3,392	13,663
2116	4,171	623	0	0	3,401	8,194
2117	4,134	2,428	0	0	13,370	19,932
2118	1,124	887	20	177	1,957	4,164
Total	751,975	383,995	10,742	91,722	395,765	1,634,199

Note: Columns may not add due to rounding

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TABLE 3.6
SCENARIO 3: DECON WITH 100 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	8,346	600	327	10	5,287	14,570
2035	49,894	6,051	2,191	2,472	28,487	89,096
2036	67,674	31,946	2,409	22,189	20,301	144,519
2037	76,073	43,082	1,676	30,330	20,209	171,370
2038	82,785	48,346	1,284	36,708	18,369	187,492
2039	39,073	4,749	599	5,008	6,511	55,940
2040	24,880	10,135	253	16	5,209	40,493
2041	18,384	14,730	186	0	5,303	38,604
2042	10,753	6,941	88	0	4,292	22,075
2043	3,952	0	0	0	3,392	7,344
2044	3,963	0	0	0	3,401	7,364
2045	5,466	4,542	0	0	3,392	13,400
2046	4,962	3,028	0	0	3,392	11,382
2047	4,962	3,028	0	0	3,392	11,382
2048	3,963	0	0	0	3,401	7,364
2049	4,962	3,028	0	0	3,392	11,382
2050	5,466	4,542	0	0	3,392	13,400
2051	5,412	4,378	0	0	3,392	13,181
2052	5,477	4,542	0	0	3,401	13,421
2053	3,952	0	0	0	3,392	7,344
2054	3,952	0	0	0	3,392	7,344
2055	5,466	4,542	0	0	3,392	13,400
2056	4,972	3,028	0	0	3,401	11,402
2057	4,962	3,028	0	0	3,392	11,382
2058	3,952	0	0	0	3,392	7,344
2059	4,907	2,864	0	0	3,392	11,162
2060	4,972	3,028	0	0	3,401	11,402
2061	4,962	3,028	0	0	3,392	11,382
2062	3,952	0	0	0	3,392	7,344
2063	6,980	9,085	0	0	3,392	19,457

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TABLE 3.6 (continued)
SCENARIO 3: DECON WITH 100 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	5,927	5,892	0	0	3,401	15,220
2065	4,962	3,028	0	0	3,392	11,382
2066	3,952	0	0	0	3,392	7,344
2067	3,952	0	0	0	3,392	7,344
2068	5,982	6,057	0	0	3,401	15,439
2069	5,466	4,542	0	0	3,392	13,400
2070	3,952	0	0	0	3,392	7,344
2071	3,952	0	0	0	3,392	7,344
2072	6,432	7,406	0	0	3,401	17,239
2073	3,952	0	0	0	3,392	7,344
2074	3,952	0	0	0	3,392	7,344
2075	6,836	8,650	0	0	3,392	18,877
2076	3,963	0	0	0	3,401	7,364
2077	3,952	0	0	0	3,392	7,344
2078	6,476	7,571	0	0	3,392	17,438
2079	3,952	0	0	0	3,392	7,344
2080	3,963	0	0	0	3,401	7,364
2081	3,952	0	0	0	3,392	7,344
2082	6,366	7,242	0	0	3,392	17,000
2083	3,952	0	0	0	3,392	7,344
2084	3,963	0	0	0	3,401	7,364
2085	3,952	0	0	0	3,392	7,344
2086	3,952	0	0	0	3,392	7,344
2087	3,952	0	0	0	3,392	7,344
2088	19,160	45,618	0	2,988	3,924	71,690
2089	3,952	0	0	0	3,392	7,344
2090	3,952	0	0	0	3,392	7,344
2091	3,952	0	0	0	3,392	7,344
2092	3,963	0	0	0	3,401	7,364
2093	4,056	311	0	0	3,392	7,759

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TABLE 3.6 (continued)
SCENARIO 3: DECON WITH 100 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2094	4,212	778	0	0	3,392	8,382
2095	5,730	5,335	0	0	3,392	14,457
2096	5,287	3,972	0	0	3,401	12,659
2097	5,120	3,504	0	0	3,392	12,017
2098	4,315	1,090	0	0	3,392	8,797
2099	5,120	3,504	0	0	3,392	12,017
2100	5,575	4,868	0	0	3,392	13,834
2101	5,730	5,335	0	0	3,392	14,457
2102	5,730	5,335	0	0	3,392	14,457
2103	4,108	467	0	0	3,392	7,967
2104	4,171	623	0	0	3,401	8,194
2105	5,679	5,179	0	0	3,392	14,249
2106	5,120	3,504	0	0	3,392	12,017
2107	5,172	3,660	0	0	3,392	12,224
2108	4,171	623	0	0	3,401	8,194
2109	5,120	3,504	0	0	3,392	12,017
2110	5,172	3,660	0	0	3,392	12,224
2111	5,172	3,660	0	0	3,392	12,224
2112	4,171	623	0	0	3,401	8,194
2113	7,197	9,735	0	0	3,392	20,324
2114	6,185	6,698	0	0	3,392	16,274
2115	5,532	4,739	0	0	3,392	13,663
2116	4,171	623	0	0	3,401	8,194
2117	4,134	2,428	0	0	13,370	19,932
2118	1,124	887	20	177	1,957	4,164
Total	753,446	402,928	9,033	99,898	380,970	1,646,275

Note: Columns may not add due to rounding

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TABLE 3.7
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	23,782	923	741	25	10,292	35,762
2034	67,414	9,626	2,605	5,533	21,280	106,458
2035	68,591	29,172	1,970	24,644	23,300	147,677
2036	64,616	25,575	1,598	31,001	24,350	147,141
2037	46,367	27,499	1,398	22,010	19,293	116,568
2038	26,103	32,563	1,284	1,217	11,074	72,241
2039	33,735	3,985	599	4,110	6,754	49,183
2040	20,722	5,915	253	16	4,536	31,442
2041	15,615	8,421	186	0	4,139	28,362
2042	9,448	3,968	88	0	3,737	17,241
2043	3,952	0	0	0	3,378	7,330
2044	3,963	0	0	0	3,387	7,350
2045	5,466	4,542	0	0	3,378	13,386
2046	4,962	3,028	0	0	3,378	11,367
2047	4,962	3,028	0	0	3,378	11,367
2048	3,963	0	0	0	3,387	7,350
2049	4,962	3,028	0	0	3,378	11,367
2050	5,466	4,542	0	0	3,378	13,386
2051	5,412	4,378	0	0	3,378	13,167
2052	5,477	4,542	0	0	3,387	13,406
2053	3,952	0	0	0	3,378	7,330
2054	3,952	0	0	0	3,378	7,330
2055	5,466	4,542	0	0	3,378	13,386
2056	4,972	3,028	0	0	3,387	11,388
2057	4,962	3,028	0	0	3,378	11,367
2058	3,952	0	0	0	3,378	7,330
2059	4,907	2,864	0	0	3,378	11,148
2060	4,972	3,028	0	0	3,387	11,388
2061	4,962	3,028	0	0	3,378	11,367
2062	3,952	0	0	0	3,378	7,330

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TABLE 3.7 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	6,980	9,085	0	0	3,378	19,443
2064	5,927	5,892	0	0	3,387	15,206
2065	4,962	3,028	0	0	3,378	11,367
2066	3,952	0	0	0	3,378	7,330
2067	3,952	0	0	0	3,378	7,330
2068	5,982	6,057	0	0	3,387	15,425
2069	5,466	4,542	0	0	3,378	13,386
2070	3,952	0	0	0	3,378	7,330
2071	3,952	0	0	0	3,378	7,330
2072	6,432	7,406	0	0	3,387	17,225
2073	3,952	0	0	0	3,378	7,330
2074	3,952	0	0	0	3,378	7,330
2075	6,836	8,650	0	0	3,378	18,863
2076	3,963	0	0	0	3,387	7,350
2077	3,952	0	0	0	3,378	7,330
2078	6,476	7,571	0	0	3,378	17,424
2079	3,952	0	0	0	3,378	7,330
2080	3,963	0	0	0	3,387	7,350
2081	3,952	0	0	0	3,378	7,330
2082	6,366	7,242	0	0	3,378	16,986
2083	3,952	0	0	0	3,378	7,330
2084	3,963	0	0	0	3,387	7,350
2085	3,952	0	0	0	3,378	7,330
2086	3,952	0	0	0	3,378	7,330
2087	3,952	0	0	0	3,378	7,330
2088	19,160	45,618	0	2,988	3,910	71,675
2089	3,952	0	0	0	3,378	7,330
2090	3,952	0	0	0	3,378	7,330
2091	3,952	0	0	0	3,378	7,330
2092	3,963	0	0	0	3,387	7,350

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TABLE 3.7 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2093	3,952	0	0	0	3,378	7,330
2094	3,952	0	0	0	3,378	7,330
2095	5,471	4,556	0	0	3,378	13,405
2096	4,976	3,037	0	0	3,387	11,400
2097	4,965	3,037	0	0	3,378	11,380
2098	3,952	0	0	0	3,378	7,330
2099	4,965	3,037	0	0	3,378	11,380
2100	5,471	4,556	0	0	3,378	13,405
2101	5,471	4,556	0	0	3,378	13,405
2102	5,471	4,556	0	0	3,378	13,405
2103	3,952	0	0	0	3,378	7,330
2104	3,963	0	0	0	3,387	7,350
2105	5,471	4,556	0	0	3,378	13,405
2106	4,965	3,037	0	0	3,378	11,380
2107	4,965	3,037	0	0	3,378	11,380
2108	3,963	0	0	0	3,387	7,350
2109	4,965	3,037	0	0	3,378	11,380
2110	4,965	3,037	0	0	3,378	11,380
2111	4,965	3,037	0	0	3,378	11,380
2112	3,963	0	0	0	3,387	7,350
2113	6,990	9,112	0	0	3,378	19,480
2114	5,977	6,075	0	0	3,378	15,430
2115	5,324	4,117	0	0	3,378	12,819
2116	3,963	0	0	0	3,387	7,350
2117	3,952	0	0	0	3,378	7,330
2118	5,977	6,075	0	0	3,378	15,430
2119	5,471	4,556	0	0	3,378	13,405
2120	3,963	0	0	0	3,387	7,350
2121	3,952	0	0	0	3,378	7,330
2122	6,483	7,594	0	0	3,378	17,455

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TABLE 3.7 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2123	3,952	0	0	0	3,378	7,330
2124	3,963	0	0	0	3,387	7,350
2125	6,483	7,594	0	0	3,378	17,455
2126	3,952	0	0	0	3,378	7,330
2127	3,952	0	0	0	3,378	7,330
2128	6,494	7,594	0	0	3,387	17,475
2129	3,952	0	0	0	3,378	7,330
2130	3,952	0	0	0	3,378	7,330
2131	3,952	0	0	0	3,378	7,330
2132	6,494	7,594	0	0	3,387	17,475
2133	3,952	0	0	0	3,378	7,330
2134	3,952	0	0	0	3,378	7,330
2135	3,952	0	0	0	3,378	7,330
2136	3,963	0	0	0	3,387	7,350
2137	3,952	0	0	0	3,378	7,330
2138	19,139	45,562	0	0	3,378	68,079
2139	3,952	0	0	0	3,378	7,330
2140	3,963	0	0	0	3,387	7,350
2141	3,952	0	0	0	3,378	7,330
2142	3,952	0	0	0	3,378	7,330
2143	3,952	0	0	0	3,378	7,330
2144	3,963	0	0	0	3,387	7,350
2145	5,471	4,556	0	0	3,378	13,405
2146	4,965	3,037	0	0	3,378	11,380
2147	4,965	3,037	0	0	3,378	11,380
2148	3,963	0	0	0	3,387	7,350
2149	4,965	3,037	0	0	3,378	11,380
2150	5,471	4,556	0	0	3,378	13,405
2151	5,471	4,556	0	0	3,378	13,405
2152	5,482	4,556	0	0	3,387	13,425

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TABLE 3.7 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2153	3,952	0	0	0	3,378	7,330
2154	3,952	0	0	0	3,378	7,330
2155	5,831	5,635	0	0	3,378	14,844
2156	4,976	3,037	0	0	3,387	11,400
2157	4,965	3,037	0	0	3,378	11,380
2158	3,952	0	0	0	3,378	7,330
2159	4,965	3,037	0	0	3,378	11,380
2160	4,976	3,037	0	0	3,387	11,400
2161	4,965	3,037	0	0	3,378	11,380
2162	3,952	0	0	0	3,378	7,330
2163	6,990	9,112	0	0	3,378	19,480
2164	5,988	6,075	0	0	3,387	15,450
2165	4,965	3,037	0	0	3,378	11,380
2166	3,952	0	0	0	3,378	7,330
2167	3,952	0	0	0	3,378	7,330
2168	5,988	6,075	0	0	3,387	15,450
2169	5,471	4,556	0	0	3,378	13,405
2170	3,952	0	0	0	3,378	7,330
2171	3,952	0	0	0	3,378	7,330
2172	6,494	7,594	0	0	3,387	17,475
2173	3,952	0	0	0	3,378	7,330
2174	3,952	0	0	0	3,378	7,330
2175	6,483	7,594	0	0	3,378	17,455
2176	3,963	0	0	0	3,387	7,350
2177	3,952	0	0	0	3,378	7,330
2178	6,483	7,594	0	0	3,378	17,455
2179	3,952	0	0	0	3,378	7,330
2180	3,963	0	0	0	3,387	7,350
2181	3,952	0	0	0	3,378	7,330
2182	6,483	7,594	0	0	3,378	17,455

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TABLE 3.7 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2183	3,952	0	0	0	3,378	7,330
2184	3,963	0	0	0	3,387	7,350
2185	3,952	0	0	0	3,378	7,330
2186	3,952	0	0	0	3,378	7,330
2187	3,952	0	0	0	3,378	7,330
2188	19,150	45,562	0	0	3,387	68,099
2189	3,952	0	0	0	3,378	7,330
2190	3,952	0	0	0	3,378	7,330
2191	3,952	0	0	0	3,378	7,330
2192	3,963	0	0	0	3,387	7,350
2193	4,056	311	0	0	3,378	7,745
2194	4,212	778	0	0	3,378	8,368
2195	6,090	6,414	0	0	3,378	15,881
2196	5,287	3,972	0	0	3,387	12,645
2197	5,120	3,504	0	0	3,378	12,002
2198	4,315	1,090	0	0	3,378	8,783
2199	5,120	3,504	0	0	3,378	12,002
2200	5,575	4,868	0	0	3,378	13,820
2201	5,730	5,335	0	0	3,378	14,443
2202	5,730	5,335	0	0	3,378	14,443
2203	4,108	467	0	0	3,378	7,952
2204	4,171	623	0	0	3,387	8,180
2205	5,679	5,179	0	0	3,378	14,235
2206	5,120	3,504	0	0	3,378	12,002
2207	5,172	3,660	0	0	3,378	12,210
2208	4,171	623	0	0	3,387	8,180
2209	5,120	3,504	0	0	3,378	12,002
2210	5,172	3,660	0	0	3,378	12,210
2211	5,172	3,660	0	0	3,378	12,210
2212	4,171	623	0	0	3,387	8,180
2213	7,197	9,735	0	0	3,378	20,310

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TABLE 3.7 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2214	6,185	6,698	0	0	3,378	16,260
2215	5,172	3,660	0	0	3,378	12,210
2216	4,171	623	0	0	3,387	8,180
2217	4,134	2,428	0	0	13,357	19,918
2218	1,124	887	20	177	1,957	4,164
Total	1,249,423	689,898	10,742	91,722	732,670	2,774,456

Note: Columns may not add due to rounding

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TABLE 3.8
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	8,346	600	327	10	5,287	14,570
2035	49,894	6,051	2,191	2,472	28,487	89,096
2036	67,674	31,946	2,409	22,189	20,301	144,519
2037	76,073	43,082	1,676	30,330	20,209	171,370
2038	82,785	48,346	1,284	36,708	18,369	187,492
2039	39,073	4,749	599	5,008	6,511	55,940
2040	24,880	10,135	253	16	5,209	40,493
2041	18,384	14,730	186	0	5,303	38,604
2042	10,753	6,941	88	0	4,285	22,067
2043	3,952	0	0	0	3,378	7,330
2044	3,963	0	0	0	3,387	7,350
2045	5,466	4,542	0	0	3,378	13,386
2046	4,962	3,028	0	0	3,378	11,367
2047	4,962	3,028	0	0	3,378	11,367
2048	3,963	0	0	0	3,387	7,350
2049	4,962	3,028	0	0	3,378	11,367
2050	5,466	4,542	0	0	3,378	13,386
2051	5,412	4,378	0	0	3,378	13,167
2052	5,477	4,542	0	0	3,387	13,406
2053	3,952	0	0	0	3,378	7,330
2054	3,952	0	0	0	3,378	7,330
2055	5,466	4,542	0	0	3,378	13,386
2056	4,972	3,028	0	0	3,387	11,388
2057	4,962	3,028	0	0	3,378	11,367
2058	3,952	0	0	0	3,378	7,330
2059	4,907	2,864	0	0	3,378	11,148
2060	4,972	3,028	0	0	3,387	11,388
2061	4,962	3,028	0	0	3,378	11,367
2062	3,952	0	0	0	3,378	7,330
2063	6,980	9,085	0	0	3,378	19,443

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TABLE 3.8 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	5,927	5,892	0	0	3,387	15,206
2065	4,962	3,028	0	0	3,378	11,367
2066	3,952	0	0	0	3,378	7,330
2067	3,952	0	0	0	3,378	7,330
2068	5,982	6,057	0	0	3,387	15,425
2069	5,466	4,542	0	0	3,378	13,386
2070	3,952	0	0	0	3,378	7,330
2071	3,952	0	0	0	3,378	7,330
2072	6,432	7,406	0	0	3,387	17,225
2073	3,952	0	0	0	3,378	7,330
2074	3,952	0	0	0	3,378	7,330
2075	6,836	8,650	0	0	3,378	18,863
2076	3,963	0	0	0	3,387	7,350
2077	3,952	0	0	0	3,378	7,330
2078	6,476	7,571	0	0	3,378	17,424
2079	3,952	0	0	0	3,378	7,330
2080	3,963	0	0	0	3,387	7,350
2081	3,952	0	0	0	3,378	7,330
2082	6,366	7,242	0	0	3,378	16,986
2083	3,952	0	0	0	3,378	7,330
2084	3,963	0	0	0	3,387	7,350
2085	3,952	0	0	0	3,378	7,330
2086	3,952	0	0	0	3,378	7,330
2087	3,952	0	0	0	3,378	7,330
2088	19,160	45,618	0	2,988	3,910	71,675
2089	3,952	0	0	0	3,378	7,330
2090	3,952	0	0	0	3,378	7,330
2091	3,952	0	0	0	3,378	7,330
2092	3,963	0	0	0	3,387	7,350
2093	3,952	0	0	0	3,378	7,330

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TABLE 3.8 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2094	3,952	0	0	0	3,378	7,330
2095	5,471	4,556	0	0	3,378	13,405
2096	4,976	3,037	0	0	3,387	11,400
2097	4,965	3,037	0	0	3,378	11,380
2098	3,952	0	0	0	3,378	7,330
2099	4,965	3,037	0	0	3,378	11,380
2100	5,471	4,556	0	0	3,378	13,405
2101	5,471	4,556	0	0	3,378	13,405
2102	5,471	4,556	0	0	3,378	13,405
2103	3,952	0	0	0	3,378	7,330
2104	3,963	0	0	0	3,387	7,350
2105	5,471	4,556	0	0	3,378	13,405
2106	4,965	3,037	0	0	3,378	11,380
2107	4,965	3,037	0	0	3,378	11,380
2108	3,963	0	0	0	3,387	7,350
2109	4,965	3,037	0	0	3,378	11,380
2110	4,965	3,037	0	0	3,378	11,380
2111	4,965	3,037	0	0	3,378	11,380
2112	3,963	0	0	0	3,387	7,350
2113	6,990	9,112	0	0	3,378	19,480
2114	5,977	6,075	0	0	3,378	15,430
2115	5,324	4,117	0	0	3,378	12,819
2116	3,963	0	0	0	3,387	7,350
2117	3,952	0	0	0	3,378	7,330
2118	5,977	6,075	0	0	3,378	15,430
2119	5,471	4,556	0	0	3,378	13,405
2120	3,963	0	0	0	3,387	7,350
2121	3,952	0	0	0	3,378	7,330
2122	6,483	7,594	0	0	3,378	17,455
2123	3,952	0	0	0	3,378	7,330

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TABLE 3.8 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2124	3,963	0	0	0	3,387	7,350
2125	6,483	7,594	0	0	3,378	17,455
2126	3,952	0	0	0	3,378	7,330
2127	3,952	0	0	0	3,378	7,330
2128	6,494	7,594	0	0	3,387	17,475
2129	3,952	0	0	0	3,378	7,330
2130	3,952	0	0	0	3,378	7,330
2131	3,952	0	0	0	3,378	7,330
2132	6,494	7,594	0	0	3,387	17,475
2133	3,952	0	0	0	3,378	7,330
2134	3,952	0	0	0	3,378	7,330
2135	3,952	0	0	0	3,378	7,330
2136	3,963	0	0	0	3,387	7,350
2137	3,952	0	0	0	3,378	7,330
2138	19,139	45,562	0	0	3,378	68,079
2139	3,952	0	0	0	3,378	7,330
2140	3,963	0	0	0	3,387	7,350
2141	3,952	0	0	0	3,378	7,330
2142	3,952	0	0	0	3,378	7,330
2143	3,952	0	0	0	3,378	7,330
2144	3,963	0	0	0	3,387	7,350
2145	5,471	4,556	0	0	3,378	13,405
2146	4,965	3,037	0	0	3,378	11,380
2147	4,965	3,037	0	0	3,378	11,380
2148	3,963	0	0	0	3,387	7,350
2149	4,965	3,037	0	0	3,378	11,380
2150	5,471	4,556	0	0	3,378	13,405
2151	5,471	4,556	0	0	3,378	13,405
2152	5,482	4,556	0	0	3,387	13,425
2153	3,952	0	0	0	3,378	7,330

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TABLE 3.8 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2154	3,952	0	0	0	3,378	7,330
2155	5,831	5,635	0	0	3,378	14,844
2156	4,976	3,037	0	0	3,387	11,400
2157	4,965	3,037	0	0	3,378	11,380
2158	3,952	0	0	0	3,378	7,330
2159	4,965	3,037	0	0	3,378	11,380
2160	4,976	3,037	0	0	3,387	11,400
2161	4,965	3,037	0	0	3,378	11,380
2162	3,952	0	0	0	3,378	7,330
2163	6,990	9,112	0	0	3,378	19,480
2164	5,988	6,075	0	0	3,387	15,450
2165	4,965	3,037	0	0	3,378	11,380
2166	3,952	0	0	0	3,378	7,330
2167	3,952	0	0	0	3,378	7,330
2168	5,988	6,075	0	0	3,387	15,450
2169	5,471	4,556	0	0	3,378	13,405
2170	3,952	0	0	0	3,378	7,330
2171	3,952	0	0	0	3,378	7,330
2172	6,494	7,594	0	0	3,387	17,475
2173	3,952	0	0	0	3,378	7,330
2174	3,952	0	0	0	3,378	7,330
2175	6,483	7,594	0	0	3,378	17,455
2176	3,963	0	0	0	3,387	7,350
2177	3,952	0	0	0	3,378	7,330
2178	6,483	7,594	0	0	3,378	17,455
2179	3,952	0	0	0	3,378	7,330
2180	3,963	0	0	0	3,387	7,350
2181	3,952	0	0	0	3,378	7,330
2182	6,483	7,594	0	0	3,378	17,455
2183	3,952	0	0	0	3,378	7,330

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TABLE 3.8 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2184	3,963	0	0	0	3,387	7,350
2185	3,952	0	0	0	3,378	7,330
2186	3,952	0	0	0	3,378	7,330
2187	3,952	0	0	0	3,378	7,330
2188	19,150	45,562	0	0	3,387	68,099
2189	3,952	0	0	0	3,378	7,330
2190	3,952	0	0	0	3,378	7,330
2191	3,952	0	0	0	3,378	7,330
2192	3,963	0	0	0	3,387	7,350
2193	4,056	311	0	0	3,378	7,745
2194	4,212	778	0	0	3,378	8,368
2195	6,090	6,414	0	0	3,378	15,881
2196	5,287	3,972	0	0	3,387	12,645
2197	5,120	3,504	0	0	3,378	12,002
2198	4,315	1,090	0	0	3,378	8,783
2199	5,120	3,504	0	0	3,378	12,002
2200	5,575	4,868	0	0	3,378	13,820
2201	5,730	5,335	0	0	3,378	14,443
2202	5,730	5,335	0	0	3,378	14,443
2203	4,108	467	0	0	3,378	7,952
2204	4,171	623	0	0	3,387	8,180
2205	5,679	5,179	0	0	3,378	14,235
2206	5,120	3,504	0	0	3,378	12,002
2207	5,172	3,660	0	0	3,378	12,210
2208	4,171	623	0	0	3,387	8,180
2209	5,120	3,504	0	0	3,378	12,002
2210	5,172	3,660	0	0	3,378	12,210
2211	5,172	3,660	0	0	3,378	12,210
2212	4,171	623	0	0	3,387	8,180
2213	7,197	9,735	0	0	3,378	20,310

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TABLE 3.8 (continued)
SCENARIO 4: DECON WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2214	6,185	6,698	0	0	3,378	16,260
2215	5,172	3,660	0	0	3,378	12,210
2216	4,171	623	0	0	3,387	8,180
2217	4,134	2,428	0	0	13,357	19,918
2218	1,124	887	20	177	1,957	4,164
Total	1,250,894	708,831	9,033	99,898	717,875	2,786,532

Note: Columns may not add due to rounding

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TABLE 3.9
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	19,045	696	741	25	4,394	24,901
2034	48,160	4,428	1,864	527	26,418	81,398
2035	19,428	13,608	524	148	16,938	50,647
2036	16,303	14,592	374	20	17,085	48,374
2037	16,258	14,552	373	20	17,038	48,242
2038	14,281	12,057	340	18	15,144	41,840
2039	5,186	945	186	11	6,235	12,563
2040	5,252	1,101	187	11	6,252	12,803
2041	5,134	789	186	11	6,235	12,356
2042	5,290	1,256	186	11	6,235	12,979
2043	5,134	789	186	11	6,235	12,356
2044	5,096	634	187	11	6,252	12,180
2045	5,186	945	186	11	6,235	12,563
2046	5,186	945	186	11	6,235	12,563
2047	5,134	789	186	11	6,235	12,356
2048	5,200	946	187	11	6,252	12,596
2049	5,186	945	186	11	6,235	12,563
2050	5,134	789	186	11	6,235	12,356
2051	5,186	945	186	11	6,235	12,563
2052	5,148	790	187	11	6,252	12,388
2053	5,082	633	186	11	6,235	12,148
2054	5,082	633	186	11	6,235	12,148
2055	5,082	633	186	11	6,235	12,148
2056	4,992	323	187	11	6,252	11,765
2057	4,979	322	186	11	6,235	11,733
2058	4,979	322	186	11	6,235	11,733
2059	4,979	322	186	11	6,235	11,733
2060	5,096	634	187	11	6,252	12,180
2061	5,082	633	186	11	6,235	12,148
2062	5,082	633	186	11	6,235	12,148

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TABLE 3.9 (continued)
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	5,082	633	186	11	6,235	12,148
2064	5,096	634	187	11	6,252	12,180
2065	5,082	633	186	11	6,235	12,148
2066	5,082	633	186	11	6,235	12,148
2067	5,082	633	186	11	6,235	12,148
2068	5,096	634	187	11	6,252	12,180
2069	5,082	633	186	11	6,235	12,148
2070	5,082	633	186	11	6,235	12,148
2071	5,082	633	186	11	6,235	12,148
2072	5,096	634	187	11	6,252	12,180
2073	5,082	633	186	11	6,235	12,148
2074	5,082	633	186	11	6,235	12,148
2075	4,282	320	186	10	3,162	7,961
2076	4,294	321	187	11	3,171	7,983
2077	4,282	320	186	10	3,162	7,961
2078	4,282	320	186	10	3,162	7,961
2079	4,282	320	186	10	3,162	7,961
2080	4,294	321	187	11	3,171	7,983
2081	4,282	320	186	10	3,162	7,961
2082	4,282	320	186	10	3,162	7,961
2083	4,282	320	186	10	3,162	7,961
2084	4,294	321	187	11	3,171	7,983
2085	4,282	320	186	10	3,162	7,961
2086	4,282	320	186	10	3,162	7,961
2087	27,710	3,200	1,088	1,062	3,389	36,449
2088	49,590	7,228	1,866	2,031	4,068	64,784
2089	56,167	28,002	1,771	26,522	15,816	128,280
2090	42,753	14,271	1,506	22,835	10,248	91,613
2091	37,335	8,726	1,398	21,346	8,000	76,805
2092	7,675	892	150	1,477	2,793	12,986

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TABLE 3.9 (continued)
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2093	18,857	4,193	299	28	2,367	25,743
2094	13,636	8,639	186	0	1,922	24,384
2095	9,863	6,248	135	0	1,390	17,636
Total	632,401	170,481	21,571	76,568	409,608	1,310,629

Note: Columns may not add due to rounding

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TABLE 3.10
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	7,648	506	327	11	3,559	12,051
2035	47,107	5,551	1,864	350	27,380	82,253
2036	32,232	16,816	856	464	19,987	70,355
2037	23,188	20,952	373	24	15,859	60,397
2038	20,005	17,338	340	21	14,170	51,875
2039	5,242	963	186	11	6,223	12,626
2040	5,308	1,120	187	11	6,240	12,865
2041	5,190	808	186	11	6,223	12,418
2042	5,346	1,275	186	11	6,223	13,041
2043	5,190	808	186	11	6,223	12,418
2044	5,152	653	187	11	6,240	12,243
2045	5,242	963	186	11	6,223	12,626
2046	5,242	963	186	11	6,223	12,626
2047	5,190	808	186	11	6,223	12,418
2048	5,256	964	187	11	6,240	12,658
2049	5,242	963	186	11	6,223	12,626
2050	5,190	808	186	11	6,223	12,418
2051	5,242	963	186	11	6,223	12,626
2052	5,204	809	187	11	6,240	12,450
2053	5,138	652	186	11	6,223	12,210
2054	5,138	652	186	11	6,223	12,210
2055	5,138	652	186	11	6,223	12,210
2056	5,048	342	187	11	6,240	11,828
2057	5,035	341	186	11	6,223	11,795
2058	5,035	341	186	11	6,223	11,795
2059	5,035	341	186	11	6,223	11,795
2060	5,152	653	187	11	6,240	12,243
2061	5,138	652	186	11	6,223	12,210
2062	5,138	652	186	11	6,223	12,210
2063	5,138	652	186	11	6,223	12,210

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TABLE 3.10 (continued)
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	5,152	653	187	11	6,240	12,243
2065	5,138	652	186	11	6,223	12,210
2066	5,138	652	186	11	6,223	12,210
2067	5,138	652	186	11	6,223	12,210
2068	5,152	653	187	11	6,240	12,243
2069	5,138	652	186	11	6,223	12,210
2070	5,138	652	186	11	6,223	12,210
2071	5,138	652	186	11	6,223	12,210
2072	5,152	653	187	11	6,240	12,243
2073	5,138	652	186	11	6,223	12,210
2074	5,138	652	186	11	6,223	12,210
2075	825	333	186	10	3,164	4,519
2076	828	334	187	10	3,172	4,531
2077	825	333	186	10	3,164	4,519
2078	825	333	186	10	3,164	4,519
2079	825	333	186	10	3,164	4,519
2080	828	334	187	10	3,172	4,531
2081	825	333	186	10	3,164	4,519
2082	825	333	186	10	3,164	4,519
2083	825	333	186	10	3,164	4,519
2084	828	334	187	10	3,172	4,531
2085	825	333	186	10	3,164	4,519
2086	825	333	186	10	3,164	4,519
2087	825	333	186	10	3,164	4,519
2088	23,101	3,334	1,447	1,478	3,367	32,727
2089	37,591	11,836	1,841	7,041	6,362	64,671
2090	56,571	29,110	1,771	25,884	15,637	128,973
2091	57,872	12,950	1,427	25,648	8,617	106,515
2092	53,927	10,188	1,253	21,984	7,242	94,594
2093	23,983	6,921	299	28	2,688	33,918

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TABLE 3.10 (continued)
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2094	16,407	14,975	186	0	3,086	34,655
2095	11,867	10,832	135	0	2,232	25,065
Total	608,172	191,616	21,262	83,445	395,520	1,300,015

Note: Columns may not add due to rounding

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TABLE 3.11
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	19,045	696	741	25	4,394	24,901
2034	48,160	4,428	1,864	527	26,418	81,398
2035	19,353	13,383	524	148	16,938	50,346
2036	16,219	14,341	374	20	17,085	48,039
2037	16,175	14,301	373	20	17,038	47,907
2038	14,212	11,850	340	18	15,144	41,564
2039	4,979	322	186	11	6,235	11,733
2040	4,992	323	187	11	6,252	11,765
2041	4,979	322	186	11	6,235	11,733
2042	4,979	322	186	11	6,235	11,733
2043	4,979	322	186	11	6,235	11,733
2044	4,992	323	187	11	6,252	11,765
2045	4,979	322	186	11	6,235	11,733
2046	4,979	322	186	11	6,235	11,733
2047	4,979	322	186	11	6,235	11,733
2048	4,992	323	187	11	6,252	11,765
2049	4,979	322	186	11	6,235	11,733
2050	4,979	322	186	11	6,235	11,733
2051	4,979	322	186	11	6,235	11,733
2052	5,096	634	187	11	6,252	12,180
2053	5,186	945	186	11	6,235	12,563
2054	5,186	945	186	11	6,235	12,563
2055	5,238	1,100	186	11	6,235	12,771
2056	5,148	790	187	11	6,252	12,388
2057	5,290	1,256	186	11	6,235	12,978
2058	5,134	789	186	11	6,235	12,356
2059	5,082	633	186	11	6,235	12,148
2060	5,200	946	187	11	6,252	12,595
2061	5,186	945	186	11	6,235	12,563
2062	5,134	789	186	11	6,235	12,356

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TABLE 3.11 (continued)
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	5,186	945	186	11	6,235	12,563
2064	5,200	946	187	11	6,252	12,595
2065	5,134	789	186	11	6,235	12,356
2066	5,186	945	186	11	6,235	12,563
2067	5,186	945	186	11	6,235	12,563
2068	5,148	790	187	11	6,252	12,388
2069	5,186	945	186	11	6,235	12,563
2070	5,186	945	186	11	6,235	12,563
2071	5,186	945	186	11	6,235	12,563
2072	5,200	946	187	11	6,252	12,595
2073	5,186	945	186	11	6,235	12,563
2074	5,546	2,024	186	11	6,235	14,002
2075	5,186	945	186	11	6,235	12,563
2076	5,200	946	187	11	6,252	12,595
2077	4,979	322	186	11	6,235	11,733
2078	4,282	320	186	10	3,162	7,962
2079	4,282	320	186	10	3,162	7,962
2080	4,294	321	187	11	3,171	7,983
2081	4,282	320	186	10	3,162	7,962
2082	4,282	320	186	10	3,162	7,962
2083	4,282	320	186	10	3,162	7,962
2084	4,294	321	187	11	3,171	7,983
2085	4,282	320	186	10	3,162	7,962
2086	4,282	320	186	10	3,162	7,962
2087	27,710	3,200	1,088	1,062	3,389	36,449
2088	49,590	7,228	1,866	2,031	4,068	64,784
2089	56,167	28,002	1,771	26,522	15,816	128,280
2090	42,753	14,271	1,506	22,835	10,248	91,613
2091	37,335	8,726	1,398	21,346	8,000	76,805
2092	7,675	892	150	1,477	2,793	12,986

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TABLE 3.11 (continued)
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2093	18,857	4,193	299	28	2,367	25,743
2094	13,636	8,639	186	0	1,922	24,384
2095	9,863	6,248	135	0	1,390	17,636
Total	634,853	171,565	21,571	76,569	418,836	1,323,393

Note: Columns may not add due to rounding

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TABLE 3.12
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	7,648	506	327	11	3,559	12,051
2035	47,107	5,551	1,864	350	27,380	82,253
2036	32,148	16,562	856	464	19,987	70,018
2037	23,064	20,579	373	24	15,859	59,899
2038	19,903	17,031	340	21	14,170	51,465
2039	5,035	341	186	11	6,223	11,795
2040	5,048	342	187	11	6,240	11,828
2041	5,035	341	186	11	6,223	11,795
2042	5,035	341	186	11	6,223	11,795
2043	5,035	341	186	11	6,223	11,795
2044	5,048	342	187	11	6,240	11,828
2045	5,035	341	186	11	6,223	11,795
2046	5,035	341	186	11	6,223	11,795
2047	5,035	341	186	11	6,223	11,795
2048	5,048	342	187	11	6,240	11,828
2049	5,035	341	186	11	6,223	11,795
2050	5,035	341	186	11	6,223	11,795
2051	5,035	341	186	11	6,223	11,795
2052	5,048	342	187	11	6,240	11,828
2053	5,138	652	186	11	6,223	12,210
2054	5,242	963	186	11	6,223	12,626
2055	5,242	963	186	11	6,223	12,626
2056	5,308	1,120	187	11	6,240	12,865
2057	5,190	808	186	11	6,223	12,418
2058	5,346	1,275	186	11	6,223	13,041
2059	5,190	808	186	11	6,223	12,418
2060	5,152	653	187	11	6,240	12,243
2061	5,242	963	186	11	6,223	12,626
2062	5,242	963	186	11	6,223	12,626
2063	5,190	808	186	11	6,223	12,418

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TABLE 3.12 (continued)
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	5,256	964	187	11	6,240	12,658
2065	5,242	963	186	11	6,223	12,626
2066	5,190	808	186	11	6,223	12,418
2067	5,242	963	186	11	6,223	12,626
2068	5,256	964	187	11	6,240	12,658
2069	5,190	808	186	11	6,223	12,418
2070	5,242	963	186	11	6,223	12,626
2071	5,242	963	186	11	6,223	12,626
2072	5,256	964	187	11	6,240	12,658
2073	5,242	963	186	11	6,223	12,626
2074	5,242	963	186	11	6,223	12,626
2075	5,602	2,043	186	11	6,223	14,064
2076	5,256	964	187	11	6,240	12,658
2077	5,242	963	186	11	6,223	12,626
2078	825	333	186	10	3,164	4,519
2079	825	333	186	10	3,164	4,519
2080	828	334	187	10	3,172	4,531
2081	825	333	186	10	3,164	4,519
2082	825	333	186	10	3,164	4,519
2083	825	333	186	10	3,164	4,519
2084	828	334	187	10	3,172	4,531
2085	825	333	186	10	3,164	4,519
2086	825	333	186	10	3,164	4,519
2087	825	333	186	10	3,164	4,519
2088	23,101	3,334	1,447	1,478	3,368	32,727
2089	37,591	11,836	1,841	7,041	6,362	64,671
2090	56,571	29,110	1,771	25,884	15,637	128,973
2091	57,872	12,950	1,427	25,648	8,617	106,515
2092	53,927	10,188	1,253	21,984	7,242	94,594
2093	23,983	6,921	299	28	2,688	33,918

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TABLE 3.12 (continued)
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2094	16,407	14,975	186	0	3,086	34,655
2095	11,867	10,832	135	0	2,232	25,065
Total	621,171	192,717	21,262	83,448	404,706	1,323,303

Note: Columns may not add due to rounding

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TABLE 3.13
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	19,545	696	741	25	4,394	25,400
2034	48,890	4,345	1,864	527	26,418	82,043
2035	15,648	2,269	524	148	16,938	35,529
2036	11,694	763	374	20	17,085	29,936
2037	16,619	15,634	373	20	17,038	49,684
2038	23,866	40,813	340	18	15,144	80,181
2039	4,979	322	186	11	6,235	11,733
2040	4,992	323	187	11	6,252	11,765
2041	4,979	322	186	11	6,235	11,733
2042	4,979	322	186	11	6,235	11,733
2043	4,979	322	186	11	6,235	11,733
2044	4,992	323	187	11	6,252	11,765
2045	6,493	4,864	186	11	6,235	17,790
2046	5,988	3,350	186	11	6,235	15,771
2047	5,988	3,350	186	11	6,235	15,771
2048	4,992	323	187	11	6,252	11,765
2049	5,988	3,350	186	11	6,235	15,771
2050	6,493	4,864	186	11	6,235	17,790
2051	6,438	4,700	186	11	6,235	17,571
2052	6,506	4,865	187	11	6,252	17,822
2053	4,979	322	186	11	6,235	11,733
2054	4,979	322	186	11	6,235	11,733
2055	6,493	4,864	186	11	6,235	17,790
2056	6,002	3,351	187	11	6,252	15,803
2057	5,988	3,350	186	11	6,235	15,771
2058	4,979	322	186	11	6,235	11,733
2059	5,933	3,186	186	11	6,235	15,552
2060	6,002	3,351	187	11	6,252	15,803
2061	5,988	3,350	186	11	6,235	15,771
2062	4,979	322	186	11	6,235	11,733

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TABLE 3.13 (continued)
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	8,007	9,407	186	11	6,235	23,846
2064	6,956	6,215	187	11	6,252	19,622
2065	5,988	3,350	186	11	6,235	15,771
2066	4,979	322	186	11	6,235	11,733
2067	4,979	322	186	11	6,235	11,733
2068	7,011	6,379	187	11	6,252	19,841
2069	6,493	4,864	186	11	6,235	17,790
2070	4,979	322	186	11	6,235	11,733
2071	4,979	322	186	11	6,235	11,733
2072	7,461	7,729	187	11	6,252	21,640
2073	4,979	322	186	11	6,235	11,733
2074	4,979	322	186	11	6,235	11,733
2075	7,862	8,972	186	11	6,235	23,266
2076	4,992	323	187	11	6,252	11,765
2077	4,979	322	186	11	6,235	11,733
2078	7,502	7,893	186	11	6,235	21,827
2079	4,979	322	186	11	6,235	11,733
2080	4,992	323	187	11	6,252	11,765
2081	4,979	322	186	11	6,235	11,733
2082	7,393	7,564	186	11	6,235	21,389
2083	4,979	322	186	11	6,235	11,733
2084	4,992	323	187	11	6,252	11,765
2085	4,979	322	186	11	6,235	11,733
2086	4,979	322	186	11	6,235	11,733
2087	27,646	3,201	1,088	1,062	6,520	39,517
2088	64,790	52,925	1,866	5,020	7,348	131,949
2089	57,854	29,888	1,771	26,522	11,260	127,296
2090	43,227	14,760	1,506	21,569	10,138	91,201
2091	37,320	8,651	1,398	19,568	9,685	76,624
2092	7,957	887	150	1,355	6,165	16,514

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TABLE 3.13 (continued)
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2093	21,014	4,434	299	28	5,681	31,456
2094	16,104	9,238	186	0	4,973	30,502
2095	14,255	11,453	135	0	4,548	30,391
2096	5,005	3,972	0	0	3,448	12,424
2097	4,839	3,504	0	0	3,439	11,782
2098	4,034	1,090	0	0	3,439	8,563
2099	4,839	3,504	0	0	3,439	11,782
2100	5,294	4,868	0	0	3,439	13,600
2101	5,449	5,335	0	0	3,439	14,222
2102	5,449	5,335	0	0	3,439	14,222
2103	3,827	467	0	0	3,439	7,732
2104	3,889	623	0	0	3,448	7,959
2105	5,397	5,179	0	0	3,439	14,015
2106	4,839	3,504	0	0	3,439	11,782
2107	4,891	3,660	0	0	3,439	11,990
2108	3,889	623	0	0	3,448	7,959
2109	4,839	3,504	0	0	3,439	11,782
2110	4,891	3,660	0	0	3,439	11,990
2111	4,891	3,660	0	0	3,439	11,990
2112	3,889	623	0	0	3,448	7,959
2113	6,916	9,735	0	0	3,439	20,090
2114	5,904	6,698	0	0	3,439	16,040
2115	5,251	4,739	0	0	3,439	13,429
2116	3,889	623	0	0	3,448	7,959
2117	3,853	2,428	0	0	13,415	19,696
2118	1,124	887	20	177	1,957	4,164
Total	808,018	399,730	21,590	76,570	550,465	1,856,374

Note: Columns may not add due to rounding

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TABLE 3.14
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	7,675	305	327	11	3,559	11,877
2035	47,508	5,797	1,864	350	27,380	82,899
2036	27,600	3,076	856	464	19,987	51,983
2037	21,435	15,692	373	24	15,859	53,383
2038	27,847	40,864	340	21	14,170	83,243
2039	5,035	341	186	11	6,223	11,795
2040	5,048	342	187	11	6,240	11,828
2041	5,035	341	186	11	6,223	11,795
2042	5,035	341	186	11	6,223	11,795
2043	5,035	341	186	11	6,223	11,795
2044	5,048	342	187	11	6,240	11,828
2045	6,549	4,883	186	11	6,223	17,852
2046	6,044	3,369	186	11	6,223	15,833
2047	6,044	3,369	186	11	6,223	15,833
2048	5,048	342	187	11	6,240	11,828
2049	6,044	3,369	186	11	6,223	15,833
2050	6,549	4,883	186	11	6,223	17,852
2051	6,494	4,719	186	11	6,223	17,633
2052	6,562	4,884	187	11	6,240	17,884
2053	5,035	341	186	11	6,223	11,795
2054	5,035	341	186	11	6,223	11,795
2055	6,549	4,883	186	11	6,223	17,852
2056	6,058	3,370	187	11	6,240	15,865
2057	6,044	3,369	186	11	6,223	15,833
2058	5,035	341	186	11	6,223	11,795
2059	5,989	3,205	186	11	6,223	15,614
2060	6,058	3,370	187	11	6,240	15,865
2061	6,044	3,369	186	11	6,223	15,833
2062	5,035	341	186	11	6,223	11,795
2063	8,063	9,426	186	11	6,223	23,908

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TABLE 3.14 (continued)
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	7,012	6,234	187	11	6,240	19,684
2065	6,044	3,369	186	11	6,223	15,833
2066	5,035	341	186	11	6,223	11,795
2067	5,035	341	186	11	6,223	11,795
2068	7,067	6,398	187	11	6,240	19,903
2069	6,549	4,883	186	11	6,223	17,852
2070	5,035	341	186	11	6,223	11,795
2071	5,035	341	186	11	6,223	11,795
2072	7,517	7,748	187	11	6,240	21,703
2073	5,035	341	186	11	6,223	11,795
2074	5,035	341	186	11	6,223	11,795
2075	7,918	8,991	186	11	6,223	23,329
2076	5,048	342	187	11	6,240	11,828
2077	5,035	341	186	11	6,223	11,795
2078	7,558	7,911	186	11	6,223	21,890
2079	5,035	341	186	11	6,223	11,795
2080	5,048	342	187	11	6,240	11,828
2081	5,035	341	186	11	6,223	11,795
2082	7,449	7,583	186	11	6,223	21,451
2083	5,035	341	186	11	6,223	11,795
2084	5,048	342	187	11	6,240	11,828
2085	5,035	341	186	11	6,223	11,795
2086	5,035	341	186	11	6,223	11,795
2087	5,035	341	186	11	6,223	11,795
2088	38,955	48,954	1,447	4,466	7,047	100,869
2089	37,814	12,311	1,841	7,041	7,480	66,488
2090	57,989	30,995	1,771	25,884	11,081	127,720
2091	59,766	13,027	1,427	24,007	9,822	108,049
2092	55,869	10,125	1,253	20,460	9,192	96,899
2093	26,140	7,163	299	28	6,002	39,632

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TABLE 3.14 (continued)
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2094	18,875	15,575	186	0	6,136	40,773
2095	16,259	16,037	135	0	5,390	37,820
2096	5,005	3,972	0	0	3,448	12,424
2097	4,839	3,504	0	0	3,439	11,782
2098	4,034	1,090	0	0	3,439	8,563
2099	4,839	3,504	0	0	3,439	11,782
2100	5,294	4,868	0	0	3,439	13,600
2101	5,449	5,335	0	0	3,439	14,222
2102	5,449	5,335	0	0	3,439	14,222
2103	3,827	467	0	0	3,439	7,732
2104	3,889	623	0	0	3,448	7,959
2105	5,397	5,179	0	0	3,439	14,015
2106	4,839	3,504	0	0	3,439	11,782
2107	4,891	3,660	0	0	3,439	11,990
2108	3,889	623	0	0	3,448	7,959
2109	4,839	3,504	0	0	3,439	11,782
2110	4,891	3,660	0	0	3,439	11,990
2111	4,891	3,660	0	0	3,439	11,990
2112	3,889	623	0	0	3,448	7,959
2113	6,916	9,735	0	0	3,439	20,090
2114	5,904	6,698	0	0	3,439	16,040
2115	5,251	4,739	0	0	3,439	13,429
2116	3,889	623	0	0	3,448	7,959
2117	3,853	2,428	0	0	13,415	19,696
2118	1,124	887	20	177	1,957	4,164
Total	833,039	420,929	21,282	83,454	535,865	1,894,569

Note: Columns may not add due to rounding

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TABLE 3.15
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2033	19,545	696	741	25	4,394	25,400
2034	48,890	4,345	1,864	527	26,418	82,043
2035	15,648	2,269	524	148	16,938	35,529
2036	11,694	763	374	20	17,085	29,936
2037	16,619	15,634	373	20	17,038	49,684
2038	23,866	40,813	340	18	15,144	80,181
2039	4,979	322	186	11	6,235	11,733
2040	4,992	323	187	11	6,252	11,765
2041	4,979	322	186	11	6,235	11,733
2042	4,979	322	186	11	6,235	11,733
2043	4,979	322	186	11	6,235	11,733
2044	4,992	323	187	11	6,252	11,765
2045	6,493	4,864	186	11	6,235	17,790
2046	5,988	3,350	186	11	6,235	15,771
2047	5,988	3,350	186	11	6,235	15,771
2048	4,992	323	187	11	6,252	11,765
2049	5,988	3,350	186	11	6,235	15,771
2050	6,493	4,864	186	11	6,235	17,790
2051	6,438	4,700	186	11	6,235	17,571
2052	6,506	4,865	187	11	6,252	17,822
2053	4,979	322	186	11	6,235	11,733
2054	4,979	322	186	11	6,235	11,733
2055	6,493	4,864	186	11	6,235	17,790
2056	6,002	3,351	187	11	6,252	15,803
2057	5,988	3,350	186	11	6,235	15,771
2058	4,979	322	186	11	6,235	11,733
2059	5,933	3,186	186	11	6,235	15,552
2060	6,002	3,351	187	11	6,252	15,803
2061	5,988	3,350	186	11	6,235	15,771
2062	4,979	322	186	11	6,235	11,733

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TABLE 3.15 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2063	8,007	9,407	186	11	6,235	23,846
2064	6,956	6,215	187	11	6,252	19,622
2065	5,988	3,350	186	11	6,235	15,771
2066	4,979	322	186	11	6,235	11,733
2067	4,979	322	186	11	6,235	11,733
2068	7,011	6,379	187	11	6,252	19,841
2069	6,493	4,864	186	11	6,235	17,790
2070	4,979	322	186	11	6,235	11,733
2071	4,979	322	186	11	6,235	11,733
2072	7,461	7,729	187	11	6,252	21,640
2073	4,979	322	186	11	6,235	11,733
2074	4,979	322	186	11	6,235	11,733
2075	7,862	8,972	186	11	6,235	23,266
2076	4,992	323	187	11	6,252	11,765
2077	4,979	322	186	11	6,235	11,733
2078	7,502	7,893	186	11	6,235	21,827
2079	4,979	322	186	11	6,235	11,733
2080	4,992	323	187	11	6,252	11,765
2081	4,979	322	186	11	6,235	11,733
2082	7,393	7,564	186	11	6,235	21,389
2083	4,979	322	186	11	6,235	11,733
2084	4,992	323	187	11	6,252	11,765
2085	4,979	322	186	11	6,235	11,733
2086	4,979	322	186	11	6,235	11,733
2087	27,646	3,201	1,088	1,062	6,473	39,471
2088	64,790	52,925	1,866	5,020	7,262	131,862
2089	57,854	29,888	1,771	26,522	11,174	127,210
2090	43,227	14,760	1,506	21,569	10,052	91,115
2091	37,320	8,651	1,398	19,568	9,599	76,538
2092	7,957	887	150	1,355	6,078	16,428

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TABLE 3.15 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2093	20,910	4,123	299	28	5,612	30,972
2094	15,845	8,460	186	0	4,930	29,421
2095	13,995	10,675	135	0	4,502	29,307
2096	4,694	3,037	0	0	3,392	11,123
2097	4,684	3,037	0	0	3,383	11,104
2098	3,671	0	0	0	3,383	7,054
2099	4,684	3,037	0	0	3,383	11,104
2100	5,190	4,556	0	0	3,383	13,129
2101	5,190	4,556	0	0	3,383	13,129
2102	5,190	4,556	0	0	3,383	13,129
2103	3,671	0	0	0	3,383	7,054
2104	3,681	0	0	0	3,392	7,073
2105	5,190	4,556	0	0	3,383	13,129
2106	4,684	3,037	0	0	3,383	11,104
2107	4,684	3,037	0	0	3,383	11,104
2108	3,681	0	0	0	3,392	7,073
2109	4,684	3,037	0	0	3,383	11,104
2110	4,684	3,037	0	0	3,383	11,104
2111	4,684	3,037	0	0	3,383	11,104
2112	3,681	0	0	0	3,392	7,073
2113	6,709	9,112	0	0	3,383	19,204
2114	5,696	6,075	0	0	3,383	15,154
2115	5,043	4,117	0	0	3,383	12,543
2116	3,681	0	0	0	3,392	7,073
2117	3,671	0	0	0	3,383	7,054
2118	5,696	6,075	0	0	3,383	15,154
2119	5,190	4,556	0	0	3,383	13,129
2120	3,681	0	0	0	3,392	7,073
2121	3,671	0	0	0	3,383	7,054
2122	6,202	7,594	0	0	3,383	17,179

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TABLE 3.15 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2123	3,671	0	0	0	3,383	7,054
2124	3,681	0	0	0	3,392	7,073
2125	6,202	7,594	0	0	3,383	17,179
2126	3,671	0	0	0	3,383	7,054
2127	3,671	0	0	0	3,383	7,054
2128	6,212	7,594	0	0	3,392	17,198
2129	3,671	0	0	0	3,383	7,054
2130	3,671	0	0	0	3,383	7,054
2131	3,671	0	0	0	3,383	7,054
2132	6,212	7,594	0	0	3,392	17,198
2133	3,671	0	0	0	3,383	7,054
2134	3,671	0	0	0	3,383	7,054
2135	3,671	0	0	0	3,383	7,054
2136	3,681	0	0	0	3,392	7,073
2137	3,671	0	0	0	3,383	7,054
2138	18,858	45,562	0	0	3,383	67,803
2139	3,671	0	0	0	3,383	7,054
2140	3,681	0	0	0	3,392	7,073
2141	3,671	0	0	0	3,383	7,054
2142	3,671	0	0	0	3,383	7,054
2143	3,671	0	0	0	3,383	7,054
2144	3,681	0	0	0	3,392	7,073
2145	5,190	4,556	0	0	3,383	13,129
2146	4,684	3,037	0	0	3,383	11,104
2147	4,684	3,037	0	0	3,383	11,104
2148	3,681	0	0	0	3,392	7,073
2149	4,684	3,037	0	0	3,383	11,104
2150	5,190	4,556	0	0	3,383	13,129
2151	5,190	4,556	0	0	3,383	13,129
2152	5,200	4,556	0	0	3,392	13,148

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TABLE 3.15 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2153	3,671	0	0	0	3,383	7,054
2154	3,671	0	0	0	3,383	7,054
2155	5,550	5,635	0	0	3,383	14,568
2156	4,694	3,037	0	0	3,392	11,123
2157	4,684	3,037	0	0	3,383	11,104
2158	3,671	0	0	0	3,383	7,054
2159	4,684	3,037	0	0	3,383	11,104
2160	4,694	3,037	0	0	3,392	11,123
2161	4,684	3,037	0	0	3,383	11,104
2162	3,671	0	0	0	3,383	7,054
2163	6,709	9,112	0	0	3,383	19,204
2164	5,706	6,075	0	0	3,392	15,173
2165	4,684	3,037	0	0	3,383	11,104
2166	3,671	0	0	0	3,383	7,054
2167	3,671	0	0	0	3,383	7,054
2168	5,706	6,075	0	0	3,392	15,173
2169	5,190	4,556	0	0	3,383	13,129
2170	3,671	0	0	0	3,383	7,054
2171	3,671	0	0	0	3,383	7,054
2172	6,212	7,594	0	0	3,392	17,198
2173	3,671	0	0	0	3,383	7,054
2174	3,671	0	0	0	3,383	7,054
2175	6,202	7,594	0	0	3,383	17,179
2176	3,681	0	0	0	3,392	7,073
2177	3,671	0	0	0	3,383	7,054
2178	6,202	7,594	0	0	3,383	17,179
2179	3,671	0	0	0	3,383	7,054
2180	3,681	0	0	0	3,392	7,073
2181	3,671	0	0	0	3,383	7,054
2182	6,202	7,594	0	0	3,383	17,179

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TABLE 3.15 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2183	3,671	0	0	0	3,383	7,054
2184	3,681	0	0	0	3,392	7,073
2185	3,671	0	0	0	3,383	7,054
2186	3,671	0	0	0	3,383	7,054
2187	3,671	0	0	0	3,383	7,054
2188	18,868	45,562	0	0	3,392	67,822
2189	3,671	0	0	0	3,383	7,054
2190	3,671	0	0	0	3,383	7,054
2191	3,671	0	0	0	3,383	7,054
2192	3,681	0	0	0	3,392	7,073
2193	3,775	311	0	0	3,383	7,469
2194	3,931	778	0	0	3,383	8,092
2195	5,809	6,414	0	0	3,383	15,606
2196	5,005	3,972	0	0	3,392	12,369
2197	4,839	3,504	0	0	3,383	11,727
2198	4,034	1,090	0	0	3,383	8,507
2199	4,839	3,504	0	0	3,383	11,727
2200	5,294	4,868	0	0	3,383	13,544
2201	5,449	5,335	0	0	3,383	14,167
2202	5,449	5,335	0	0	3,383	14,167
2203	3,827	467	0	0	3,383	7,677
2204	3,889	623	0	0	3,392	7,904
2205	5,397	5,179	0	0	3,383	13,959
2206	4,839	3,504	0	0	3,383	11,727
2207	4,891	3,660	0	0	3,383	11,934
2208	3,889	623	0	0	3,392	7,904
2209	4,839	3,504	0	0	3,383	11,727
2210	4,891	3,660	0	0	3,383	11,934
2211	4,891	3,660	0	0	3,383	11,934
2212	3,889	623	0	0	3,392	7,904

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TABLE 3.15 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 1
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2213	6,916	9,735	0	0	3,383	20,034
2214	5,904	6,698	0	0	3,383	15,984
2215	4,891	3,660	0	0	3,383	11,934
2216	3,889	623	0	0	3,392	7,904
2217	3,853	2,428	0	0	13,362	19,642
2218	1,124	887	20	177	1,957	4,164
Total	1,277,333	705,634	21,590	76,570	887,128	2,968,256

Note: Columns may not add due to rounding

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TABLE 3.16
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2034	7,675	305	327	11	3,559	11,877
2035	47,508	5,797	1,864	350	27,380	82,899
2036	27,600	3,076	856	464	19,987	51,983
2037	21,435	15,692	373	24	15,859	53,383
2038	27,847	40,864	340	21	14,170	83,243
2039	5,035	341	186	11	6,223	11,795
2040	5,048	342	187	11	6,240	11,828
2041	5,035	341	186	11	6,223	11,795
2042	5,035	341	186	11	6,223	11,795
2043	5,035	341	186	11	6,223	11,795
2044	5,048	342	187	11	6,240	11,828
2045	6,549	4,883	186	11	6,223	17,852
2046	6,044	3,369	186	11	6,223	15,833
2047	6,044	3,369	186	11	6,223	15,833
2048	5,048	342	187	11	6,240	11,828
2049	6,044	3,369	186	11	6,223	15,833
2050	6,549	4,883	186	11	6,223	17,852
2051	6,494	4,719	186	11	6,223	17,633
2052	6,562	4,884	187	11	6,240	17,884
2053	5,035	341	186	11	6,223	11,795
2054	5,035	341	186	11	6,223	11,795
2055	6,549	4,883	186	11	6,223	17,852
2056	6,058	3,370	187	11	6,240	15,865
2057	6,044	3,369	186	11	6,223	15,833
2058	5,035	341	186	11	6,223	11,795
2059	5,989	3,205	186	11	6,223	15,614
2060	6,058	3,370	187	11	6,240	15,865
2061	6,044	3,369	186	11	6,223	15,833
2062	5,035	341	186	11	6,223	11,795
2063	8,063	9,426	186	11	6,223	23,908

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TABLE 3.16 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2064	7,012	6,234	187	11	6,240	19,684
2065	6,044	3,369	186	11	6,223	15,833
2066	5,035	341	186	11	6,223	11,795
2067	5,035	341	186	11	6,223	11,795
2068	7,067	6,398	187	11	6,240	19,903
2069	6,549	4,883	186	11	6,223	17,852
2070	5,035	341	186	11	6,223	11,795
2071	5,035	341	186	11	6,223	11,795
2072	7,517	7,748	187	11	6,240	21,703
2073	5,035	341	186	11	6,223	11,795
2074	5,035	341	186	11	6,223	11,795
2075	7,918	8,991	186	11	6,223	23,329
2076	5,048	342	187	11	6,240	11,828
2077	5,035	341	186	11	6,223	11,795
2078	7,558	7,911	186	11	6,223	21,890
2079	5,035	341	186	11	6,223	11,795
2080	5,048	342	187	11	6,240	11,828
2081	5,035	341	186	11	6,223	11,795
2082	7,449	7,583	186	11	6,223	21,451
2083	5,035	341	186	11	6,223	11,795
2084	5,048	342	187	11	6,240	11,828
2085	5,035	341	186	11	6,223	11,795
2086	5,035	341	186	11	6,223	11,795
2087	5,035	341	186	11	6,223	11,795
2088	38,955	48,954	1,447	4,466	6,983	100,805
2089	37,814	12,311	1,841	7,041	7,394	66,402
2090	57,989	30,995	1,771	25,884	10,995	127,634
2091	59,766	13,027	1,427	24,007	9,736	107,963
2092	55,869	10,125	1,253	20,460	9,106	96,813
2093	26,036	6,851	299	28	5,933	39,148

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TABLE 3.16 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2094	18,616	14,797	186	0	6,093	39,692
2095	15,999	15,258	135	0	5,343	36,736
2096	4,694	3,037	0	0	3,392	11,123
2097	4,684	3,037	0	0	3,383	11,104
2098	3,671	0	0	0	3,383	7,054
2099	4,684	3,037	0	0	3,383	11,104
2100	5,190	4,556	0	0	3,383	13,129
2101	5,190	4,556	0	0	3,383	13,129
2102	5,190	4,556	0	0	3,383	13,129
2103	3,671	0	0	0	3,383	7,054
2104	3,681	0	0	0	3,392	7,073
2105	5,190	4,556	0	0	3,383	13,129
2106	4,684	3,037	0	0	3,383	11,104
2107	4,684	3,037	0	0	3,383	11,104
2108	3,681	0	0	0	3,392	7,073
2109	4,684	3,037	0	0	3,383	11,104
2110	4,684	3,037	0	0	3,383	11,104
2111	4,684	3,037	0	0	3,383	11,104
2112	3,681	0	0	0	3,392	7,073
2113	6,709	9,112	0	0	3,383	19,204
2114	5,696	6,075	0	0	3,383	15,154
2115	5,043	4,117	0	0	3,383	12,543
2116	3,681	0	0	0	3,392	7,073
2117	3,671	0	0	0	3,383	7,054
2118	5,696	6,075	0	0	3,383	15,154
2119	5,190	4,556	0	0	3,383	13,129
2120	3,681	0	0	0	3,392	7,073
2121	3,671	0	0	0	3,383	7,054
2122	6,202	7,594	0	0	3,383	17,179
2123	3,671	0	0	0	3,383	7,054

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TABLE 3.16 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2124	3,681	0	0	0	3,392	7,073
2125	6,202	7,594	0	0	3,383	17,179
2126	3,671	0	0	0	3,383	7,054
2127	3,671	0	0	0	3,383	7,054
2128	6,212	7,594	0	0	3,392	17,198
2129	3,671	0	0	0	3,383	7,054
2130	3,671	0	0	0	3,383	7,054
2131	3,671	0	0	0	3,383	7,054
2132	6,212	7,594	0	0	3,392	17,198
2133	3,671	0	0	0	3,383	7,054
2134	3,671	0	0	0	3,383	7,054
2135	3,671	0	0	0	3,383	7,054
2136	3,681	0	0	0	3,392	7,073
2137	3,671	0	0	0	3,383	7,054
2138	18,858	45,562	0	0	3,383	67,803
2139	3,671	0	0	0	3,383	7,054
2140	3,681	0	0	0	3,392	7,073
2141	3,671	0	0	0	3,383	7,054
2142	3,671	0	0	0	3,383	7,054
2143	3,671	0	0	0	3,383	7,054
2144	3,681	0	0	0	3,392	7,073
2145	5,190	4,556	0	0	3,383	13,129
2146	4,684	3,037	0	0	3,383	11,104
2147	4,684	3,037	0	0	3,383	11,104
2148	3,681	0	0	0	3,392	7,073
2149	4,684	3,037	0	0	3,383	11,104
2150	5,190	4,556	0	0	3,383	13,129
2151	5,190	4,556	0	0	3,383	13,129
2152	5,200	4,556	0	0	3,392	13,148
2153	3,671	0	0	0	3,383	7,054

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TABLE 3.16 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2154	3,671	0	0	0	3,383	7,054
2155	5,550	5,635	0	0	3,383	14,568
2156	4,694	3,037	0	0	3,392	11,123
2157	4,684	3,037	0	0	3,383	11,104
2158	3,671	0	0	0	3,383	7,054
2159	4,684	3,037	0	0	3,383	11,104
2160	4,694	3,037	0	0	3,392	11,123
2161	4,684	3,037	0	0	3,383	11,104
2162	3,671	0	0	0	3,383	7,054
2163	6,709	9,112	0	0	3,383	19,204
2164	5,706	6,075	0	0	3,392	15,173
2165	4,684	3,037	0	0	3,383	11,104
2166	3,671	0	0	0	3,383	7,054
2167	3,671	0	0	0	3,383	7,054
2168	5,706	6,075	0	0	3,392	15,173
2169	5,190	4,556	0	0	3,383	13,129
2170	3,671	0	0	0	3,383	7,054
2171	3,671	0	0	0	3,383	7,054
2172	6,212	7,594	0	0	3,392	17,198
2173	3,671	0	0	0	3,383	7,054
2174	3,671	0	0	0	3,383	7,054
2175	6,202	7,594	0	0	3,383	17,179
2176	3,681	0	0	0	3,392	7,073
2177	3,671	0	0	0	3,383	7,054
2178	6,202	7,594	0	0	3,383	17,179
2179	3,671	0	0	0	3,383	7,054
2180	3,681	0	0	0	3,392	7,073
2181	3,671	0	0	0	3,383	7,054
2182	6,202	7,594	0	0	3,383	17,179
2183	3,671	0	0	0	3,383	7,054

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TABLE 3.16 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2184	3,681	0	0	0	3,392	7,073
2185	3,671	0	0	0	3,383	7,054
2186	3,671	0	0	0	3,383	7,054
2187	3,671	0	0	0	3,383	7,054
2188	18,868	45,562	0	0	3,392	67,822
2189	3,671	0	0	0	3,383	7,054
2190	3,671	0	0	0	3,383	7,054
2191	3,671	0	0	0	3,383	7,054
2192	3,681	0	0	0	3,392	7,073
2193	3,775	311	0	0	3,383	7,469
2194	3,931	778	0	0	3,383	8,092
2195	5,809	6,414	0	0	3,383	15,606
2196	5,005	3,972	0	0	3,392	12,369
2197	4,839	3,504	0	0	3,383	11,727
2198	4,034	1,090	0	0	3,383	8,507
2199	4,839	3,504	0	0	3,383	11,727
2200	5,294	4,868	0	0	3,383	13,544
2201	5,449	5,335	0	0	3,383	14,167
2202	5,449	5,335	0	0	3,383	14,167
2203	3,827	467	0	0	3,383	7,677
2204	3,889	623	0	0	3,392	7,904
2205	5,397	5,179	0	0	3,383	13,959
2206	4,839	3,504	0	0	3,383	11,727
2207	4,891	3,660	0	0	3,383	11,934
2208	3,889	623	0	0	3,392	7,904
2209	4,839	3,504	0	0	3,383	11,727
2210	4,891	3,660	0	0	3,383	11,934
2211	4,891	3,660	0	0	3,383	11,934
2212	3,889	623	0	0	3,392	7,904
2213	6,916	9,735	0	0	3,383	20,034

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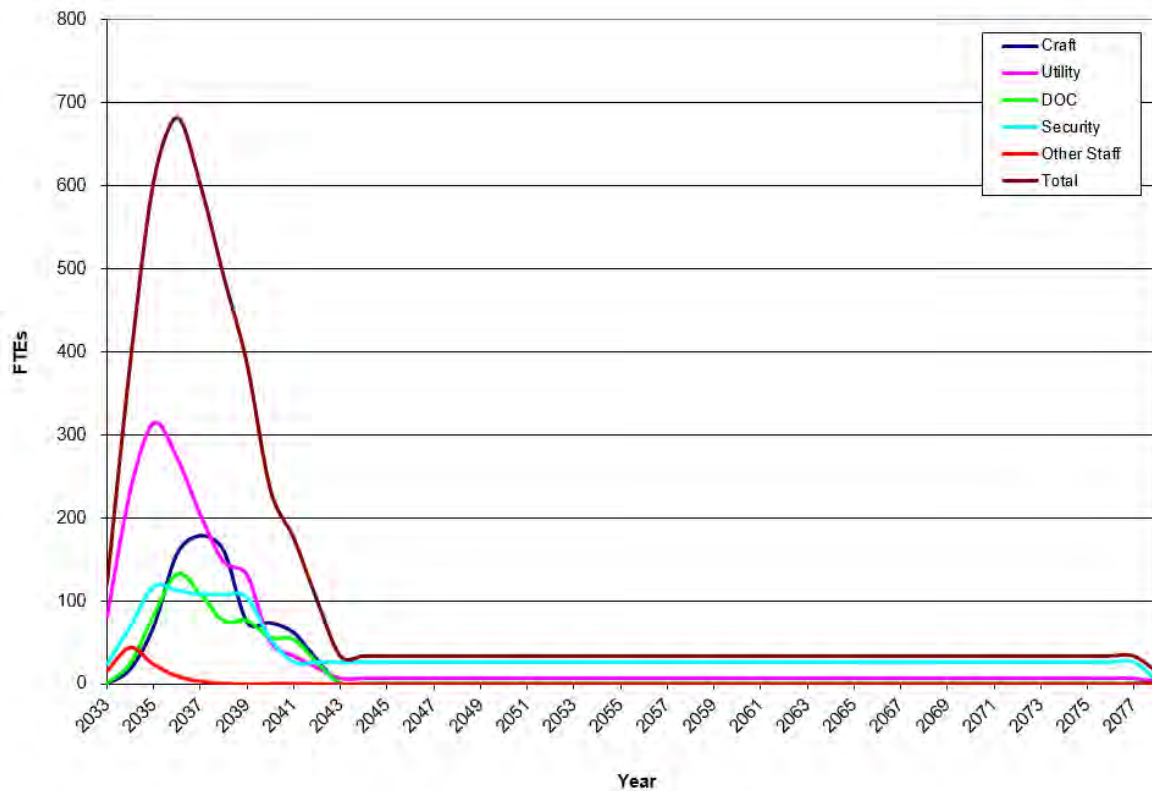
TABLE 3.16 (continued)
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS, UNIT 2
TOTAL ANNUAL EXPENDITURES
(thousands, 2020 dollars)

Year	Labor	Equipment & Materials	Energy	Burial	Other	Total
2214	5,904	6,698	0	0	3,383	15,984
2215	4,891	3,660	0	0	3,383	11,934
2216	3,889	623	0	0	3,392	7,904
2217	3,853	2,428	0	0	13,362	19,642
2218	1,124	887	20	177	1,957	4,164
Total	1,302,354	726,832	21,282	83,454	872,596	3,006,518

Note: Columns may not add due to rounding

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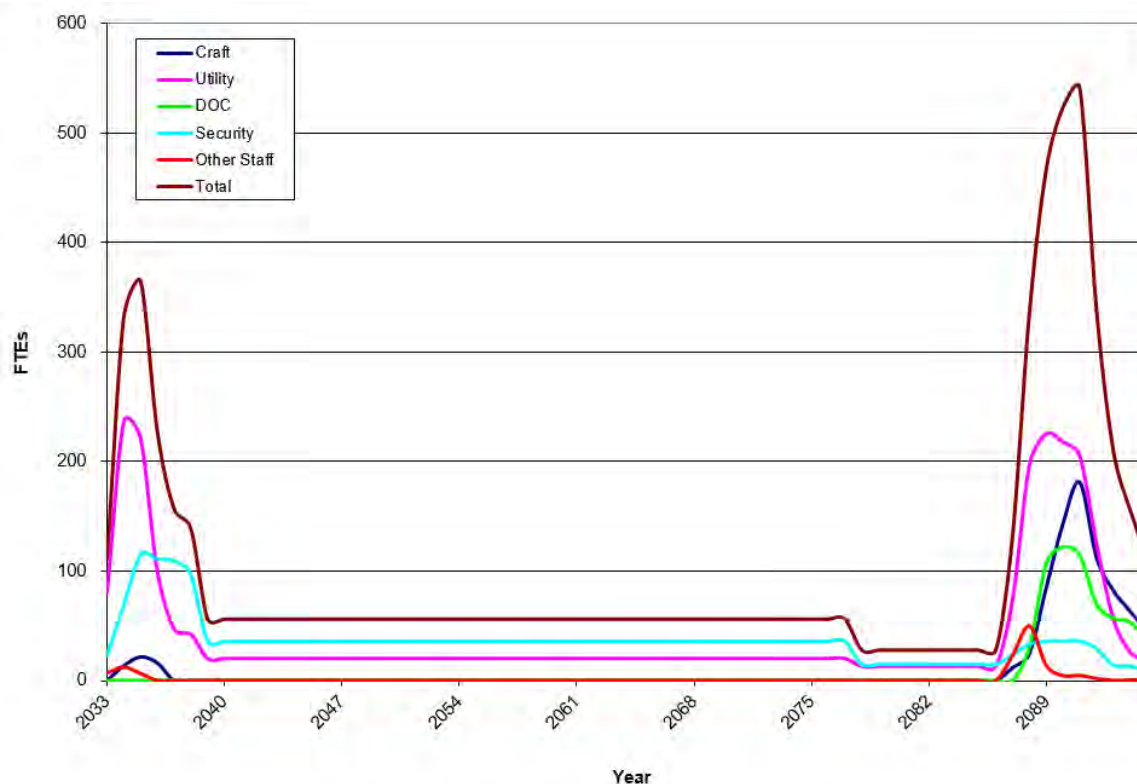
**FIGURE 3.1
SCENARIO 2: DECON WITH 60 YEAR DFS
PRAIRIE ISLAND NUCLEAR GENERATING PLANT
MANPOWER LEVELS**



Note that the labor hour basis of this chart was taken from Appendix D; however not all line items in Appendix D have labor hour values available (e.g. spent fuel canister loading estimates from Xcel Energy)

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**FIGURE 3.2
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS
PRAIRIE ISLAND NUCLEAR GENERATING PLANT
MANPOWER LEVELS**



Note that the labor hour basis of this chart was taken from Appendix H; however not all line items in Appendix I have labor hour values available (e.g. spent fuel canister loading estimates from Xcel Energy)

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4. SCHEDULE ESTIMATE

The schedules for the decommissioning scenarios considered in this study follow the sequence presented in the AIF/NESP-036 study, with minor changes to reflect recent experience and site-specific constraints. In addition, the scheduling has been revised to reflect the spent fuel management plans described in Section 3.4.1.

A schedule or sequence of activities for the DECON alternative is presented in Figure 4.1. The schedule is also representative of the work activities identified in the delayed dismantling scenarios, absent any spent fuel constraints. The scheduling sequence is based on the fuel being removed from the spent fuel pool within the first four years after operations cease. The key activities listed in the schedule do not reflect a one-to-one correspondence with those activities in the cost tables, but reflect dividing some activities for clarity and combining others for convenience. The schedule was prepared using the "Microsoft Project Professional" computer software.^[44]

4.1 SCHEDULE ESTIMATE ASSUMPTIONS

The schedule reflects the results of a precedence network developed for the site decommissioning activities, i.e., a PERT (Program Evaluation and Review Technique) Software Package. The work activity durations used in the precedence network reflect the actual man-hour estimates from the cost table, adjusted by stretching certain activities over their slack range and shifting the start and end dates of others. The following assumptions were made in the development of the decommissioning schedule:

- The fuel handling area of the auxiliary building is isolated until such time that all spent fuel has been discharged from the storage pool to the ISFSI. Decontamination and dismantling of the spent fuel storage pool is initiated once the transfer of spent fuel is complete (DECON option).
- All work (except vessel and internals removal) is performed during an 8-hour workday, 5 days per week, with no overtime. There are eleven paid holidays per year.
- Reactor and internals removal activities are performed by using separate crews for different activities working on different shifts, with a corresponding backshift charge for the second shift.
- Multiple crews work parallel activities to the maximum extent possible, consistent with optimum efficiency, adequate access for cutting, removal and laydown space, and with the stringent safety measures necessary during demolition of heavy components and structures.

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- For plant systems removal, the systems with the longest removal durations in areas on the critical path are considered to determine the duration of the activity.

4.2 PROJECT SCHEDULE

The period-dependent costs presented in the detailed cost tables are based upon the durations developed in the schedules for decommissioning Prairie Island. Durations are established between several milestones in each project period; these durations are used to establish a critical path for the entire project. In turn, the critical path duration for each period is used as the basis for determining the period-dependent costs. A second parallel path is also shown for the spent fuel cooling period, which determines the release of the auxiliary building for final decontamination.

Project timelines are provided in Figures 4.2 through 4.9 with milestone dates based on a 2033/2034 shutdown dates. The spent fuel pool is emptied approximately four years after shutdown, while ISFSI operations continue until the DOE completes the transfer of assemblies. Deferred decommissioning operations in all scenarios are assumed to commence so that the operating licenses are terminated within a 60-year period from the cessation of operations.

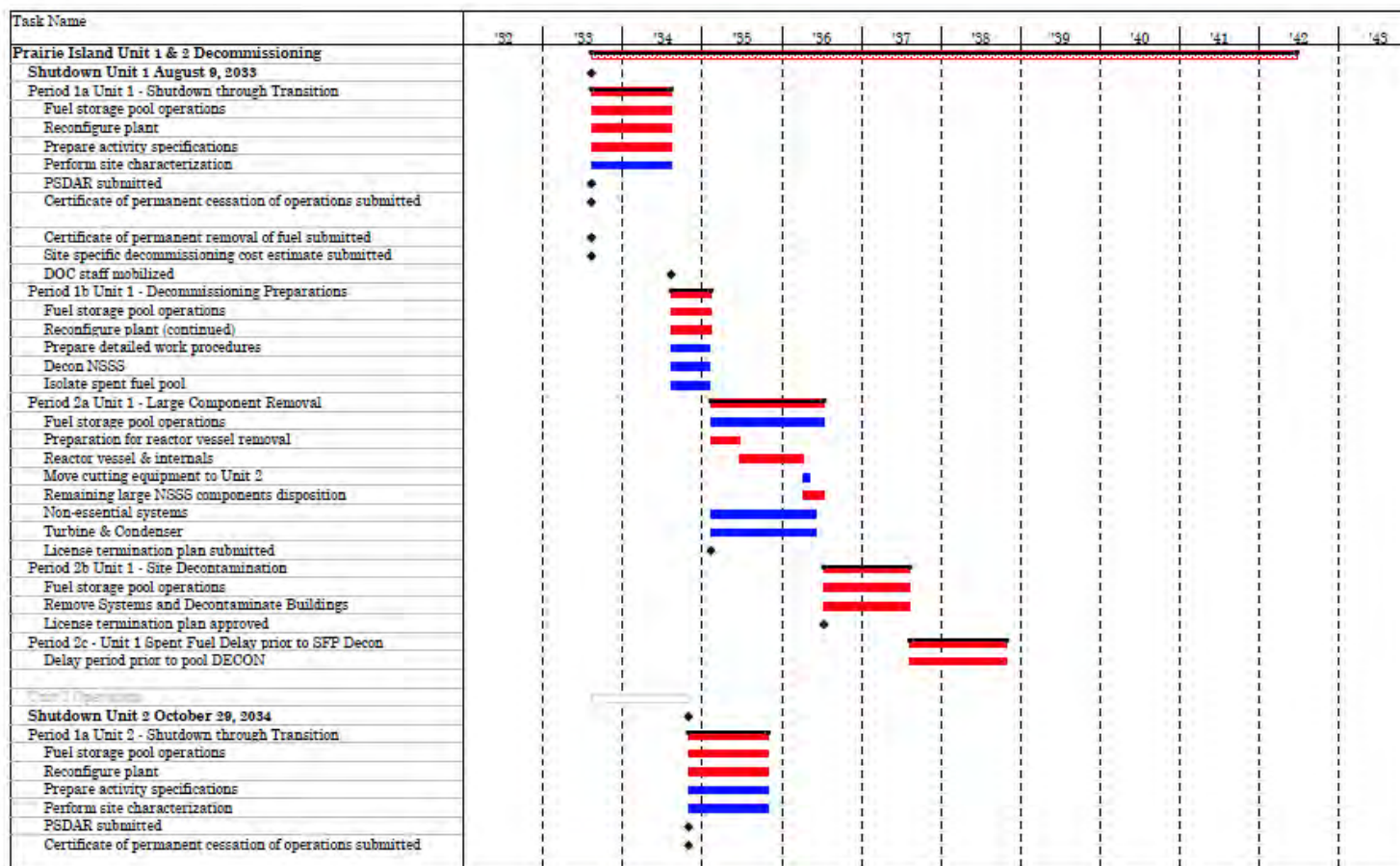
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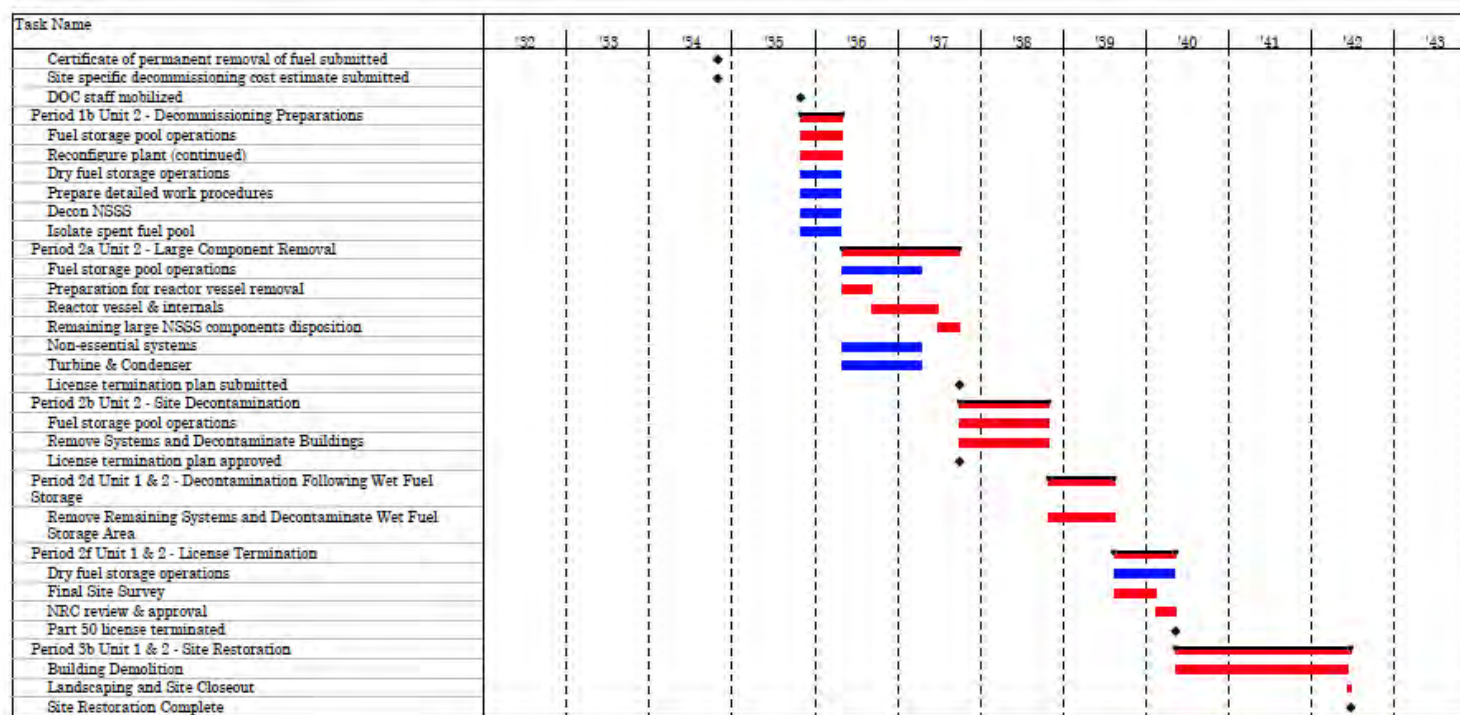
**FIGURE 4.1
DECON ACTIVITY SCHEDULE**



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**FIGURE 4.1 (continued)
DECON ACTIVITY SCHEDULE**



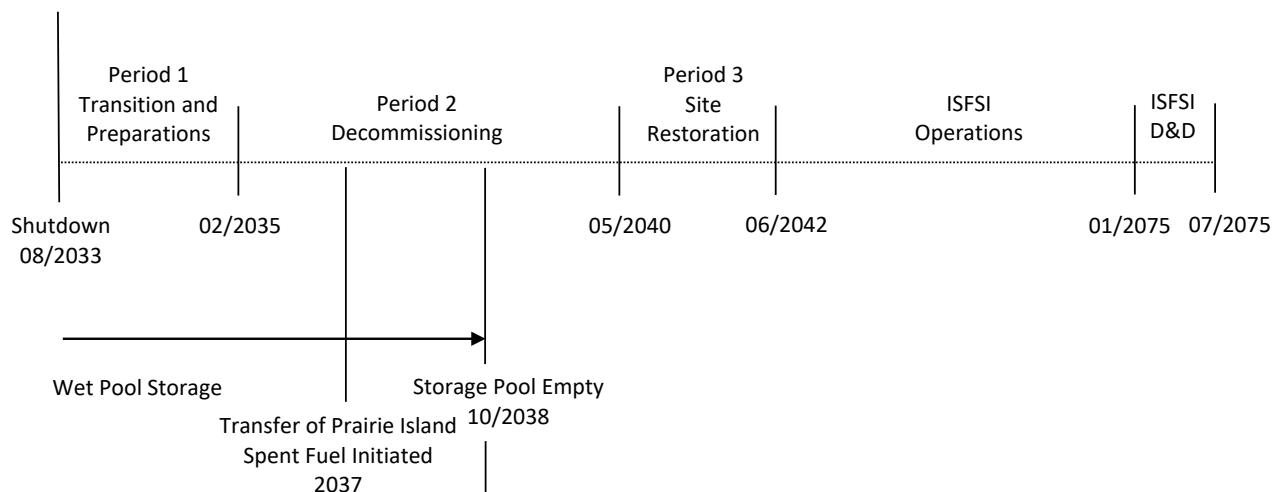
1. Red scheduling bars indicate critical path activities
2. Blue scheduling bars associated with non-critical path activities
3. Diamond symbols indicate major milestones

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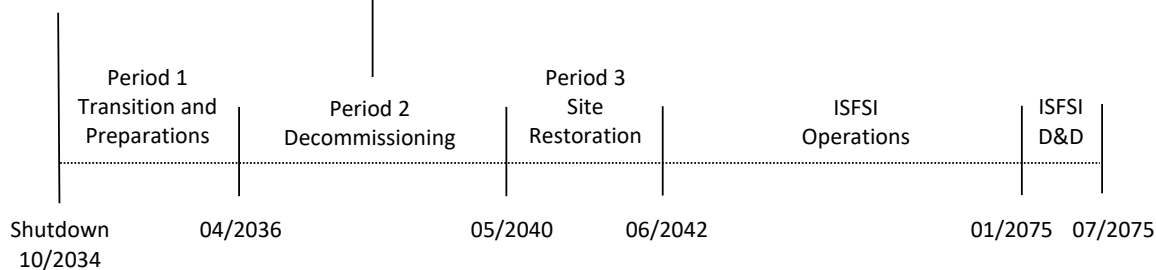
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**FIGURE 4.2
 SCENARIO 1: DECON WITH 42 YEAR DFS
 DECOMMISSIONING TIMELINE**
 (not to scale)

Unit 1



Unit 2

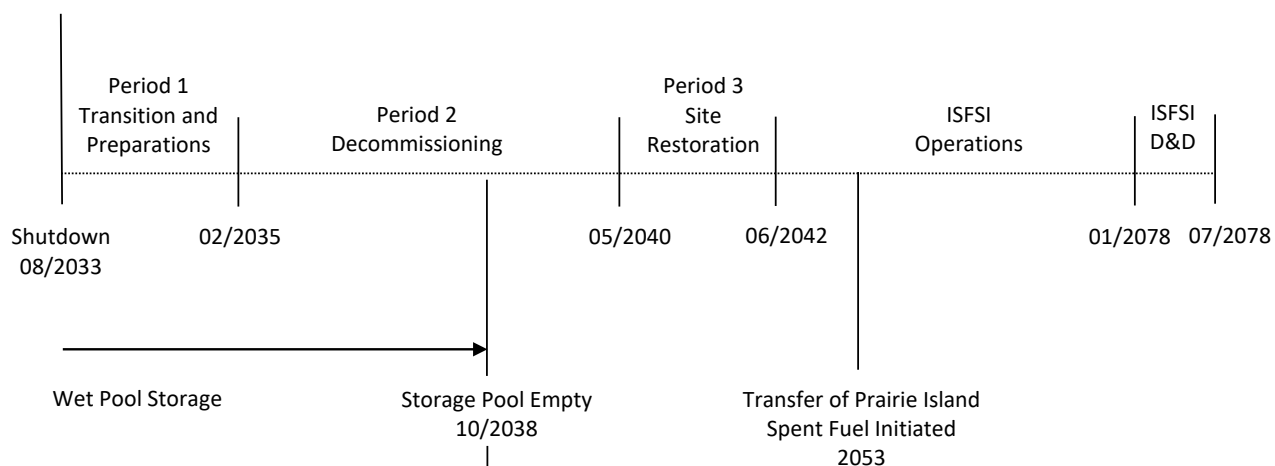


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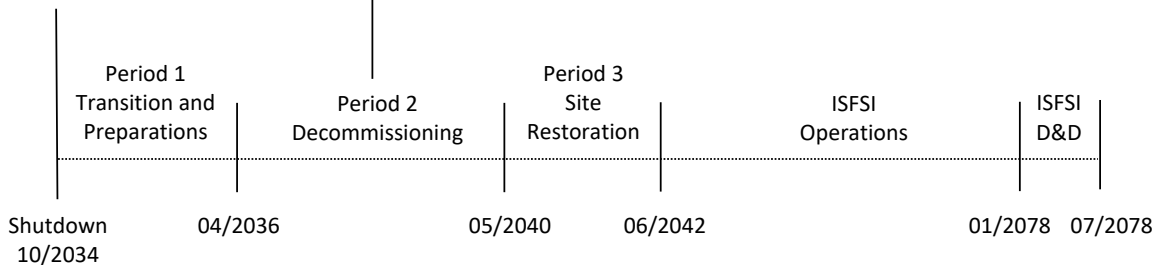
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**FIGURE 4.3
 SCENARIO 2: DECON WITH 60 YEAR DFS
 DECOMMISSIONING TIMELINE
 (not to scale)**

Unit 1



Unit 2

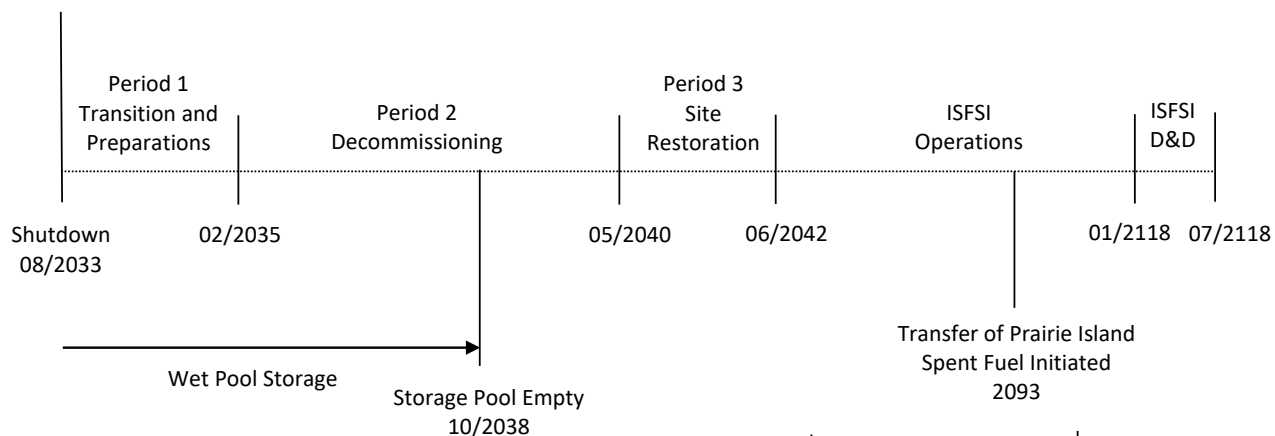


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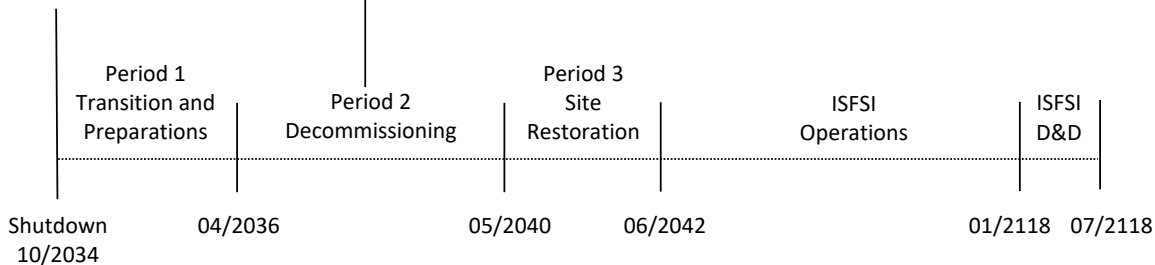
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**FIGURE 4.4
 SCENARIO 3: DECON WITH 100 YEAR DFS
 DECOMMISSIONING TIMELINE**
 (not to scale)

Unit 1



Unit 2

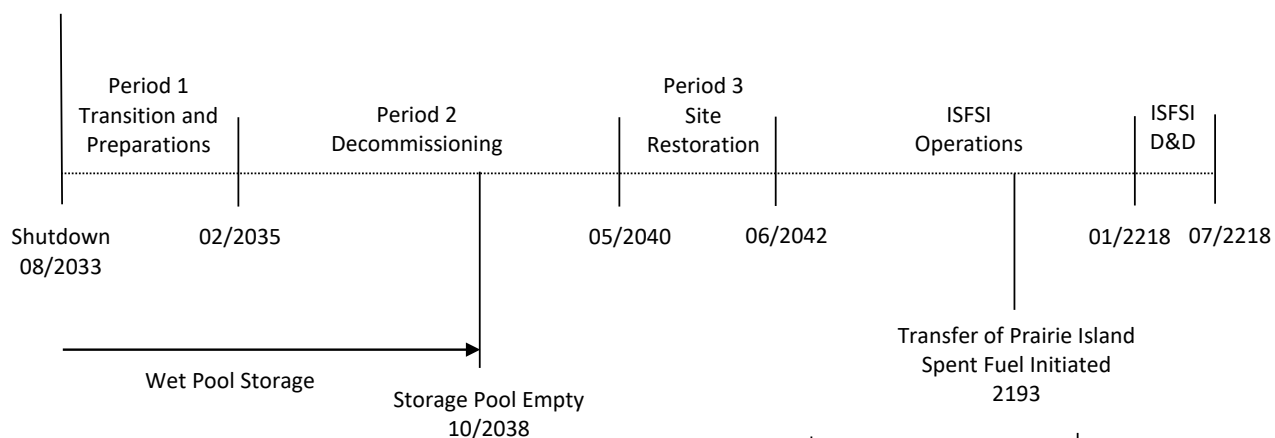


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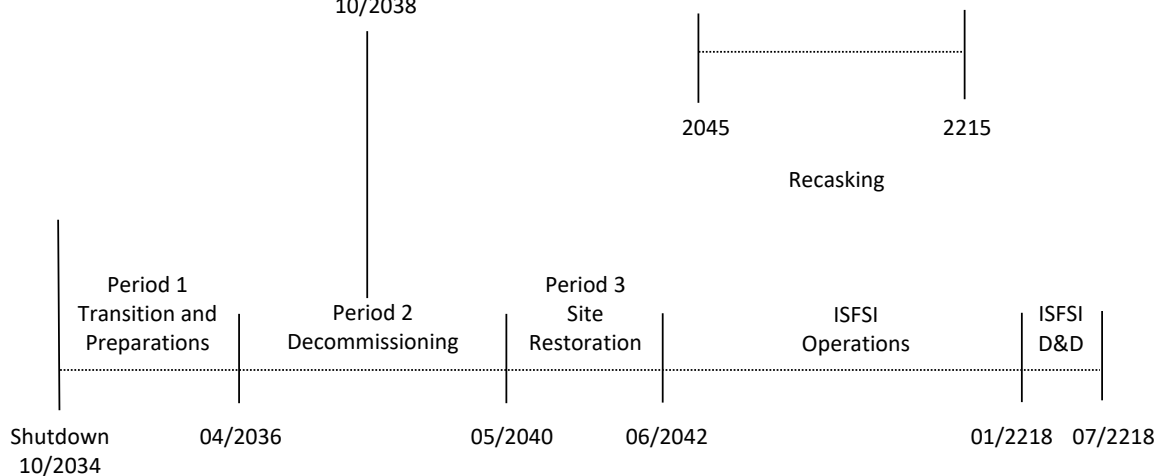
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**FIGURE 4.5
 SCENARIO 4: DECON WITH 200 YEAR DFS
 DECOMMISSIONING TIMELINE**
 (not to scale)

Unit 1

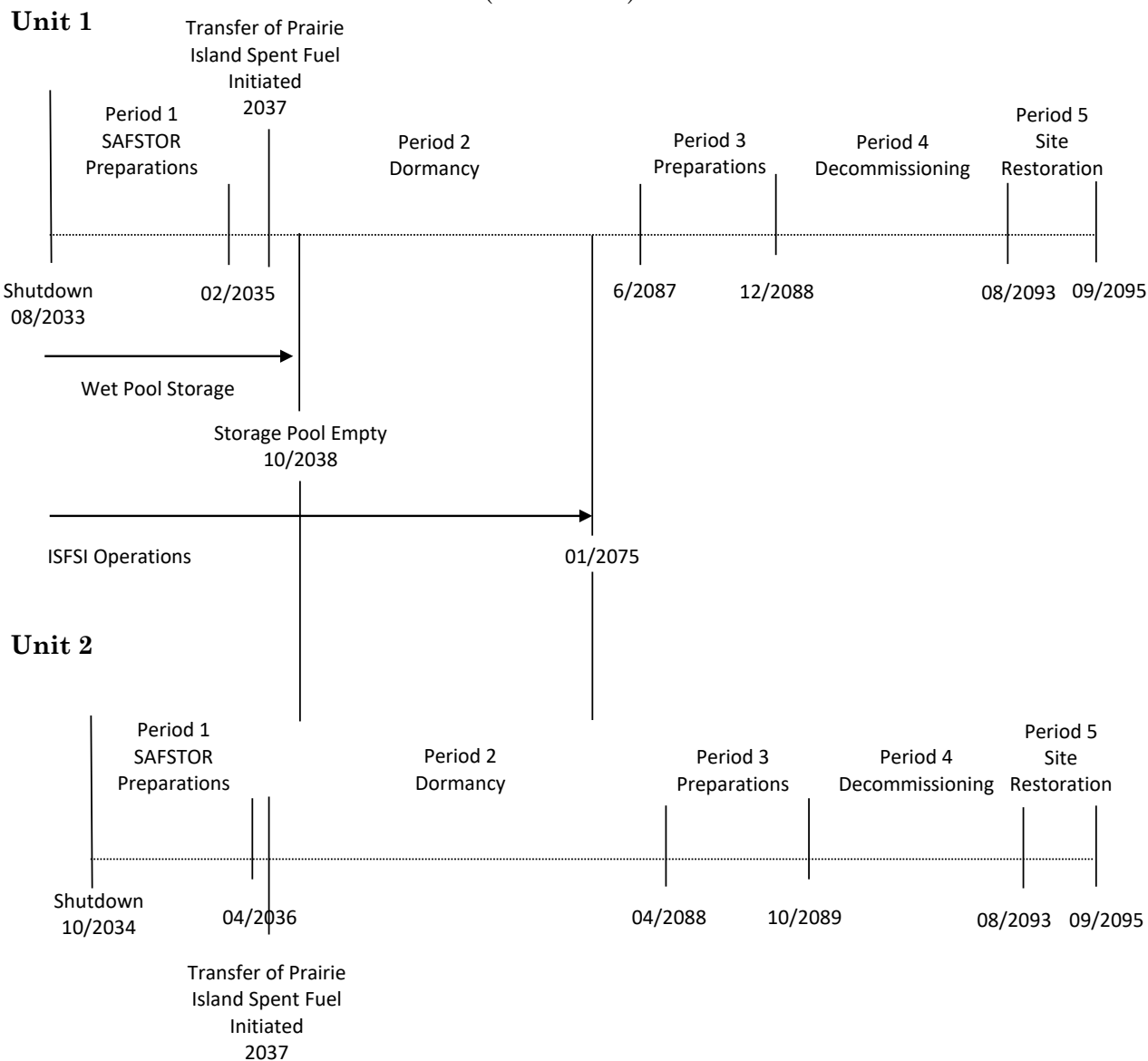


Unit 2



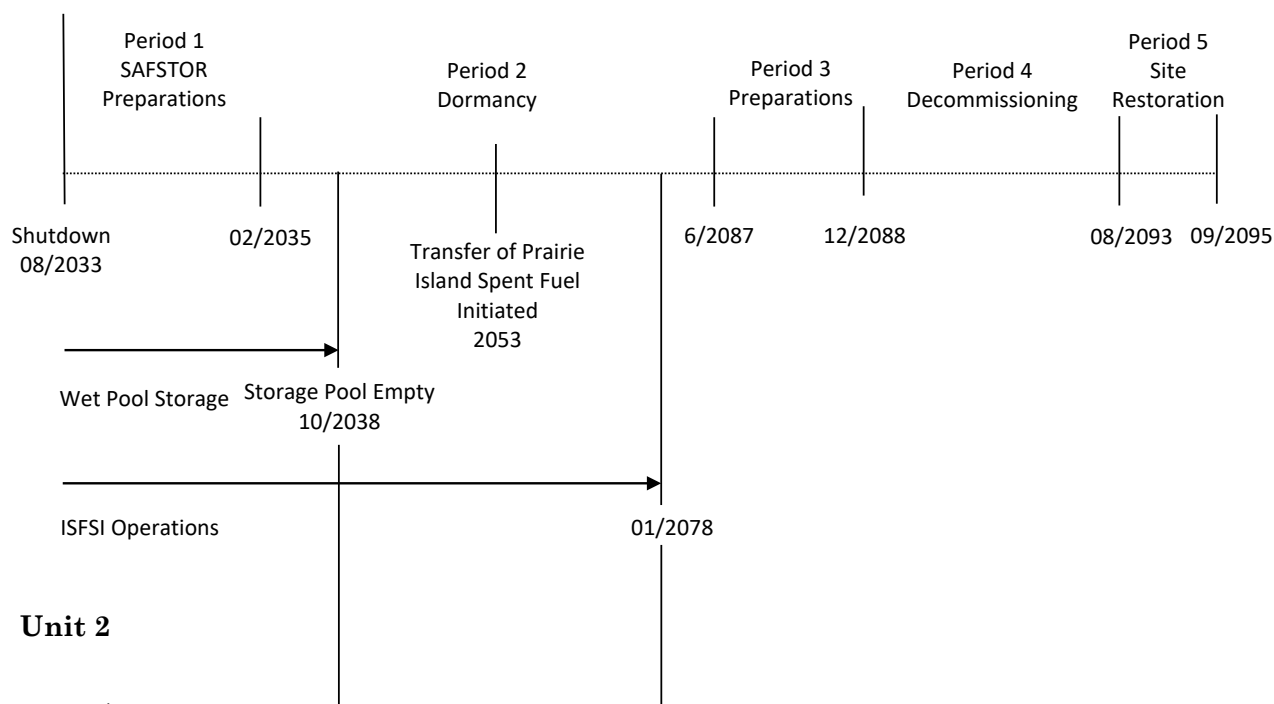
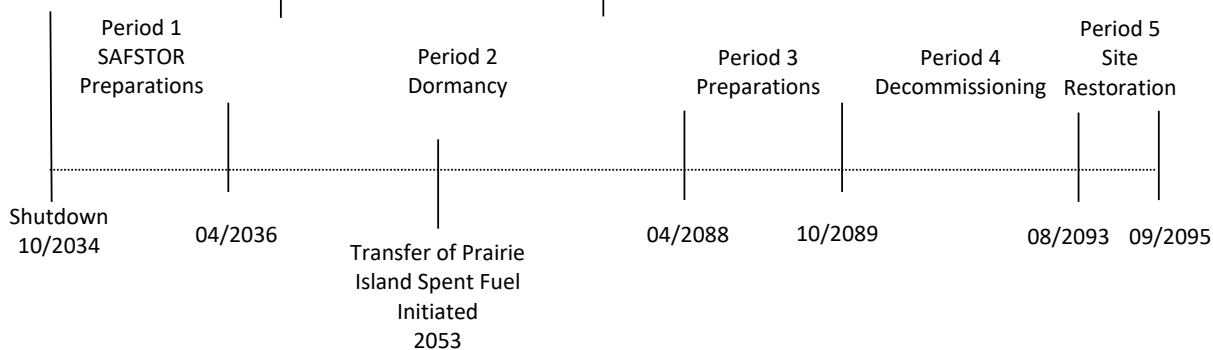
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FIGURE 4.6
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS
DECOMMISSIONING TIMELINE
(not to scale)



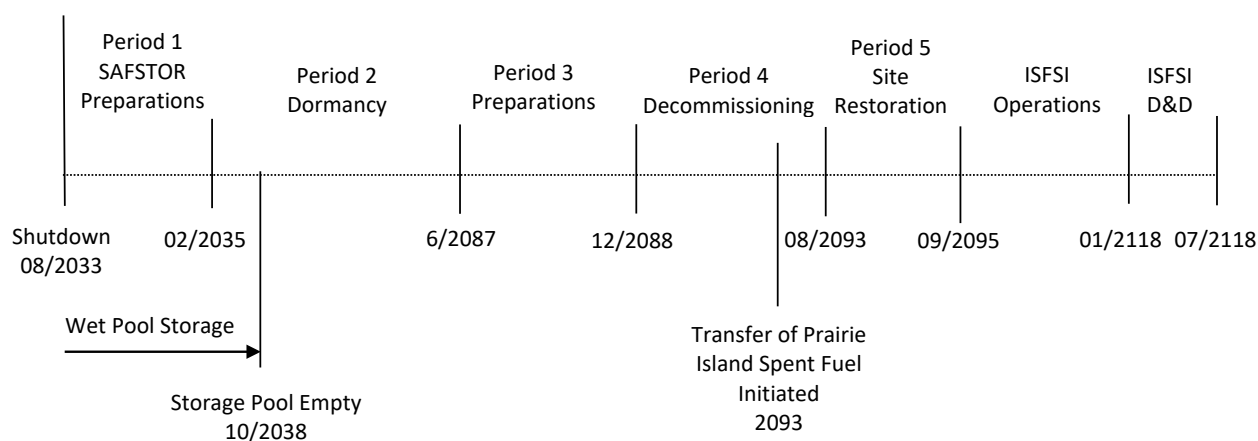
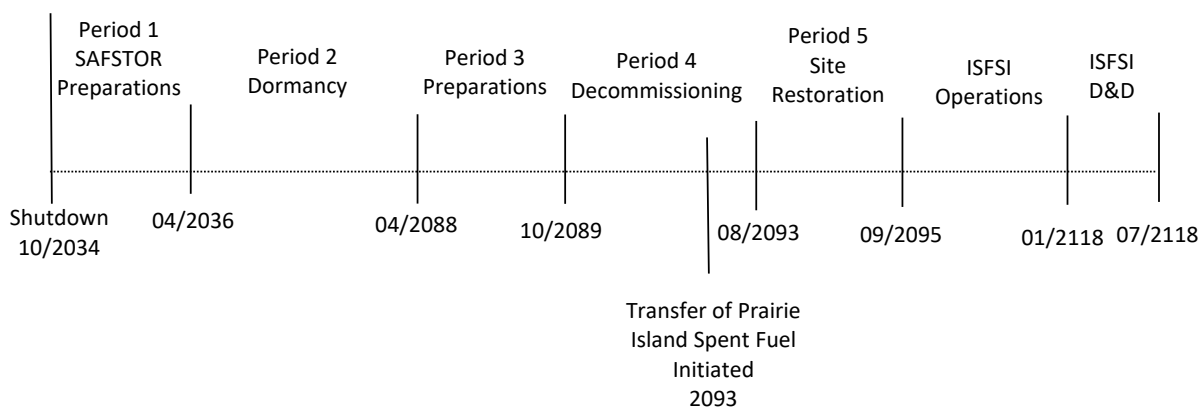
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FIGURE 4.7
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS
DECOMMISSIONING TIMELINE
(not to scale)

Unit 1**Unit 2**

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FIGURE 4.8
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS
DECOMMISSIONING TIMELINE
(not to scale)

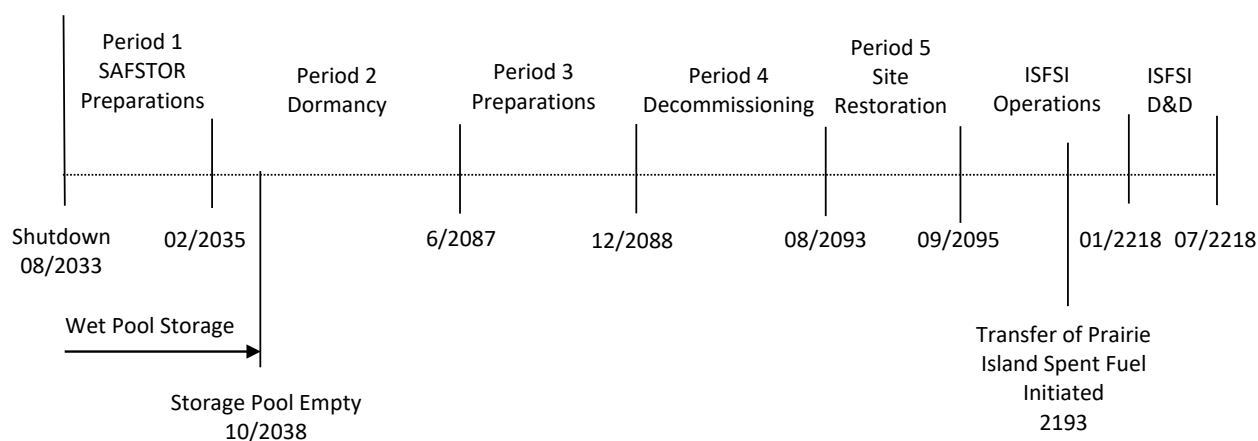
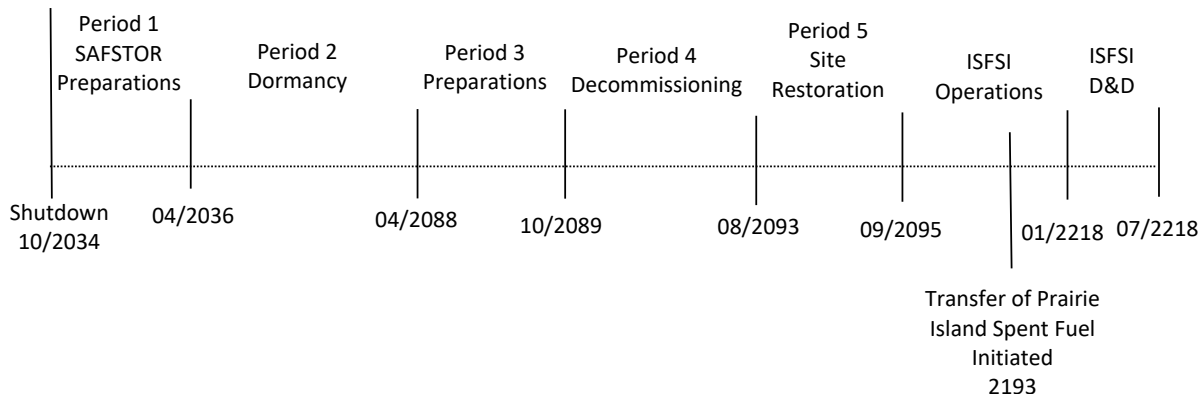
Unit 1**Unit 2**

Recasking campaigns occur 2045 through 2088, and 2095 through 2115.

DOE pickup of fuel occurs from 2093 to 2118.

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FIGURE 4.9
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS
DECOMMISSIONING TIMELINE
(not to scale)

Unit 1**Unit 2**

Recasking campaigns occur 2045 through 2088, 2095 through 2138, 2145 through 2188, and 2195 through 2215.

DOE pickup of fuel occurs from 2193 to 2118.

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5. RADIOACTIVE WASTES

The objectives of the decommissioning process are the removal of all radioactive material from the site that would restrict its future use and the termination of the NRC licenses. This currently requires the remediation of all radioactive material at the site in excess of applicable legal limits. Under the Atomic Energy Act, ^[45] the NRC is responsible for protecting the public from sources of ionizing radiation. Title 10 of the Code of Federal Regulations delineates the production, utilization, and disposal of radioactive materials and processes. In particular, Part 71 defines radioactive material as it pertains to transportation and Part 61 specifies its disposition.

Most of the materials being transported for controlled burial are categorized as Low Specific Activity (LSA) or Surface Contaminated Object (SCO) materials containing Type A quantities, as defined in 49 CFR Parts 173-178. Shipping containers are required to be Industrial Packages (IP-1, IP-2 or IP-3, as defined in 10 CFR §173.411). For this study, commercially available steel containers are presumed to be used for the disposal of piping, small components, and concrete. Larger components can serve as their own containers, with proper closure of all openings, access ways, and penetrations.

The destinations for the various waste streams from decommissioning are identified in Figures 5.1 and 5.2. The volumes of radioactive waste generated during the various decommissioning activities at the site are shown on a line-item basis in Appendices C through J and summarized in Tables 5.1 through 5.8. The quantified waste volume summaries shown in these tables are consistent with §61 classifications. The volumes are calculated based on the exterior dimensions for containerized material and on the displaced volume of components serving as their own waste containers.

The reactor vessel and internals are categorized as large quantity shipments and, accordingly, will be shipped in reusable, shielded truck casks with disposable liners. In calculating disposal costs, the burial fees are applied against the liner volume, as well as the special handling requirements of the payload. Packaging efficiencies are lower for the highly activated materials (greater than Type A quantity waste), where high concentrations of gamma-emitting radionuclides limit the capacity of the shipping canisters.

No process system containing/handling radioactive substances at shutdown is presumed to meet material release criteria by decay alone, i.e., systems radioactive at shutdown will still be radioactive over the time period during which the decommissioning is accomplished, due to the presence of long-lived radionuclides.

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While the dose rates decrease with time, radionuclides such as ^{137}Cs will still control the disposition requirements.

The waste material generated in the decontamination and dismantling of Prairie Island is primarily generated during Period 2 of the DECON alternatives and Period 4 of the SAFSTOR alternatives. Material that is considered potentially contaminated when removed from the radiologically controlled area is sent to processing facilities in Tennessee for conditioning and disposal. Heavily contaminated components and activated materials are routed for controlled disposal. The disposal volumes reported in the tables reflect the savings resulting from reprocessing and recycling.

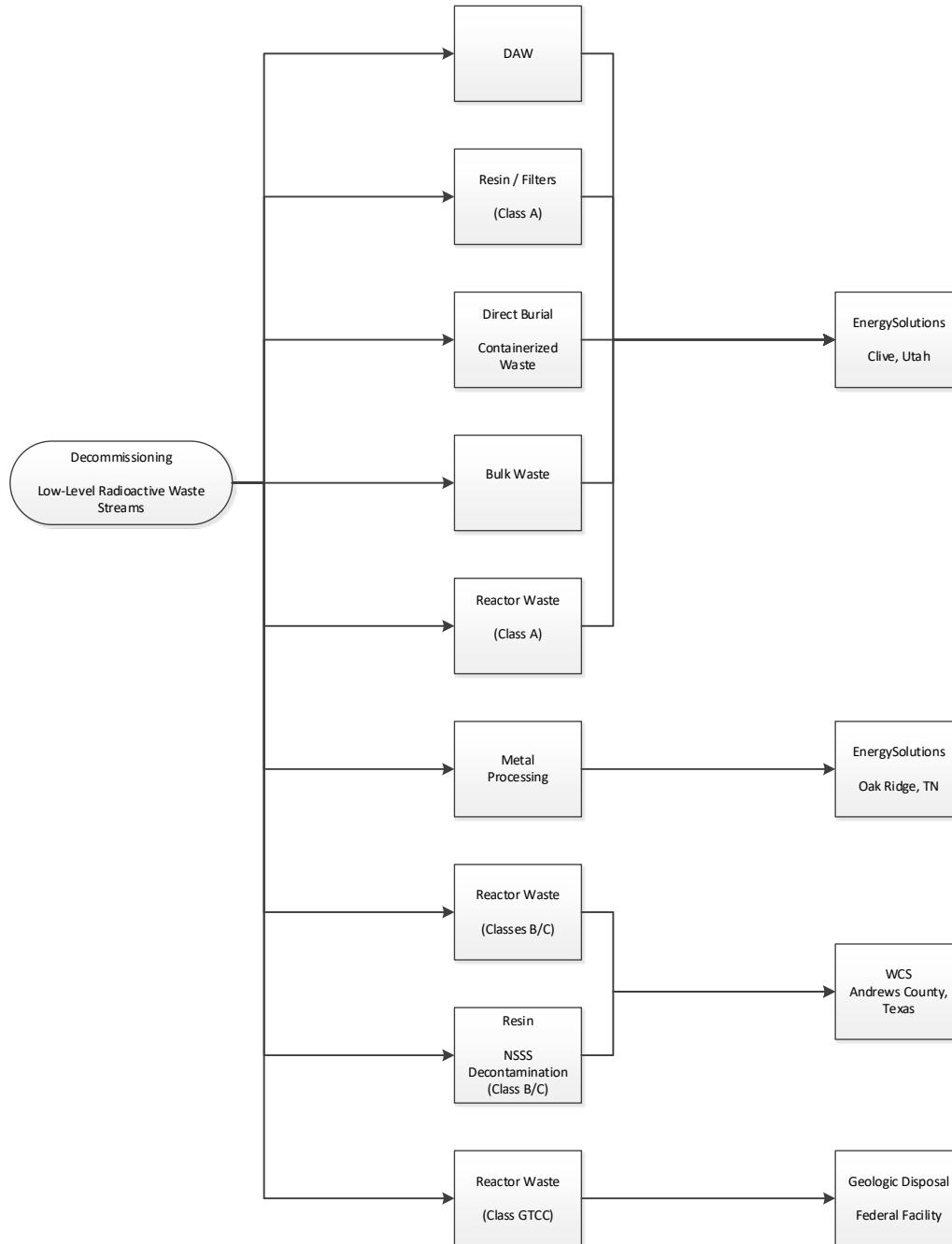
Disposal fees are calculated using representative costs, with surcharges added for the highly activated components, for example, generated in the segmentation of the reactor vessels. The cost to dispose of the majority of the material generated from the decontamination and dismantling activities is based upon representative rates.

EnergySolutions is not able to accept the higher activity waste (Class B and C) generated in the decontamination of the NSSS and segmentation of the components closest to the core. Waste disposal costs for the higher activity waste (Class B and C) are based upon preliminary and indicative information on the cost for such from WCS.

A small quantity of material generated during the Prairie Island decommissioning will not be considered suitable for near-surface disposal, and is assumed to be disposed of in a geologic repository, in a manner similar to that envisioned for spent fuel disposal. Such material, known as Greater-Than-Class-C or GTCC material, is estimated to require eight spent fuel storage canisters (or the equivalent) to dispose of the most radioactive portions of the reactor vessel internals. The volume and weight reported in Tables 5.1 through 5.8 represent the packaged weight and volume of the spent fuel storage canisters.

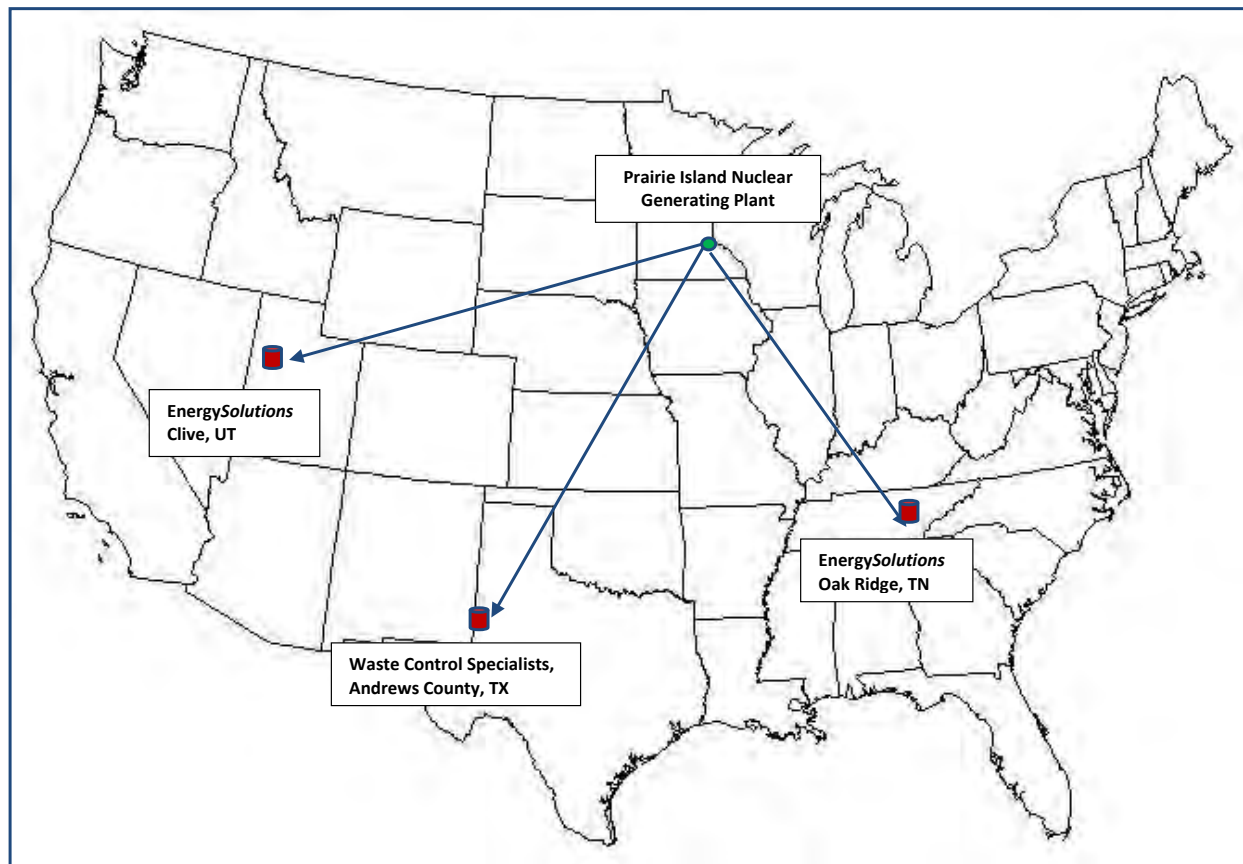
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**FIGURE 5.1
RADIOACTIVE WASTE DISPOSITION**



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**FIGURE 5.2
DECOMMISSIONING WASTE DESTINATIONS
RADIOLOGICAL**



The figure indicates the destinations for the low-level radioactive waste designated for direct disposal (Clive, Utah) and processing/recovery (Oak Ridge, Tennessee).

Disposition of the Class B and C low-level radioactive waste will be at the Waste Control Specialists site in Andrews County, Texas.

Disposal options (and destinations) for GTCC are still being evaluated.

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**TABLE 5.1
SCENARIO 1: DECON WITH 42 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	205,136	11,929,447
	EnergySolutions Bulk	A	146,529	6,720,310
	Future LLRW Disposal Facility (Proxy)	B	1,651	176,286
	Future LLRW Disposal Facility (Proxy)	C	1,346	199,444
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			358,209	19,715,134
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	314,250	12,618,444
Scrap Metal				150,506,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

**Prairie Island Nuclear Generating Plant
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SCENARIO 2: DECON WITH 60 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	205,136	11,929,447
	EnergySolutions Bulk	A	146,529	6,720,310
	Future LLRW Disposal Facility (Proxy)	B	1,651	176,286
	Future LLRW Disposal Facility (Proxy)	C	1,346	199,444
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			358,209	19,715,134
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	314,250	12,618,444
Scrap Metal				150,506,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

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**TABLE 5.3
SCENARIO 3: DECON WITH 100 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	205,136	11,933,347
	EnergySolutions Bulk	A	146,525	6,720,228
	Future LLRW Disposal Facility (Proxy)	B	1,651	176,286
	Future LLRW Disposal Facility (Proxy)	C	1,346	199,444
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			358,205	19,718,952
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	314,250	12,618,444
Scrap Metal				150,506,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

***Prairie Island Nuclear Generating Plant
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SCENARIO 4: DECON WITH 200 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	205,136	11,933,347
	EnergySolutions Bulk	A	146,525	6,720,228
	Future LLRW Disposal Facility (Proxy)	B	1,651	176,286
	Future LLRW Disposal Facility (Proxy)	C	1,346	199,444
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			358,205	19,718,952
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	314,250	12,618,444
Scrap Metal				150,506,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

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**TABLE 5.5
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	96,979	7,057,818
	EnergySolutions Bulk	A	221,053	9,973,926
	Future LLRW Disposal Facility (Proxy)	B	250	28,274
	Future LLRW Disposal Facility (Proxy)	C	1,416	199,712
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			323,245	17,949,377
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	319,950	12,861,542
Scrap Metal				150,818,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

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**TABLE 5.6
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	96,979	7,057,818
	EnergySolutions Bulk	A	221,080	9,974,450
	Future LLRW Disposal Facility (Proxy)	B	250	28,274
	Future LLRW Disposal Facility (Proxy)	C	1,416	199,712
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			323,271	17,949,901
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	319,950	12,861,542
Scrap Metal				150,818,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

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**TABLE 5.7
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	96,978	7,061,678
	EnergySolutions Bulk	A	221,166	9,976,186
	Future LLRW Disposal Facility (Proxy)	B	250	28,274
	Future LLRW Disposal Facility (Proxy)	C	1,416	199,712
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			323,357	17,955,497
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	319,950	12,861,542
Scrap Metal				150,818,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

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**TABLE 5.8
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS
DECOMMISSIONING WASTE SUMMARY**

Waste	Cost Basis	Class ^[1]	Waste Volume (cubic feet)	Mass (pounds)
Low-Level Radioactive Waste (near-surface disposal)	EnergySolutions Containerized	A	96,978	7,061,678
	EnergySolutions Bulk	A	221,166	9,976,186
	Future LLRW Disposal Facility (Proxy)	B	250	28,274
	Future LLRW Disposal Facility (Proxy)	C	1,416	199,712
Greater than Class C (geologic repository)	Spent Fuel Equivalent	GTCC	3,547	689,647
Total ^[2]			323,357	17,955,497
Processed/Conditioned (off-site recycling center)	Recycling Vendors	A	319,950	12,861,542
Scrap Metal				150,818,000

^[1] Waste is classified according to the requirements as delineated in Title 10 CFR, Part 61.55

^[2] Columns may not add due to rounding

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6. RESULTS

This report presents estimates of the cost to decommission Prairie Island for the selected decommissioning scenarios following the cessation of plant operations. The estimates are based on numerous fundamental assumptions, including regulatory requirements, project contingencies, low-level radioactive waste disposal practices, high-level radioactive waste management options, and site restoration requirements. While not an engineering study, the estimates provide Xcel Energy with sufficient information to assess their financial obligations, as they pertain to the eventual decommissioning of the nuclear station.

The decommissioning scenarios assume continued operation of the station's spent fuel pool for a minimum of four years following the cessation of operations for continued cooling of the assemblies. The existing ISFSI is expanded to accommodate the spent fuel, once sufficiently cooled, until such time that the DOE can complete the transfer of the assemblies to its repository.

Using Scenario 2 as the base case, the cost projected to promptly decommission the station, restore the site, and manage the spent fuel is estimated to be \$2.048 billion (2020 dollars). The majority of this cost (approximately 58.0%) is associated with the physical decontamination and dismantling of the nuclear plant so that the operating licenses can be terminated. Another 36.0% is associated with the management, interim storage, and eventual transfer of the spent fuel. The remaining 6.0% is for the demolition of the designated structures and limited restoration of the site.

The primary cost contributors, identified in Tables 6.1 through 6.8, are either labor-related or associated with the management and disposition of the spent fuel or radioactive waste. Program management (including security) is the largest single contributor to the overall cost. The magnitude of the expense is a function of both the size of the organization required to manage the decommissioning, as well as the duration of the program. It is assumed, for purposes of this analysis, that Xcel Energy will hire a contractor to manage the decommissioning labor force. The size and composition of the management organizations varies with the decommissioning phase and associated site activities. However, once the operating licenses are amended or terminated, the staff is substantially reduced for the conventional demolition and restoration of the site, and the long-term care of the spent fuel (for the DECON alternative).

As described in this report, the spent fuel pool will remain operational for a minimum of four years following the cessation of operations. The pool will be isolated and an independent spent fuel island created. This will allow

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decommissioning operations to proceed in and around the pool areas. Over the four-year period, the spent fuel will be packaged into transportable canisters for future loading into a DOE-provided transport cask or relocation to the ISFSI. The canisters will be stored in horizontal storage casks at the ISFSI until the DOE is able to receive them. Dry storage of the fuel provides additional flexibility in the event the DOE is not able to meet the current timetable for completing the transfer of assemblies to an off-site facility and minimizes the associated caretaking expenses.

The cost for waste disposal includes only those costs associated with the controlled disposition of the low-level radioactive waste generated from decontamination and dismantling activities, including plant equipment and components, structural material, filters, resins and dry-active waste. As described in Section 5, disposition of the majority of the low-level radioactive material requiring controlled disposal is at the EnergySolutions facility, with higher-activity waste sent to the WCS facility. Highly activated components, requiring additional isolation from the environment (GTCC), are packaged for geologic disposal. The cost of geologic disposal is based upon a cost equivalent for spent fuel.

A significant portion of the metallic waste is designated for additional processing and treatment at an off-site facility. Processing reduces the volume of material requiring controlled disposal through such techniques and processes as survey and sorting, decontamination, and volume reduction. The material that cannot be unconditionally released is packaged for controlled disposal at one of the currently operating facilities. The cost identified in the summary tables for processing is all-inclusive, incorporating the ultimate disposition of the material.

Removal costs reflect the labor-intensive nature of the decommissioning process, as well as the management controls required to ensure a safe and successful program. Decontamination and packaging costs also have a large labor component that is based upon prevailing wages. Non-radiological demolition is a natural extension of the decommissioning process. The methods employed in decontamination and dismantling are generally destructive and indiscriminate in inflicting collateral damage. With a work force mobilized to support decommissioning operations, non-radiological demolition can be an integrated activity and a logical expansion of the work being performed in the process of terminating the operating licenses.

The reported cost for transport includes the tariffs and surcharges associated with moving large components and/or overweight shielded casks overland, as well as the general expense, e.g., labor and fuel, of transporting material to the destinations identified in this report. For purposes of this analysis, material is moved overland by truck.

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Decontamination is used to reduce the plant's radiation fields and minimize worker exposure. Slightly contaminated material or material located within a contaminated area is sent to an off-site processing center, i.e., this analysis does not assume that contaminated plant components and equipment can be decontaminated for uncontrolled release in-situ. Centralized processing centers have proven to be a more economical means of handling the large volumes of material produced in the dismantling of a nuclear plant.

License termination survey costs are associated with the labor intensive and complex activity of verifying that contamination has been removed from the site to the levels specified by the regulating agency. This process involves a systematic survey of all remaining plant surface areas and surrounding environs, sampling, isotopic analysis, and documentation of the findings. The status of any plant components and materials not removed in the decommissioning process will also require confirmation and will add to the expense of surveying the facilities alone.

The remaining costs include allocations for heavy equipment and temporary services, as well as for other expenses such as regulatory fees and the premiums for nuclear insurance. While site operating costs are greatly reduced following the final cessation of plant operations, certain administrative functions do need to be maintained either at a basic functional or regulatory level.

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TABLE 6.1
SCENARIO 1: DECON WITH 42 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	12,109	19,308	31,417	1.6%
Removal	111,005	147,842	258,847	12.9%
Packaging	27,756	28,136	55,892	2.8%
Transportation	9,509	10,116	19,625	1.0%
Waste Disposal	75,656	79,069	154,725	7.7%
Off-site Waste Processing	26,049	30,811	56,860	2.8%
Program Management ^[1]	239,340	227,121	466,461	23.3%
Security	148,214	136,512	284,726	14.2%
Spent Fuel Pool Isolation	14,576	9,718	24,294	1.2%
Spent Fuel Storage (Direct Costs) ^[2]	114,819	111,649	226,467	11.3%
Insurance and Regulatory Fees	19,822	16,763	36,586	1.8%
Energy	10,742	9,033	19,775	1.0%
Characterization and Licensing Surveys	14,531	16,907	31,438	1.6%
Property Taxes	77,623	72,753	150,376	7.5%
Miscellaneous	7,729	7,430	15,159	0.8%
Railroad Track Maintenance	3,543	3,455	6,998	0.3%
Retention and Severance	26,985	26,985	53,970	2.7%
Security Modifications	5,000	5,000	10,000	0.5%
Prairie Island Indian Community Payments	51,745	50,219	101,964	5.1%
Total [2]	996,753	1,008,829	2,005,582	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	595,962	590,962	1,186,924	59.2%
Spent Fuel Management	349,793	345,097	694,890	34.6%
Site Restoration	50,998	72,770	123,768	6.2%
Total [3]	996,753	1,008,829	2,005,582	100.0%

^[1] Includes engineering

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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TABLE 6.2
SCENARIO 2: DECON WITH 60 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	12,109	19,308	31,417	1.5%
Removal	111,005	147,842	258,847	12.6%
Packaging	27,756	28,136	55,892	2.7%
Transportation	9,509	10,116	19,625	1.0%
Waste Disposal	75,656	79,069	154,725	7.6%
Off-site Waste Processing	26,049	30,811	56,860	2.8%
Program Management ^[1]	241,656	229,438	471,094	23.0%
Security	155,731	144,029	299,759	14.6%
Spent Fuel Pool Isolation	14,576	9,718	24,294	1.2%
Spent Fuel Storage (Direct Costs) ^[2]	116,766	113,596	230,362	11.2%
Insurance and Regulatory Fees	20,622	17,563	38,185	1.9%
Energy	10,742	9,033	19,775	1.0%
Characterization and Licensing Surveys	14,531	16,907	31,438	1.5%
Property Taxes	82,188	77,319	159,507	7.8%
Miscellaneous	7,729	7,430	15,159	0.7%
Railroad Track Maintenance	3,759	3,671	7,430	0.4%
Retention and Severance	26,985	26,985	53,970	2.6%
Security Modifications	5,000	5,000	10,000	0.5%
Prairie Island Indian Community Payments	55,496	53,970	109,466	5.3%
Total ^[3]	1,017,865	1,029,941	2,047,805	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	595,962	590,962	1,186,924	58.0%
Spent Fuel Management	370,904	366,208	737,113	36.0%
Site Restoration	50,998	72,770	123,768	6.0%
Total ^[3]	1,017,865	1,029,941	2,047,805	100.0%

^[1] Includes engineering

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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TABLE 6.3
SCENARIO 3: DECON WITH 100 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	12,109	19,308	31,417	1.0%
Removal	111,707	148,543	260,249	7.9%
Packaging	27,756	28,136	55,892	1.7%
Transportation	9,509	10,116	19,625	0.6%
Waste Disposal	75,656	79,069	154,724	4.7%
Off-site Waste Processing	26,049	30,811	56,860	1.7%
Program Management ^[1]	323,909	311,690	635,599	19.4%
Security	255,921	244,219	500,140	15.2%
Spent Fuel Pool Isolation	14,576	9,718	24,294	0.7%
Spent Fuel Storage (Direct Costs) ^[2]	425,553	422,384	847,937	25.8%
Insurance and Regulatory Fees	31,282	28,223	59,505	1.8%
Energy	10,742	9,033	19,775	0.6%
Characterization and Licensing Surveys	14,531	16,907	31,438	1.0%
Property Taxes	143,057	138,187	281,244	8.6%
Miscellaneous	7,729	7,430	15,159	0.5%
Railroad Track Maintenance	6,637	6,549	13,185	0.4%
Retention and Severance	26,985	26,985	53,970	1.6%
Security Modifications	5,000	5,000	10,000	0.3%
Prairie Island Indian Community Payments	105,493	103,966	209,459	6.4%
Total ^[3]	1,634,199	1,646,275	3,280,474	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	596,408	591,409	1,187,817	36.2%
Spent Fuel Management	985,833	981,137	1,966,970	60.0%
Site Restoration	51,958	73,730	125,688	3.8%
Total ^[3]	1,634,199	1,646,275	3,280,474	100.0%

^[1] Includes engineering

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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TABLE 6.4
SCENARIO 4: DECON WITH 200 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	12,109	19,308	31,417	0.6%
Removal	111,707	148,543	260,249	4.7%
Packaging	27,756	28,136	55,892	1.0%
Transportation	9,509	10,116	19,625	0.4%
Waste Disposal	75,656	79,069	154,724	2.8%
Off-site Waste Processing	26,049	30,811	56,860	1.0%
Program Management ^[1]	468,903	456,684	925,587	16.6%
Security	506,407	494,705	1,001,112	18.0%
Spent Fuel Pool Isolation	14,576	9,718	24,294	0.4%
Spent Fuel Storage (Direct Costs) ^[2]	859,315	856,146	1,715,461	30.8%
Insurance and Regulatory Fees	57,933	54,874	112,807	2.0%
Energy	10,742	9,033	19,775	0.4%
Characterization and Licensing Surveys	14,531	16,907	31,438	0.6%
Property Taxes	295,229	290,360	585,589	10.5%
Miscellaneous	7,729	7,430	15,159	0.3%
Railroad Track Maintenance	13,831	13,743	27,575	0.5%
Retention and Severance	26,985	26,985	53,970	1.0%
Security Modifications	5,000	5,000	10,000	0.2%
Prairie Island Indian Community Payments	230,489	228,963	459,452	8.3%
Total ^[3]	2,774,456	2,786,532	5,560,987	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	596,408	591,409	1,187,817	21.4%
Spent Fuel Management	2,126,089	2,121,393	4,247,483	76.4%
Site Restoration	51,958	73,730	125,688	2.3%
Total ^[3]	2,774,456	2,786,532	5,560,987	100.0%

^[1] Includes engineering

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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TABLE 6.5
SCENARIO 5: SAFSTOR WITH 42 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	8,262	17,629	25,891	1.0%
Removal	118,236	154,208	272,444	10.4%
Packaging	21,286	21,654	42,940	1.6%
Transportation	7,988	8,587	16,575	0.6%
Waste Disposal	59,926	62,040	121,966	4.7%
Off-site Waste Processing	26,624	31,387	58,012	2.2%
Program Management ^[1]	321,644	315,246	636,891	24.4%
Security	216,744	170,639	387,383	14.8%
Spent Fuel Pool Isolation	14,576	9,718	24,294	0.9%
Spent Fuel Storage (Direct Costs) ^[2]	109,664	106,495	216,159	8.3%
Insurance and Regulatory Fees	47,122	43,899	91,021	3.5%
Energy	21,571	21,262	42,833	1.6%
Characterization and Licensing Surveys	15,797	18,173	33,970	1.3%
Property Taxes	214,410	209,541	423,951	16.2%
Miscellaneous	18,316	22,688	41,004	1.6%
Railroad Track Maintenance	4,733	4,645	9,377	0.4%
Retention and Severance	26,985	26,985	53,970	2.1%
Security Modifications	5,000	5,000	10,000	0.4%
Prairie Island Indian Community Payments	51,745	50,219	101,964	3.9%
Total ^[3]	1,310,629	1,300,016	2,610,645	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	970,442	944,187	1,914,629	73.3%
Spent Fuel Management	281,510	275,338	556,848	21.3%
Site Restoration	58,677	80,490	139,167	5.3%
Total ^[3]	1,310,629	1,300,016	2,610,645	100.0%

^[1] Includes engineering

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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TABLE 6.6
SCENARIO 6: SAFSTOR WITH 60 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	8,262	17,629	25,891	1.0%
Removal	118,240	154,230	272,471	10.3%
Packaging	21,286	21,654	42,940	1.6%
Transportation	7,988	8,588	16,575	0.6%
Waste Disposal	59,926	62,042	121,968	4.6%
Off-site Waste Processing	26,624	31,387	58,012	2.2%
Program Management ^[1]	322,356	318,247	640,604	24.2%
Security	218,124	180,276	398,401	15.1%
Spent Fuel Pool Isolation	14,576	9,718	24,294	0.9%
Spent Fuel Storage (Direct Costs) ^[2]	111,541	108,372	219,913	8.3%
Insurance and Regulatory Fees	47,872	44,607	92,479	3.5%
Energy	21,571	21,262	42,833	1.6%
Characterization and Licensing Surveys	15,797	18,173	33,970	1.3%
Property Taxes	218,698	213,829	432,527	16.3%
Miscellaneous	18,316	22,688	41,004	1.5%
Railroad Track Maintenance	4,733	4,645	9,377	0.4%
Retention and Severance	26,985	26,985	53,970	2.0%
Security Modifications	5,000	5,000	10,000	0.4%
Prairie Island Indian Community Payments	55,496	53,970	109,466	4.1%
Total ^[3]	1,323,393	1,323,304	2,646,697	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	968,306	952,576	1,920,882	72.6%
Spent Fuel Management	296,410	290,238	586,648	22.2%
Site Restoration	58,677	80,490	139,167	5.3%
Total ^[3]	1,323,393	1,323,304	2,646,697	100.0%

^[1] Includes engineering

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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TABLE 6.7
SCENARIO 7: SAFSTOR WITH 100 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	8,262	17,447	25,709	0.7%
Removal	119,002	155,038	274,040	7.3%
Packaging	25,596	25,964	51,560	1.4%
Transportation	7,988	8,588	16,576	0.4%
Waste Disposal	59,928	62,049	121,977	3.3%
Off-site Waste Processing	26,624	31,387	58,012	1.5%
Program Management ^[1]	359,684	363,609	723,293	19.3%
Security	279,245	272,250	551,495	14.7%
Spent Fuel Pool Isolation	14,576	9,718	24,294	0.6%
Spent Fuel Storage (Direct Costs) ^[2]	420,010	416,736	836,746	22.3%
Insurance and Regulatory Fees	57,899	54,267	112,167	3.0%
Energy	21,590	21,282	42,872	1.1%
Characterization and Licensing Surveys	15,797	18,173	33,970	0.9%
Property Taxes	278,005	273,136	551,141	14.7%
Miscellaneous	18,316	22,688	41,004	1.1%
Railroad Track Maintenance	6,373	6,285	12,659	0.3%
Retention and Severance	26,985	26,985	53,970	1.4%
Security Modifications	5,000	5,000	10,000	0.3%
Prairie Island Indian Community Payments	105,493	103,966	209,459	5.6%
Total ^[3]	1,856,374	1,894,569	3,750,943	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	963,420	983,908	1,947,327	51.9%
Spent Fuel Management	836,113	832,007	1,668,119	44.5%
Site Restoration	56,842	78,655	135,496	3.6%
Total ^[3]	1,856,374	1,894,569	3,750,943	100.0%

^[1] Includes engineering costs

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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TABLE 6.8
SCENARIO 8: SAFSTOR WITH 200 YEAR DFS
DECOMMISSIONING COST ELEMENTS
(thousands of 2020 dollars)

Cost Element	Unit 1	Unit 2	Total	Percentage
Decontamination	8,262	17,447	25,709	0.4%
Removal	119,002	155,038	274,040	4.6%
Packaging	25,596	25,964	51,560	0.9%
Transportation	7,988	8,588	16,576	0.3%
Waste Disposal	59,928	62,049	121,977	2.0%
Off-site Waste Processing	26,624	31,387	58,012	1.0%
Program Management ^[1]	504,679	508,603	1,013,282	17.0%
Security	501,598	494,603	996,201	16.7%
Spent Fuel Pool Isolation	14,576	9,718	24,294	0.4%
Spent Fuel Storage (Direct Costs) ^[2]	853,529	850,323	1,703,853	28.5%
Insurance and Regulatory Fees	84,550	80,918	165,469	2.8%
Energy	21,590	21,282	42,872	0.7%
Characterization and Licensing Surveys	15,797	18,173	33,970	0.6%
Property Taxes	430,177	425,308	855,485	14.3%
Miscellaneous	18,316	22,688	41,004	0.7%
Railroad Track Maintenance	13,568	13,480	27,048	0.5%
Retention and Severance	26,985	26,985	53,970	0.9%
Security Modifications	5,000	5,000	10,000	0.2%
Prairie Island Indian Community Payments	230,489	228,963	459,452	7.7%
Total ^[3]	2,968,256	3,006,518	5,974,774	100.0%

Cost Element	Unit 1	Unit 2	Total	Percentage
NRC License Termination	963,419	983,907	1,947,327	32.6%
Spent Fuel Management	1,947,994	1,943,956	3,891,950	65.1%
Site Restoration	56,842	78,655	135,496	2.3%
Total ^[3]	2,968,256	3,006,518	5,974,774	100.0%

^[1] Includes engineering costs

^[2] Includes costs for the dry storage system components, spent fuel loading and transfer, spent fuel pool O&M and EP fees, but excludes program management costs (staffing), security and other related costs

^[3] Columns may not add due to rounding

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APPENDIX A

UNIT COST FACTOR DEVELOPMENT

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**APPENDIX A
UNIT COST FACTOR DEVELOPMENT**

Example: Unit Factor for Removal of Contaminated Heat Exchanger < 3,000 lbs.

1. SCOPE

Heat exchangers weighing < 3,000 lbs. will be removed in one piece using a crane or small hoist. They will be disconnected from the inlet and outlet piping. The heat exchanger will be sent to the waste processing area.

2. CALCULATIONS

Act ID	Activity Description	Activity Duration (minutes)	Critical Duration (minutes)*
a	Remove insulation	60	(b)
b	Mount pipe cutters	60	60
c	Install contamination controls	20	(b)
d	Disconnect inlet and outlet lines	60	60
e	Cap openings	20	(d)
f	Rig for removal	30	30
g	Unbolt from mounts	30	30
h	Remove contamination controls	15	15
i	Remove, wrap, send to waste processing area	<u>60</u>	<u>60</u>
	Totals (Activity/Critical)	355	255

Duration adjustment(s):

+ Respiratory protection adjustment (50 of critical duration)	128
+ Radiation/ALARA adjustment (37.1 of critical duration)	<u>95</u>
Adjusted work duration	478

+ Protective clothing adjustment (30 of adjusted duration)	<u>143</u>
Productive work duration	621

+ Work break adjustment (8.33 of productive duration)	<u>52</u>
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Total work duration (minutes)	673
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***** Total duration = 11.217 hr *****

* alpha designators indicate activities that can be performed in parallel

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(continued)****3. LABOR REQUIRED**

Crew	Number	Duration (hours)	Rate (\$/hr)	Cost
Laborers	3.00	11.217	\$61.19	\$2,059.10
Craftsmen	2.00	11.217	\$76.98	\$1,726.97
Foreman	1.00	11.217	\$80.56	\$903.64
General Foreman	0.25	11.217	\$82.83	\$232.28
Fire Watch	0.05	11.217	\$61.19	\$34.32
Health Physics Technician	1.00	11.217	\$53.89	<u>\$604.48</u>
Total Labor Cost				\$5,560.79

4. EQUIPMENT & CONSUMABLES COSTS

Equipment Costs none

Consumables/Materials Costs

- Universal Sorbent 50 @ \$0.63 sq ft ^{1} \$31.50
- Tarpaulins (oil resistant/fire retardant) 50 @ \$0.47/sq ft ^{2} \$23.50
- Gas torch consumables 1 @ \$20.79/hr x 1 hr ^{3} \$20.79

Subtotal cost of equipment and materials \$75.79

Overhead & profit on equipment and materials @ 16.88% \$12.79

Total costs, equipment & material \$88.58

TOTAL COST:**Removal of contaminated heat exchanger <3000 pounds: \$5,649.37**

Total labor cost: \$5,560.79

Total equipment/material costs: \$88.58

Total craft labor man-hours required per unit: 81.88

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Appendix A, Page 4 of 4*****5. NOTES AND REFERENCES**

- Work difficulty factors were developed in conjunction with the Atomic Industrial Forum's (now NEI) program to standardize nuclear decommissioning cost estimates and are delineated in Volume 1, Chapter 5 of the "Guidelines for Producing Commercial Nuclear Power Plant Decommissioning Cost Estimates," AIF/NESP-036, May 1986.
- References for equipment & consumables costs:
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- Material and consumable costs were adjusted using the regional indices for Minneapolis, Minnesota.

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APPENDIX B

UNIT COST FACTOR LISTING (DECON: Power Block Structures Only)

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Appendix B, Page 2 of 7*****APPENDIX B****UNIT COST FACTOR LISTING
(Power Block Structures Only)**

Unit Cost Factor	Cost/Unit
Removal of clean instrument and sampling tubing, \$/linear foot	0.66
Removal of clean pipe 0.25 to 2 inches diameter, \$/linear foot	7.12
Removal of clean pipe >2 to 4 inches diameter, \$/linear foot	10.11
Removal of clean pipe >4 to 8 inches diameter, \$/linear foot	19.57
Removal of clean pipe >8 to 14 inches diameter, \$/linear foot	37.91
Removal of clean pipe >14 to 20 inches diameter, \$/linear foot	49.31
Removal of clean pipe >20 to 36 inches diameter, \$/linear foot	72.55
Removal of clean pipe >36 inches diameter, \$/linear foot	86.19
Removal of clean valve >2 to 4 inches	129.76
Removal of clean valve >4 to 8 inches	195.71
Removal of clean valve >8 to 14 inches	379.11
Removal of clean valve >14 to 20 inches	493.15
Removal of clean valve >20 to 36 inches	725.51
Removal of clean valve >36 inches	861.88
Removal of clean pipe hanger for small bore piping	44.86
Removal of clean pipe hanger for large bore piping	160.36
Removal of clean pump, <300 pound	330.75
Removal of clean pump, 300-1000 pound	912.91
Removal of clean pump, 1000-10,000 pound	3,610.60
Removal of clean pump, >10,000 pound	6,985.07
Removal of clean pump motor, 300-1000 pound	381.58
Removal of clean pump motor, 1000-10,000 pound	1,500.12
Removal of clean pump motor, >10,000 pound	3,375.27
Removal of clean heat exchanger <3000 pound	1,938.88
Removal of clean heat exchanger >3000 pound	4,883.83
Removal of clean feedwater heater/deaerator	13,767.02
Removal of clean moisture separator/reheater	28,301.27
Removal of clean tank, <300 gallons	425.41
Removal of clean tank, 300-3000 gallon	1,340.19
Removal of clean tank, >3000 gallons, \$/square foot surface area	11.21

***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis******Document X01-1775-001, Rev. 0
Appendix B, Page 3 of 7*****APPENDIX B****UNIT COST FACTOR LISTING
(Power Block Structures Only)**

Unit Cost Factor	Cost/Unit
Removal of clean electrical equipment, <300 pound	179.24
Removal of clean electrical equipment, 300-1000 pound	621.24
Removal of clean electrical equipment, 1000-10,000 pound	1,242.49
Removal of clean electrical equipment, >10,000 pound	2,945.34
Removal of clean electrical transformer < 30 tons	2,045.49
Removal of clean electrical transformer > 30 tons	5,890.69
Removal of clean standby diesel generator, <100 kW	2,089.30
Removal of clean standby diesel generator, 100 kW to 1 MW	4,663.46
Removal of clean standby diesel generator, >1 MW	9,654.30
Removal of clean electrical cable tray, \$/linear foot	16.85
Removal of clean electrical conduit, \$/linear foot	7.36
Removal of clean mechanical equipment, <300 pound	179.24
Removal of clean mechanical equipment, 300-1000 pound	621.24
Removal of clean mechanical equipment, 1000-10,000 pound	1,242.49
Removal of clean mechanical equipment, >10,000 pound	2,945.34
Removal of clean HVAC equipment, <300 pound	216.74
Removal of clean HVAC equipment, 300-1000 pound	746.48
Removal of clean HVAC equipment, 1000-10,000 pound	1,487.73
Removal of clean HVAC equipment, >10,000 pound	2,945.34
Removal of clean HVAC ductwork, \$/pound	0.70
Removal of contaminated instrument and sampling tubing, \$/linear foot	1.95
Removal of contaminated pipe 0.25 to 2 inches diameter, \$/linear foot	27.83
Removal of contaminated pipe >2 to 4 inches diameter, \$/linear foot	47.82
Removal of contaminated pipe >4 to 8 inches diameter, \$/linear foot	74.97
Removal of contaminated pipe >8 to 14 inches diameter, \$/linear foot	148.05
Removal of contaminated pipe >14 to 20 inches diameter, \$/linear foot	177.91
Removal of contaminated pipe >20 to 36 inches diameter, \$/linear foot	246.21
Removal of contaminated pipe >36 inches diameter, \$/linear foot	290.98
Removal of contaminated valve >2 to 4 inches	566.48
Removal of contaminated valve >4 to 8 inches	683.58

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Decommissioning Cost Analysis******Document X01-1775-001, Rev. 0
Appendix B, Page 4 of 7*****APPENDIX B****UNIT COST FACTOR LISTING
(Power Block Structures Only)**

Unit Cost Factor	Cost/Unit
Removal of contaminated valve >8 to 14 inches	1,416.26
Removal of contaminated valve >14 to 20 inches	1,800.59
Removal of contaminated valve >20 to 36 inches	2,397.86
Removal of contaminated valve >36 inches	2,845.51
Removal of contaminated pipe hanger for small bore piping	185.80
Removal of contaminated pipe hanger for large bore piping	626.86
Removal of contaminated pump, <300 pound	1,220.24
Removal of contaminated pump, 300-1000 pound	2,838.77
Removal of contaminated pump, 1000-10,000 pound	9,387.15
Removal of contaminated pump, >10,000 pound	22,866.23
Removal of contaminated pump motor, 300-1000 pound	1,207.55
Removal of contaminated pump motor, 1000-10,000 pound	3,819.10
Removal of contaminated pump motor, >10,000 pound	8,574.33
Removal of contaminated heat exchanger <3000 pound	5,649.37
Removal of contaminated heat exchanger >3000 pound	16,380.03
Removal of contaminated tank, <300 gallons	2,028.43
Removal of contaminated tank, >300 gallons, \$/square foot	39.80
Removal of contaminated electrical equipment, <300 pound	945.74
Removal of contaminated electrical equipment, 300-1000 pound	2,314.59
Removal of contaminated electrical equipment, 1000-10,000 pound	4,458.19
Removal of contaminated electrical equipment, >10,000 pound	8,760.92
Removal of contaminated electrical cable tray, \$/linear foot	45.77
Removal of contaminated electrical conduit, \$/linear foot	22.38
Removal of contaminated mechanical equipment, <300 pound	1,052.10
Removal of contaminated mechanical equipment, 300-1000 pound	2,556.07
Removal of contaminated mechanical equipment, 1000-10,000 pound	4,915.22
Removal of contaminated mechanical equipment, >10,000 pound	8,760.92
Removal of contaminated HVAC equipment, <300 pound	1,052.10
Removal of contaminated HVAC equipment, 300-1000 pound	2,556.07
Removal of contaminated HVAC equipment, 1000-10,000 pound	4,915.22

***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis******Document X01-1775-001, Rev. 0
Appendix B, Page 5 of 7*****APPENDIX B****UNIT COST FACTOR LISTING
(Power Block Structures Only)**

Unit Cost Factor	Cost/Unit
Removal of contaminated HVAC equipment, >10,000 pound	8,760.92
Removal of contaminated HVAC ductwork, \$/pound	2.68
Removal/plasma arc cut of contaminated thin metal components, \$/linear in.	5.12
Additional decontamination of surface by washing, \$/square foot	10.44
Additional decontamination of surfaces by hydrolasing, \$/square foot	45.13
Decontamination rig hook up and flush, \$/ 250 foot length	8,868.24
Chemical flush of components/systems, \$/gallon	21.45
Removal of clean standard reinforced concrete, \$/cubic yard	79.61
Removal of grade slab concrete, \$/cubic yard	90.55
Removal of clean concrete floors, \$/cubic yard	462.49
Removal of sections of clean concrete floors, \$/cubic yard	1,391.41
Removal of clean heavily rein concrete w/#9 rebar, \$/cubic yard	115.01
Removal of contaminated heavily rein concrete w/#9 rebar, \$/cubic yard	2,710.44
Removal of clean heavily rein concrete w/#18 rebar, \$/cubic yard	155.87
Removal of contaminated heavily rein concrete w/#18 rebar, \$/cubic yard	3,585.77
Removal heavily rein concrete w/#18 rebar & steel embedments, \$/cubic yard	569.09
Removal of below-grade suspended floors, \$/cubic yard	218.61
Removal of clean monolithic concrete structures, \$/cubic yard	1,160.53
Removal of contaminated monolithic concrete structures, \$/cubic yard	2,698.05
Removal of clean foundation concrete, \$/cubic yard	910.88
Removal of contaminated foundation concrete, \$/cubic yard	2,513.39
Explosive demolition of bulk concrete, \$/cubic yard	61.22
Removal of clean hollow masonry block wall, \$/cubic yard	27.85
Removal of contaminated hollow masonry block wall, \$/cubic yard	72.43
Removal of clean solid masonry block wall, \$/cubic yard	27.85
Removal of contaminated solid masonry block wall, \$/cubic yard	72.43
Backfill of below-grade voids, \$/cubic yard	36.73
Removal of subterranean tunnels/voids, \$/linear foot	143.29
Placement of concrete for below-grade voids, \$/cubic yard	142.84
Excavation of clean material, \$/cubic yard	3.38

***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis******Document X01-1775-001, Rev. 0
Appendix B, Page 6 of 7*****APPENDIX B****UNIT COST FACTOR LISTING
(Power Block Structures Only)**

Unit Cost Factor	Cost/Unit
Excavation of contaminated material, \$/cubic yard	48.85
Removal of clean concrete rubble (tipping fee included), \$/cubic yard	28.06
Removal of contaminated concrete rubble, \$/cubic yard	30.63
Removal of building by volume, \$/cubic foot	0.35
Removal of clean building metal siding, \$/square foot	1.77
Removal of contaminated building metal siding, \$/square foot	5.62
Removal of standard asphalt roofing, \$/square foot	3.11
Removal of transite panels, \$/square foot	2.87
Scarifying contaminated concrete surfaces (drill & spall), \$/square foot	15.31
Scabbling contaminated concrete floors, \$/square foot	9.92
Scabbling contaminated concrete walls, \$/square foot	26.57
Scabbling contaminated ceilings, \$/square foot	91.53
Scabbling structural steel, \$/square foot	7.86
Removal of clean overhead crane/monorail < 10 ton capacity	863.80
Removal of contaminated overhead crane/monorail < 10 ton capacity	2,333.62
Removal of clean overhead crane/monorail >10-50 ton capacity	2,073.11
Removal of contaminated overhead crane/monorail >10-50 ton capacity	5,599.73
Removal of polar crane > 50 ton capacity	8,638.20
Removal of gantry crane > 50 ton capacity	32,889.62
Removal of structural steel, \$/pound	0.25
Removal of clean steel floor grating, \$/square foot	6.20
Removal of contaminated steel floor grating, \$/square foot	17.35
Removal of clean free standing steel liner, \$/square foot	16.81
Removal of contaminated free standing steel liner, \$/square foot	46.59
Removal of clean concrete-anchored steel liner, \$/square foot	8.40
Removal of contaminated concrete-anchored steel liner, \$/square foot	54.30
Placement of scaffolding in clean areas, \$/square foot	18.98
Placement of scaffolding in contaminated areas, \$/square foot	31.88
Landscaping with topsoil, \$/acre	25,606.43
Cost of CPC B-88 LSA box & preparation for use	2,185.35

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Appendix B, Page 7 of 7*****APPENDIX B****UNIT COST FACTOR LISTING
(Power Block Structures Only)**

Unit Cost Factor	Cost/Unit
Cost of CPC B-25 LSA box & preparation for use	1,785.70
Cost of CPC B-12V 12 gauge LSA box & preparation for use	1,711.40
Cost of CPC B-144 LSA box & preparation for use	10,802.18
Cost of LSA drum & preparation for use	260.77
Cost of cask liner for CNSI 8 120A cask (resins)	12,915.06
Cost of cask liner for CNSI 8 120A cask (filters)	9,404.10
Decontamination of surfaces with vacuuming, \$/square foot	1.04

***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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APPENDIX C

DETAILED COST ANALYSIS

SCENARIO 1: DECON with 42 Year DFS

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Prairie Island Nuclear Generating Plant, Unit 1	C-2
Prairie Island Nuclear Generating Plant, Unit 2	C-12

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.10	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.12	Define major work sequence	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.13	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
1a.1.14	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
1a.1.16	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	632	95	727	654	-	73	-	-	-	-	-	-	-	4,920
1a.1.17.2	Plant systems	-	-	-	-	-	-	536	80	616	554	-	62	-	-	-	-	-	-	-	4,167
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
1a.1.17.4	Reactor internals	-	-	-	-	-	-	912	137	1,049	1,049	-	-	-	-	-	-	-	-	-	7,100
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	835	125	961	961	-	-	-	-	-	-	-	-	-	6,500
1a.1.17.6	Biological shield	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
1a.1.17.7	Steam generators	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	206	31	236	118	-	118	-	-	-	-	-	-	-	1,600
1a.1.17.9	Main Turbine	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
1a.1.17.10	Main Condensers	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	401	60	461	231	-	231	-	-	-	-	-	-	-	3,120
1a.1.17.12	Waste management	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	116	17	133	67	-	67	-	-	-	-	-	-	-	900
1a.1.17	Total	-	-	-	-	-	-	4,861	729	5,591	4,923	-	668	-	-	-	-	-	-	-	37,827
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	308	46	355	355	-	-	-	-	-	-	-	-	-	2,400
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,400
1a.1.21	Rigging/Cont. Cntrl Envlp/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	158	24	182	182	-	-	-	-	-	-	-	-	-	1,230
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	15,945	2,392	18,336	17,669	-	668	-	-	-	-	-	-	-	78,157
Period 1a Additional Costs																					
1a.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
1a.2	Subtotal Period 1a Additional Costs	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
Period 1a Collateral Costs																					
1a.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	614	-	-	-	-	-	153	767	767	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	50	-	14	82	82	-	-	610	-	-	-	12,190	20	-	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	1,137	114	1,251	1,251	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,931	4,040	30,971	30,971	-	-	-	-	-	-	-	-	-	422,240

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,367	12	5	-	50	47,456	6,970	55,860	52,918	2,942	-	-	610	-	-	-	12,190	20	544,960
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	77,325	11,263	90,022	85,163	4,191	668	-	610	-	-	-	12,190	20	623,117
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	-	4,733
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.3	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	2,500
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	-	1,350
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	-	3,630
1b.1.1.9	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	-	1,200
1b.1.1.10	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	-	450
1b.1.1.11	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
1b.1.1.12	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	-	1,000
1b.1.1.14	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
1b.1.1.15	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
1b.1.1.17	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
1b.1.1	Total	-	-	-	-	-	-	4,272	641	4,913	3,989	-	924	-	-	-	-	-	-	-	33,243
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	4,272	927	5,772	4,848	-	924	-	-	-	-	-	-	1,067	33,243
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	21,020	8,332
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	518,936	44,275	8,332
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	9,127	30	-
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	62,689	110	-
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-
1b.3.9	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	3,082	2,072	13,836	13,025	811	-	-	152	588	-	-	71,815	140	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,806	181	1,987	1,987	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	475	-	-	-	-	-	119	594	594	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	7	3	-	29	-	8	48	48	-	-	-	356	-	-	-	7,122	12	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	323	32	355	355	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	-	61,192
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	5,846	877	6,723	6,723	-	-	-	-	-	-	-	-	-	63,266
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	13,505	2,026	15,531	15,531	-	-	-	-	-	-	-	-	-	211,579

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
1b.4	Subtotal Period 1b Period-Dependent Costs	38	851	7	3	-	29	30,149	4,513	35,590	34,123	1,467	-	-	356	-	-	-	7,122	12	336,037
1b.0	TOTAL PERIOD 1b COST	3,795	4,613	440	475	178	5,354	41,023	9,641	65,519	62,317	2,278	924	6,132	13,351	588	-	-	597,873	45,493	377,612
PERIOD 1 TOTALS		3,795	5,980	452	480	178	5,404	118,348	20,903	155,540	147,480	6,468	1,592	6,132	13,961	588	-	-	610,063	45,513	1,000,729
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	35,411	1,421	-
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	23,594	630	-
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	295,800	2,049	100
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	185,015	1,666	938
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	1,689,435	11,613	2,875
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	177,400	8,104	-
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	164,987	25,123	1,163
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	576,524	25,123	1,163
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	3,148,166	75,729	6,240
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	203,265	4,667	-
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	271,824	39,151	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
2a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
2a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
2a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
2a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
2a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
2a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
2a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
2a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
2a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
2a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
2a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
2a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
2a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
2a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
2a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
2a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
2a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
2a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
2a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
2a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
2a.1.5.21	Steam Generator Blowdown	-	478	22	29	340	234	-	235	1,337	1,337	-	-	2,031	686	-	-	-	126,640	6,667	-
2a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-
2a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-
2a.1.5	Totals	-	3,445	44	108	2,144	234	-	1,048	7,023	4,565	-	2,458	12,815	686	-	-	-	564,572	48,794	-
2a.1.6	Scaffolding in support of decommissioning	-	930	3	1	26	4	-	238	1,202	1,202	-	-	138	12	-	-	-	6,985	6,368	-
2a.1	Subtotal Period 2a Activity Costs	613	23,011	19,092	3,950	5,810	19,628	614	25,102	97,819	95,362	-	2,458	37,556	33,533	125	673	-	4,194,811	182,298	6,240
Period 2a Additional Costs																					
2a.2.1	Retired RPV Upper Internals Package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	48	-	32	58	-	130	-	68	337	337	-	-	-	299	-	-	-	17,968	58	-
2a.3.3	Small tool allowance	-	239	-	-	-	-	-	36	274	247	-	27	-	-	-	-	-	-	-	-

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**Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity		Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours				
Index	Activity Description														Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet							
Period 2a Collateral Costs (continued)																									
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,639	246	1,885	-	1,885	-	-	-	-	-	-	-	-	-				
2a.3.5	Retention and Severance	-	-	-	-	-	-	12,780	1,917	14,697	14,697	-	-	-	-	-	-	-	-	-	-				
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-				
2a.3	Subtotal Period 2a Collateral Costs	48	239	32	58	-	130	16,198	2,267	18,972	15,281	3,664	27	-	299	-	-	-	17,968	58	-				
Period 2a Period-Dependent Costs																									
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	-				
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-				
2a.4.3	Property taxes	-	-	-	-	-	-	5,009	501	5,510	5,510	-	-	-	-	-	-	-	-	-	-				
2a.4.4	Health physics supplies	-	1,950	-	-	-	-	-	487	2,437	2,437	-	-	-	-	-	-	-	-	-	-				
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	-				
2a.4.6	Disposal of DAW generated	-	-	73	30	-	303	-	88	493	493	-	-	-	3,681	-	-	-	73,619	120	-				
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	-				
2a.4.8	NRC Fees	-	-	-	-	-	-	842	84	926	926	-	-	-	-	-	-	-	-	-	-				
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	-				
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	-				
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	-				
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	-				
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	-				
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	-				
2a.4.15	Security Staff Cost	-	-	-	-	-	-	11,727	1,759	13,486	13,486	-	-	-	-	-	-	-	-	-	172,726				
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	-	225,210				
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	26,905	4,036	30,941	30,941	-	-	-	-	-	-	-	-	-	417,453				
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,515	73	30	-	303	74,968	11,922	92,918	89,223	3,696	-	-	3,681	-	-	-	73,619	120	815,389				
2a.0	TOTAL PERIOD 2a COST	768	29,021	19,584	4,254	5,810	21,456	91,780	40,333	213,006	203,161	7,360	2,485	37,556	37,889	237	673	-	4,336,562	185,810	821,762				
PERIOD 2b - Site Decontamination																									
Period 2b Direct Decommissioning Activities																									
Disposal of Plant Systems																									
2b.1.1.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	29	-				
2b.1.1.2	Battery Rm Special Ventilation	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-				
2b.1.1.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-				
2b.1.1.4	Chemical & Volume Control	1,120	1,389	89	90	753	973	-	1,286	5,700	5,700	-	-	4,498	2,846	-	-	-	366,565	34,533	-				
2b.1.1.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-				
2b.1.1.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-				
2b.1.1.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-				
2b.1.1.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-				
2b.1.1.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-				
2b.1.1.10	Containment Ventilation	-	255	24	51	828	248	-	260	1,667	1,667	-	-	4,951	737	-	-	-	247,952	3,668	-				
2b.1.1.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-				
2b.1.1.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-				
2b.1.1.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-				
2b.1.1.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-				
2b.1.1.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-				
2b.1.1.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-				
2b.1.1.17	Electrical - Contaminated	-	611	7	20	423	32	-	228	1,321	1,321	-	-	2,527	95	-	-	-	108,690	8,377	-				
2b.1.1.18	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-				
2b.1.1.19	Fuel Handling	-	121	6	11	152	73	-	74	436	436	-	-	908	218	-	-	-	50,723	1,784	-				
2b.1.1.20	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-				
2b.1.1.21	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-				
2b.1.1.22	HVAC - Contaminated	-	374	9	26	546	41	-	190	1,186	1,186	-	-	3,261	123	-	-	-	140,257	5,032	-				
2b.1.1.23	Incore Instrumentation	0	28	1	2	10	19	-	14	74	74	-	-	60	57	-	-	-	6,058	425	-				
2b.1.1.24	Misc Drains & Vents	-	233	15	13	65	176	-	115	618	618	-	-	390	514	-	-	-	49,062	3,091	-				
2b.1.1.25	Reactor Coolant	153	311	21	18	58	265	-	234	1,060	1,060	-	-	344	777	-	-	-	64,085	6,470	-				
2b.1.1.26	Reactor Hot Sampling	149	136	12	7	11	118	-	142	576	576	-	-	66	342	-	-	-	25,063	3,946	-				
2b.1.1.27	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-				
2b.1.1.28	Reactor Vessel	9	21	1	0	4	5	-	12	52	52	-	-	26	14	-	-	-	2,000	425	-				
2b.1.1.29	Residual Heat Removal	357	419	85	86	484	1,105	-	654	3,190	3,190	-	-	2,895	3,252	-	-	-	326,425	7,621	-				
2b.1.1.30	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-				
2b.1.1.31	Safety Injection	-	893	42	73	1,136	393	-	507	3,044	3,044	-	-	6,788	1,156	-	-	-	349,908	12,561	-				
2b.1.1.32	Sampling	-	60	4	3	10	37	-	26	140	140	-	-	59	107	-	-	-	9,420	811	-				
2b.1.1.33	Shield Bldg Ventilation	-	140	14	26	360	165	-	135	839	839	-	-	2,152	491	-	-	-	118,583	2,030	-				
2b.1.1.34	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-				

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Decommissioning Cost Analysis***

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**Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
2b.1.1.35	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-
2b.1.1.36	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-
2b.1.1.37	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-
2b.1.1.38	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-
2b.1.1	Totals	1,789	13,544	429	786	12,979	3,651	-	7,032	40,209	37,119	-	3,091	77,571	10,728	-	-	-	3,840,299	205,829	-
2b.1.2	Scaffolding in support of decommissioning	-	1,163	4	2	32	5	-	297	1,503	1,503	-	-	173	15	-	-	-	8,731	7,960	-
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,807	240	1,236	373	13,624	-	4,981	24,476	24,476	-	-	2,230	83,429	-	-	-	3,633,417	50,950	-
2b.1.3.2	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3	Totals	1,215	2,835	243	1,253	373	13,721	-	5,015	24,655	24,655	-	-	2,230	84,358	-	-	-	3,677,313	51,251	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096
2b.1.5	Receive NRC approval of termination plan	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	3,004	17,542	675	2,041	13,384	17,377	526	12,423	66,973	63,882	-	3,091	79,974	95,101	-	-	-	7,526,343	265,040	4,096
Period 2b Additional Costs																					
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	108	-	74	132	-	298	-	156	768	768	-	-	-	684	-	-	-	41,053	133	-
2b.3.2	Process decommissioning chemical flush waste	2	-	90	296	-	677	-	224	1,289	1,289	-	-	-	875	-	-	-	93,252	164	-
2b.3.3	Small tool allowance	-	315	-	-	-	-	-	47	362	362	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	7,142	1,071	8,213	-	8,213	-	-	-	-	-	-	-	-	-
2b.3.5	Retention and Severance	-	-	-	-	-	-	6,141	921	7,063	7,063	-	-	-	-	-	-	-	-	-	-
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	110	315	164	428	-	975	14,631	2,419	19,043	9,482	9,561	-	-	1,559	-	-	-	134,305	297	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	511	-	-	-	-	-	-	128	639	639	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	3,435	344	3,779	3,779	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,140	-	-	-	-	-	535	2,675	2,675	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	70	28	-	290	-	84	472	472	-	-	-	3,521	-	-	-	70,425	115	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	638	64	701	701	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	10,738	1,611	12,348	12,348	-	-	-	-	-	-	-	-	-	121,244
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	13,928	2,089	16,017	16,017	-	-	-	-	-	-	-	-	-	225,649
2b.4	Subtotal Period 2b Period-Dependent Costs	511	4,914	70	28	-	290	44,145	7,454	57,412	54,612	2,800	-	-	3,521	-	-	-	70,425	115	468,137
2b.0	TOTAL PERIOD 2b COST	3,626	23,946	920	2,533	13,990	18,642	63,876	23,374	150,907	135,455	12,362	3,091	85,854	100,182	-	-	-	7,878,073	272,879	472,233
PERIOD 2c - Spent fuel delay prior to SFP decon																					
Period 2c Direct Decommissioning Activities																					
Period 2c Collateral Costs																					
2c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	51,417	7,713	59,130	-	59,130	-	-	-	-	-	-	-	-	-
2c.3.2	Retention and Severance	-	-	-	-	-	-	3,512	527	4,039	4,039	-	-	-	-	-	-	-	-	-	-
2c.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,526	-	1,526	-	1,526	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	56,456	8,239	64,695	4,039	60,656	-	-	-	-	-	-	-	-	-

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**Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	592	59	651	651	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	3,512	351	3,863	3,863	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	263	-	-	-	-	-	66	328	328	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	9	4	-	38	-	11	61	61	-	-	-	457	-	-	-	9,141	15	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	1,486	223	1,709	1,709	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	687	69	756	756	-	-	-	-	-	-	-	-	-	-
2c.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,271	227	2,498	-	2,498	-	-	-	-	-	-	-	-	-
2c.4.8	Fixed Overhead	-	-	-	-	-	-	1,454	218	1,672	1,672	-	-	-	-	-	-	-	-	-	-
2c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	516	77	593	-	593	-	-	-	-	-	-	-	-	-
2c.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	260	39	298	298	-	-	-	-	-	-	-	-	-	-
2c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	68	10	79	-	79	-	-	-	-	-	-	-	-	-
2c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	76	11	88	88	-	-	-	-	-	-	-	-	-	-
2c.4.13	Security Staff Cost	-	-	-	-	-	-	9,348	1,402	10,751	10,751	-	-	-	-	-	-	-	-	-	137,246
2c.4.14	Utility Staff Cost	-	-	-	-	-	-	1,195	179	1,375	1,375	-	-	-	-	-	-	-	-	-	19,062
2c.4	Subtotal Period 2c Period-Dependent Costs	-	263	9	4	-	38	21,465	2,943	24,721	21,552	3,170	-	-	457	-	-	-	9,141	15	156,308
2c.0	TOTAL PERIOD 2c COST	-	263	9	4	-	38	77,921	11,183	89,417	25,591	63,826	-	-	457	-	-	-	9,141	15	156,308
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	152	2	5	103	8	-	56	325	325	-	-	615	23	-	-	-	26,449	2,077	-
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-
2d.1.2.3	HVAC - Contaminated - Fuel Pool	-	160	4	11	234	18	-	82	508	508	-	-	1,398	53	-	-	-	60,110	2,157	-
2d.1.2.4	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
2d.1.2.5	Spent Fuel Pool Cooling	303	357	34	32	135	450	-	382	1,693	1,693	-	-	806	1,325	-	-	-	117,816	7,613	-
2d.1.2.6	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-
2d.1.2	Totals	303	1,721	52	96	1,554	476	-	954	5,157	5,157	-	-	9,290	1,401	-	-	-	467,176	25,468	-
Decontamination of Site Buildings																					
2d.1.4	Scaffolding in support of decommissioning	-	233	1	0	6	1	-	59	301	301	-	-	35	3	-	-	-	1,746	1,592	-
2d.1	Subtotal Period 2d Activity Costs	650	1,989	139	138	1,561	1,180	-	1,386	7,042	7,042	-	-	9,325	3,496	-	-	-	601,841	27,637	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	30	-	21	38	-	86	-	44	220	220	-	-	-	197	-	-	-	11,793	38	-
2d.3.2	Process decommissioning chemical flush waste	1	-	34	110	-	251	-	83	478	478	-	-	-	324	-	-	-	34,576	61	-
2d.3.3	Small tool allowance	-	37	-	-	-	-	-	6	42	42	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
2d.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,159	174	1,333	-	1,333	-	-	-	-	-	-	-	-	-
2d.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	31	37	185	215	1,112	514	2,135	541	4,770	2,462	2,308	-	6,000	1,050	-	-	-	349,977	246	-
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	59	-	-	-	-	-	-	15	73	73	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	575	-	-	-	-	-	144	719	719	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	16	7	-	68	-	20	111	111	-	-	-	830	-	-	-	16,609	27	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	439	44	483	483	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-

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															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2d Period-Dependent Costs (continued)																					
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681
2d.4	Subtotal Period 2d Period-Dependent Costs	59	2,582	16	7	-	68	25,896	4,220	32,848	30,323	2,525	-	-	830	-	-	-	16,609	27	281,377
2d.0	TOTAL PERIOD 2d COST	740	4,608	340	360	2,673	1,763	29,067	6,458	46,008	41,175	4,834	-	15,325	5,377	-	-	-	968,427	27,910	287,617
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
2f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	603	90	693	-	693	-	-	-	-	-	-	-	-	-
2f.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,801	280	3,081	1,454	1,628	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
2f.4	Subtotal Period 2f Period-Dependent Costs	-	501	7	3	-	28	17,620	2,646	20,803	18,384	2,420	-	-	334	-	-	-	6,685	11	186,687
2f.0	TOTAL PERIOD 2f COST	-	501	7	3	-	28	23,786	3,935	28,259	24,212	4,048	-	-	334	-	-	-	6,685	40,542	189,807
PERIOD 2 TOTALS		5,134	58,338	20,860	7,153	22,473	41,926	286,430	85,282	527,597	429,593	92,428	5,576	138,734	144,239	237	673	-	13,198,890	527,156	1,927,726
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
3b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
3b.1.1.3	Structures below 3' below grade	-	1,651	-	-	-	-	-	248	1,899	-	-	1,899	-	-	-	-	-	-	8,411	-
3b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
3b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1	Totals	-	8,803	-	-	-	-	-	1,320	10,123	-	-	10,123	-	-	-	-	-	-	76,939	-
Site Closeout Activities																					
3b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
3b.1	Subtotal Period 3b Activity Costs	-	9,251	-	-	-	-	200	1,418	10,869	231	-	10,639	-	-	-	-	-	-	77,859	1,560
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
3b.2.2	Intake Structure Cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-
3b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-

TLG Services, LLC

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3b.2	Subtotal Period 3b Additional Costs	-	5,875	-	-	-	-	15	883	6,773	-	-	6,773	-	-	-	-	-	-	16,458	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	-	-
3b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,636	245	1,882	-	1,882	-	-	-	-	-	-	-	-	-
3b.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	120	-	-	-	-	4,285	263	4,669	-	4,531	138	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,004	751	5,755	-	1,237	4,517	-	-	-	-	-	-	-	74,431
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,444	4,935	39,523	1,114	13,117	25,292	-	-	-	-	-	-	-	248,656
3b.0	TOTAL PERIOD 3b COST	-	22,390	-	-	-	-	31,944	7,500	61,834	1,345	17,647	42,842	-	-	-	-	-	-	94,317	250,216
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Direct Decommissioning Activities																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	13,208	1,981	15,189	-	15,189	-	-	-	-	-	-	-	-	-
3c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	40,613	-	40,613	-	40,613	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	53,820	1,981	55,801	-	55,801	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	7,872	787	8,659	-	8,659	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	45,095	4,509	49,604	-	49,604	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	5,076	508	5,583	-	5,583	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	2,410	241	2,651	-	2,651	-	-	-	-	-	-	-	-	-
3c.4.6	Fixed Overhead	-	-	-	-	-	-	5,298	795	6,092	-	6,092	-	-	-	-	-	-	-	-	-
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	1,820	273	2,092	-	2,092	-	-	-	-	-	-	-	-	-
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	2,033	305	2,338	-	2,338	-	-	-	-	-	-	-	-	-
3c.4.9	Security Staff Cost	-	-	-	-	-	-	70,770	10,615	81,385	-	81,385	-	-	-	-	-	-	-	-	879,133
3c.4.10	Utility Staff Cost	-	-	-	-	-	-	16,510	2,477	18,987	-	18,987	-	-	-	-	-	-	-	-	228,237
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	156,883	20,510	177,392	-	177,392	-	-	-	-	-	-	-	-	1,107,370
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	210,703	22,491	233,194	-	233,194	-	-	-	-	-	-	-	-	1,107,370
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 3d Collateral Costs																					
3d.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-

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**Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3d Period-Dependent Costs (continued)																					
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	1,037	
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	269	
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	1,306	
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	229	1,687	12,039	11,984	55	-	-	-	-	-	1,773	344,823	-	1,306
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	License Termination ISFSI	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
3e.2	Subtotal Period 3e Additional Costs	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	2,500	
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	1,896	
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	4,396	
3e.0	TOTAL PERIOD 3e COST	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
3f.2	Subtotal Period 3f Additional Costs	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	1,281	
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	795	
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	2,076	
3f.0	TOTAL PERIOD 3f COST	-	577	-	-	-	-	284	128	989	-	-	989	-	-	-	-	-	-	2,219	2,156
PERIOD 3 TOTALS		-	22,992	1,525	435	-	11,212	244,535	32,917	313,616	18,889	250,896	43,831	-	9,355	-	-	1,773	1,468,280	100,298	1,366,508
TOTAL COST TO DECOMMISSION		8,929	87,309	22,838	8,068	22,651	58,542	649,313	139,103	996,753	595,962	349,793	50,998	144,866	167,555	826	673	1,773	15,277,230	672,967	4,294,963

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Table C-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site	LLRW	Other Costs	Total Contingency	Total Costs	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
						Processing Costs	Disposal Costs				Lic. Term. Costs	Management Costs	Restoration Costs	Volume Cu. Feet	Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Processed Wt., Lbs.	Manhours	Contractor Manhours
TOTAL COST TO DECOMMISSION WITH 16.22% CONTINGENCY:					\$996,753	thousands of	2020	dollars													
TOTAL NRC LICENSE TERMINATION COST IS 59.79% OR:					\$595,962	thousands of	2020	dollars													
SPENT FUEL MANAGEMENT COST IS 35.09% OR:					\$349,793	thousands of	2020	dollars													
NON-NUCLEAR DEMOLITION COST IS 5.12% OR:					\$50,998	thousands of	2020	dollars													
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					169,054	Cubic Feet															
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773	Cubic Feet															
TOTAL SCRAP METAL REMOVED:					32,925	Tons															
TOTAL CRAFT LABOR REQUIREMENTS:					672,967	Man-hours															

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.10	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.12	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.13	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.14	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
1a.1.16	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	270	41	311	280	-	31	-	-	-	-	-	-	-	2,104
1a.1.17.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.4	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,036
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
1a.1.17.6	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.7	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
1a.1.17.9	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.10	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
1a.1.17.12	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
1a.1.17	Total	-	-	-	-	-	-	2,079	312	2,391	2,105	-	286	-	-	-	-	-	-	-	16,175
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	10,195	1,529	11,724	11,439	-	286	-	-	-	-	-	-	-	33,420
Period 1a Additional Costs																					
1a.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1a.2	Subtotal Period 1a Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	578	-	-	-	-	-	144	722	722	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	11	5	-	47	-	13	76	76	-	-	-	565	-	-	-	11,299	18	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	638	64	702	702	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1a	Period-Dependent Costs (continued)																				
1a.4.1.2	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.1.3	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.1.4	Utility Staff Cost	-	-	-	-	-	-	21,681	3,252	24,933	24,933	-	-	-	-	-	-	-	-	-	345,280
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,331	11	5	-	47	41,706	6,122	49,221	46,279	2,942	-	-	565	-	-	-	11,299	18	468,000
1a.0	TOTAL PERIOD 1a COST	-	1,331	11	5	-	47	71,324	10,377	83,095	77,089	5,720	286	-	565	-	-	-	11,299	18	501,420
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.3	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552
1b.1.1.9	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513
1b.1.1.10	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192
1b.1.1.11	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
1b.1.1.12	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428
1b.1.1.14	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
1b.1.1.15	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
1b.1.1.17	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
1b.1.1	Total	-	-	-	-	-	-	1,827	274	2,101	1,706	-	395	-	-	-	-	-	-	-	14,215
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	1,827	560	2,959	2,564	-	395	-	-	-	-	-	-	1,067	14,215
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	5,044	-	-	166,959	20,907	-
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	9,127	30	-
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	62,689	110	-
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	399	60	459	-	459	-	-	-	-	-	-	-	-	-
1b.3.9	Retention and Severance	-	-	-	-	-	-	4,017	603	4,620	4,620	-	-	-	-	-	-	-	-	-	-
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	623	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	6,303	2,555	17,540	16,458	1,082	-	-	152	588	-	-	71,815	140	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,713	171	1,884	1,884	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	449	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,473	11	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	196	20	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-

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**Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1b Period-Dependent Costs (continued)																					
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	-	61,192
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	4,182	627	4,810	4,810	-	-	-	-	-	-	-	-	-	46,672
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	10,811	1,622	12,432	12,432	-	-	-	-	-	-	-	-	-	172,167
1b.4	Subtotal Period 1b Period-Dependent Costs	38	825	6	3	-	27	25,571	3,830	30,299	28,832	1,467	-	-	324	-	-	-	6,473	11	280,031
1b.0	TOTAL PERIOD 1b COST	3,795	4,586	440	475	178	5,351	35,206	8,470	58,501	55,557	2,549	395	6,132	13,319	588	-	-	597,225	33,460	297,808
PERIOD 1 TOTALS		3,795	5,917	451	479	178	5,398	106,531	18,847	141,595	132,646	8,269	681	6,132	13,884	588	-	-	608,524	33,478	799,228
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	35,411	1,421	-
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	23,594	630	-
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	295,800	2,049	100
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	185,015	1,666	938
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	1,689,435	11,613	2,875
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	177,400	8,104	-
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	164,987	25,123	1,163
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	576,524	25,123	1,163
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	3,148,166	75,729	6,240
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	203,265	4,667	-
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	271,824	39,151	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
2a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	1,309	-
2a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	65	-
2a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	8,963	-
Disposal of Plant Systems																					
2a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	90	-
2a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	422	-
2a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	676	-
2a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	7,214	486	-
2a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	1,331	-
2a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	9,761	468	-
2a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	261	-
2a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	634	31	-
2a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	401	-
2a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	7,537	-
2a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	2,987	-
2a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	19,616	493	-
2a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	143	-
2a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	385	-
2a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	29,284	938	-
2a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	1,840	-
2a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	168,414	3,377	-
2a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	504	-
2a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	5,638	-
2a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	86	-
2a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	100	12	-
2a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	366	-
2a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	1,482	-
2a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	209,799	5,146	-
2a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	490	82	-
2a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	32	-
2a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	966	47	-
2a.1.5.29	Steam Generator Blowdown	-	416	21	27	319	215	-	212	1,210	1,210	-	-	1,906	631	-	-	-	118,130	5,778	-
2a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	5,472	-

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Decommissioning Cost Analysis***

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Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
2a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	757	-
2a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	6,677	-
2a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	4,652	252	-
2a.1.5	Totals	-	3,817	43	108	2,177	215	-	1,100	7,461	4,528	-	2,933	13,010	631	-	-	-	569,060	54,280	-
2a.1.6	Scaffolding in support of decommissioning	-	3,020	22	10	188	30	-	794	4,064	4,064	-	-	1,012	89	-	-	-	51,216	26,270	-
2a.1	Subtotal Period 2a Activity Costs	613	25,702	19,110	3,959	6,005	19,635	614	25,745	101,384	98,450	-	2,933	38,625	33,556	125	673	-	4,243,531	209,060	6,240
Period 2a Additional Costs																					
2a.2.1	Retired RPV Upper Internals Package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	49	-	33	60	-	134	-	70	347	347	-	-	-	308	-	-	-	18,487	60	-
2a.3.3	Small tool allowance	-	269	-	-	-	-	-	40	309	278	-	31	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	8,862	1,329	10,192	-	10,192	-	-	-	-	-	-	-	-	-
2a.3.5	Retention and Severance	-	-	-	-	-	-	8,215	1,232	9,447	9,447	-	-	-	-	-	-	-	-	-	-
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	49	269	33	60	-	134	18,857	2,672	22,074	10,072	11,971	31	-	308	-	-	-	18,487	60	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	4,548	455	5,002	5,002	-	-	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	2,103	-	-	-	-	-	526	2,629	2,629	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	86	35	-	358	-	103	582	582	-	-	-	4,345	-	-	-	86,891	142	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	526	53	578	578	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	-
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	-
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	-
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	-
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	-
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	-
2a.4.15	Security Staff Cost	-	-	-	-	-	-	10,900	1,635	12,534	12,534	-	-	-	-	-	-	-	-	-	160,018
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	-	225,210
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	27,056	4,058	31,115	31,115	-	-	-	-	-	-	-	-	-	419,049
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,668	86	35	-	358	73,514	11,797	91,565	87,870	3,696	-	-	4,345	-	-	-	86,891	142	804,276
2a.0	TOTAL PERIOD 2a COST	770	31,895	19,616	4,270	6,005	21,522	92,985	41,255	218,319	199,687	15,667	2,964	38,625	38,584	237	673	-	4,399,073	212,595	810,649
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	ADT & Misc Ventilation	-	25	1	1	26	3	-	11	66	66	-	-	153	9	-	-	-	6,803	363	-
2b.1.1.2	Aux Bldg Normal Ventilation	-	69	2	6	116	13	-	39	246	246	-	-	692	39	-	-	-	30,595	1,013	-
2b.1.1.3	Aux Bldg Special Ventilation	-	14	0	1	12	2	-	6	34	34	-	-	70	6	-	-	-	3,234	197	-
2b.1.1.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	24	-
2b.1.1.5	Boron Recycle	0	4	0	0	0	3	-	2	10	10	-	-	3	9	-	-	-	700	50	-
2b.1.1.6	Chemical & Volume Control	749	942	62	57	394	677	-	853	3,736	3,736	-	-	2,356	1,977	-	-	-	223,753	23,197	-
2b.1.1.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
2b.1.1.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	487,169	8,583	-
2b.1.1.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	502	-
2b.1.1.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	111,390	3,949	-
2b.1.1.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	5,742	494	-
2b.1.1.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	59,019	2,617	-
2b.1.1.13	Containment Ventilation	-	235	23	49	790	243	-	248	1,587	1,587	-	-	4,721	722	-	-	-	237,643	3,375	-
2b.1.1.14	Control/Relay/Cmptr Rm Vent	-	31	1	2	44	7	-	17	102	102	-	-	260	20	-	-	-	11,878	454	-
2b.1.1.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	2,344	-
2b.1.1.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	342,822	6,311	-
2b.1.1.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	4,184	48	-
2b.1.1.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
2b.1.1.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-

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**Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
2b.1.1.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2b.1.1.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
2b.1.1.22	Electrical - Contaminated	-	475	5	16	334	25	-	178	1,034	1,034	-	-	1,997	75	-	-	-	85,887	6,503	-
2b.1.1.23	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
2b.1.1.24	Filter Rm Ventilation	-	5	0	0	4	0	-	2	11	11	-	-	24	1	-	-	-	1,017	69	-
2b.1.1.25	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
2b.1.1.26	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
2b.1.1.27	Fuel Handling	-	74	1	2	34	17	-	28	156	156	-	-	200	49	-	-	-	11,273	1,101	-
2b.1.1.28	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
2b.1.1.29	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
2b.1.1.30	HVAC - Contaminated	-	1,231	29	87	1,798	136	-	627	3,908	3,908	-	-	10,745	405	-	-	-	462,103	16,579	-
2b.1.1.31	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
2b.1.1.32	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
2b.1.1.33	Hot Lab & Sample Rm Ventilation	-	20	0	1	18	1	-	8	48	48	-	-	107	4	-	-	-	4,622	285	-
2b.1.1.34	Incore Instrumentation	0	30	1	2	10	20	-	14	77	77	-	-	60	58	-	-	-	6,143	458	-
2b.1.1.35	Misc Drains & Vents	-	234	12	12	77	145	-	109	590	590	-	-	458	426	-	-	-	46,079	3,180	-
2b.1.1.36	Misc Lab & Service Areas Vent	-	129	8	8	62	84	-	65	356	356	-	-	370	244	-	-	-	30,899	1,713	-
2b.1.1.37	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
2b.1.1.38	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
2b.1.1.39	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
2b.1.1.40	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
2b.1.1.41	Reactor Coolant	163	236	20	16	38	249	-	213	937	937	-	-	229	730	-	-	-	56,440	5,517	-
2b.1.1.42	Reactor Hot Sampling	140	126	11	7	9	108	-	132	533	533	-	-	54	312	-	-	-	22,678	3,686	-
2b.1.1.43	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
2b.1.1.44	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
2b.1.1.45	Reactor Vessel	9	18	1	0	4	5	-	11	47	47	-	-	22	14	-	-	-	1,816	385	-
2b.1.1.46	Residual Heat Removal	348	393	84	86	477	1,102	-	641	3,132	3,132	-	-	2,853	3,244	-	-	-	324,232	7,112	-
2b.1.1.47	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2b.1.1.48	Safety Injection	-	874	42	72	1,117	395	-	500	3,000	3,000	-	-	6,676	1,161	-	-	-	345,708	12,284	-
2b.1.1.49	Sampling	-	52	3	2	6	32	-	23	119	119	-	-	37	93	-	-	-	7,628	714	-
2b.1.1.50	Service Bldg & New Cmptr Vent	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
2b.1.1.51	Shield Bldg Ventilation	-	120	13	25	339	163	-	127	787	787	-	-	2,028	484	-	-	-	113,139	1,743	-
2b.1.1.52	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
2b.1.1.53	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
2b.1.1.54	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
2b.1.1.55	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
2b.1.1.56	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
2b.1.1.57	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
2b.1.1.58	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
2b.1.1.59	Waste Gas Disposal	553	479	43	45	410	464	-	585	2,581	2,581	-	-	2,453	1,358	-	-	-	187,339	14,308	-
2b.1.1.60	Waste Liquid Disposal	1,436	1,800	116	100	612	1,234	-	1,595	6,893	6,893	-	-	3,655	3,594	-	-	-	381,754	44,485	-
2b.1.1.61	Waste Solid Disposal	115	145	12	11	65	134	-	140	622	622	-	-	389	393	-	-	-	41,177	3,481	-
2b.1.1	Totals	3,515	16,542	596	980	15,220	5,264	-	9,399	51,516	48,072	-	3,444	90,963	15,429	-	-	-	4,689,210	270,390	-
2b.1.2	Scaffolding in support of decommissioning	-	3,775	27	13	235	37	-	993	5,081	5,081	-	-	1,265	112	-	-	-	64,020	32,837	-
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,808	240	1,236	373	13,625	-	4,981	24,479	24,479	-	-	2,230	83,434	-	-	-	3,633,771	50,962	-
2b.1.3.2	Auxiliary	1,292	422	23	117	177	648	-	960	3,639	3,639	-	-	1,060	6,118	-	-	-	332,495	23,821	-
2b.1.3.3	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3.4	Drum Transfer & Truck Loading Enclosure	-	18	9	3	3	14	-	16	63	63	-	-	19	135	-	-	-	7,118	369	-
2b.1.3.5	LLRW Storage Enclosure	123	54	3	17	6	96	-	103	403	403	-	-	38	920	-	-	-	44,971	2,426	-
2b.1.3.6	Radwaste	55	24	1	8	7	43	-	47	185	185	-	-	42	412	-	-	-	21,136	1,083	-
2b.1.3.7	Resin Disposal	16	12	1	3	14	14	-	17	76	76	-	-	83	124	-	-	-	9,271	383	-
2b.1.3	Totals	2,720	3,357	271	1,400	581	14,537	-	6,158	29,024	29,024	-	-	3,471	92,071	-	-	-	4,092,658	79,343	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
2b.1.5	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	6,235	23,674	895	2,393	16,035	19,839	225	16,584	85,879	82,435	-	3,444	95,700	107,611	-	-	-	8,845,887	382,570	1,751
Period 2b Additional Costs																					
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-

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Decommissioning Cost Analysis***

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Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	166	-	113	203	-	456	-	239	1,176	1,176	-	-	-	1,047	-	-	-	62,844	204	-
2b.3.2	Process decommissioning chemical flush waste	3	-	119	390	-	893	-	295	1,699	1,699	-	-	-	1,154	-	-	-	122,948	216	-
2b.3.3	Small tool allowance	-	446	-	-	-	-	-	67	513	513	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	49,770	7,465	57,235	-	57,235	-	-	-	-	-	-	-	-	-
2b.3.5	Retention and Severance	-	-	-	-	-	-	2,839	426	3,265	3,265	-	-	-	-	-	-	-	-	-	-
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-
2b.3.7	On-site survey and release of 0.437 tons clean metallic waste	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	169	446	232	592	-	1,349	53,958	8,492	65,237	6,654	58,583	-	-	2,201	-	-	-	185,792	420	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	1,219	-	-	-	-	-	-	305	1,524	1,524	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	3,075	308	3,383	3,383	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,866	-	-	-	-	-	716	3,582	3,582	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	103	42	-	429	-	124	698	698	-	-	-	5,209	-	-	-	104,172	170	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	398	40	438	438	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	15,117	2,268	17,385	17,385	-	-	-	-	-	-	-	-	-	163,904
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	19,642	2,946	22,588	22,588	-	-	-	-	-	-	-	-	-	304,233
2b.4	Subtotal Period 2b Period-Dependent Costs	1,219	5,640	103	42	-	429	53,639	9,307	70,380	67,579	2,800	-	-	5,209	-	-	-	104,172	170	589,381
2b.0	TOTAL PERIOD 2b COST	7,623	30,935	1,242	3,063	16,641	21,617	112,395	35,460	228,975	164,147	61,384	3,444	101,580	115,021	-	-	-	9,282,851	390,587	591,132
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	203	2	7	145	11	-	77	445	445	-	-	864	33	-	-	-	37,167	2,783	-
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-
2d.1.2.3	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-
2d.1.2.4	HVAC - Contaminated - Fuel Pool	-	553	13	39	808	61	-	282	1,756	1,756	-	-	4,828	182	-	-	-	207,612	7,448	-
2d.1.2.5	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-
2d.1.2.6	Spent Fuel Pool Cooling	32	36	3	2	6	37	-	36	152	152	-	-	39	107	-	-	-	8,481	882	-
2d.1.2.7	Spent Fuel Pool Normal Ventilation	-	27	1	2	44	4	-	15	93	93	-	-	265	12	-	-	-	11,505	394	-
2d.1.2	Totals	32	2,130	36	112	2,405	113	-	958	5,786	5,786	-	-	14,376	333	-	-	-	605,100	28,530	-
Decontamination of Site Buildings																					
2d.1.3.1	Fuel Handling of Aux Building	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-
2d.1.3	Totals	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-
2d.1.4	Scaffolding in support of decommissioning	-	755	5	3	47	7	-	199	1,016	1,016	-	-	253	22	-	-	-	12,804	6,567	-
2d.1	Subtotal Period 2d Activity Costs	1,408	4,058	141	202	2,857	1,018	-	2,445	12,128	12,128	-	-	17,046	4,099	-	-	-	928,579	66,078	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	45	-	31	56	-	126	-	65	323	323	-	-	-	288	-	-	-	17,293	56	-
2d.3.2	Process decommissioning chemical flush waste	0	-	1	5	-	10	-	3	20	20	-	-	-	13	-	-	-	1,422	2	-
2d.3.3	Small tool allowance	-	83	-	-	-	-	-	12	95	95	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
2d.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,159	174	1,333	-	1,333	-	-	-	-	-	-	-	-	-
2d.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	45	83	162	128	1,112	314	2,135	490	4,468	2,160	2,308	-	6,000	831	-	-	-	322,324	206	-

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Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	236	-	-	-	-	-	-	59	295	295	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	794	-	-	-	-	-	198	992	992	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	40	16	-	165	-	48	268	268	-	-	-	2,002	-	-	-	40,031	65	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	277	28	305	305	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681
2d.4	Subtotal Period 2d Period-Dependent Costs	236	2,801	40	16	-	165	25,734	4,330	33,321	30,796	2,525	-	-	2,002	-	-	-	40,031	65	281,377
2d.0	TOTAL PERIOD 2d COST	1,689	6,941	343	346	3,969	1,496	28,905	7,576	51,265	46,432	4,834	-	23,046	6,931	-	-	-	1,290,933	66,348	287,617
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
2f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	603	90	693	-	693	-	-	-	-	-	-	-	-	-
2f.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,801	280	3,081	1,454	1,628	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	710	-	-	-	-	-	178	888	888	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
2f.4	Subtotal Period 2f Period-Dependent Costs	-	710	7	3	-	28	17,461	2,682	20,890	18,470	2,420	-	-	334	-	-	-	6,685	11	186,687
2f.0	TOTAL PERIOD 2f COST	-	710	7	3	-	28	27,470	5,124	33,341	29,294	4,048	-	-	334	-	-	-	6,685	100,906	189,807
PERIOD 2 TOTALS		10,081	70,482	21,208	7,682	26,615	44,663	261,754	89,416	531,900	439,560	85,932	6,408	163,252	160,871	237	673	-	14,979,540	770,436	1,879,206

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Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	44,679	-
3b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	11,902	-
3b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	33	-
3b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	1,405	-
3b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	84	-
3b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	221	-
3b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	47	-
3b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	853	-
3b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	22,582	-
3b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	1,400	-
3b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	120	-
3b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
3b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	35	-
3b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	21,997	-
3b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	213	-
3b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	56	-
3b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	70	-
3b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	2,690	-
3b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	8,240	-
3b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	127,723	-
Site Closeout Activities																					
3b.1.2	Remove Rubble	-	1,330	-	-	-	-	-	200	1,530	-	-	1,530	-	-	-	-	-	-	6,495	-
3b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	667
3b.1	Subtotal Period 3b Activity Costs	-	17,279	-	-	-	-	86	2,605	19,969	99	-	19,871	-	-	-	-	-	-	135,138	667
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	18,372	-
3b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	3,552	-
3b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	9,327	-
3b.2	Subtotal Period 3b Additional Costs	-	14,610	-	-	-	-	2,160	2,516	19,286	-	-	19,286	-	-	-	-	-	-	31,251	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	212	-	-	-	-	-	32	244	-	-	244	-	-	-	-	-	-	-	-
3b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,636	245	1,882	-	1,882	-	-	-	-	-	-	-	-	-
3b.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	212	-	-	-	-	4,285	277	4,774	-	4,531	244	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,004	751	5,755	-	1,237	4,517	-	-	-	-	-	-	-	74,431
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,444	4,935	39,523	1,114	13,117	25,292	-	-	-	-	-	-	-	248,656
3b.0	TOTAL PERIOD 3b COST	-	39,245	-	-	-	-	33,975	10,333	83,552	1,213	17,647	64,692	-	-	-	-	-	-	166,388	249,323

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Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Direct Decommissioning Activities																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	13,208	1,981	15,189	-	15,189	-	-	-	-	-	-	-	-	-
3c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	40,613	-	40,613	-	40,613	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	53,820	1,981	55,801	-	55,801	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	7,872	787	8,659	-	8,659	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	45,095	4,509	49,604	-	49,604	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	5,076	508	5,583	-	5,583	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	2,410	241	2,651	-	2,651	-	-	-	-	-	-	-	-	-
3c.4.6	Fixed Overhead	-	-	-	-	-	-	5,298	795	6,092	-	6,092	-	-	-	-	-	-	-	-	-
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	1,820	273	2,092	-	2,092	-	-	-	-	-	-	-	-	-
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	2,033	305	2,338	-	2,338	-	-	-	-	-	-	-	-	-
3c.4.9	Security Staff Cost	-	-	-	-	-	-	70,770	10,615	81,385	-	81,385	-	-	-	-	-	-	-	-	879,133
3c.4.10	Utility Staff Cost	-	-	-	-	-	-	16,510	2,477	18,987	-	18,987	-	-	-	-	-	-	-	-	228,237
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	156,883	20,510	177,392	-	177,392	-	-	-	-	-	-	-	-	1,107,370
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	210,703	22,491	233,194	-	233,194	-	-	-	-	-	-	-	-	1,107,370
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 3d Collateral Costs																					
3d.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	-	1,037
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	-	1,306
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	229	1,687	12,039	11,984	55	-	-	-	-	-	1,773	344,823	-	1,306
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	License Termination ISFSI	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
3e.2	Subtotal Period 3e Additional Costs	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
3e.0	TOTAL PERIOD 3e COST	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460

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Table C-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
3f.2	Subtotal Period 3f Additional Costs	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
3f.0	TOTAL PERIOD 3f COST	-	577	-	-	-	-	284	128	989	-	-	989	-	-	-	-	-	-	2,219	2,156
PERIOD 3 TOTALS		-	39,847	1,525	435	-	11,212	246,565	35,750	335,334	18,757	250,896	65,681	-	9,355	-	-	1,773	1,468,280	172,370	1,365,615
TOTAL COST TO DECOMMISSION		13,876	116,246	23,184	8,596	26,793	61,273	614,850	144,013	1,008,829	590,962	345,097	72,770	169,384	184,110	826	673	1,773	17,056,350	976,284	4,044,049
TOTAL COST TO DECOMMISSION WITH 16.65% CONTINGENCY:					\$1,008,829 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 58.58% OR:					\$590,962 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 34.21% OR:					\$345,097 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 7.21% OR:					\$72,770 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					185,608 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					42,328 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					976,284 Man-hours																

***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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APPENDIX D

DETAILED COST ANALYSIS

SCENARIO 2: DECON with 60 Year DFS

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Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.10	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.12	Define major work sequence	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.13	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
1a.1.14	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
1a.1.16	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	632	95	727	654	-	73	-	-	-	-	-	-	-	4,920
1a.1.17.2	Plant systems	-	-	-	-	-	-	536	80	616	554	-	62	-	-	-	-	-	-	-	4,167
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
1a.1.17.4	Reactor internals	-	-	-	-	-	-	912	137	1,049	1,049	-	-	-	-	-	-	-	-	-	7,100
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	835	125	961	961	-	-	-	-	-	-	-	-	-	6,500
1a.1.17.6	Biological shield	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
1a.1.17.7	Steam generators	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	206	31	236	118	-	118	-	-	-	-	-	-	-	1,600
1a.1.17.9	Main Turbine	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
1a.1.17.10	Main Condensers	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	401	60	461	231	-	231	-	-	-	-	-	-	-	3,120
1a.1.17.12	Waste management	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	116	17	133	67	-	67	-	-	-	-	-	-	-	900
1a.1.17	Total	-	-	-	-	-	-	4,861	729	5,591	4,923	-	668	-	-	-	-	-	-	-	37,827
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	308	46	355	355	-	-	-	-	-	-	-	-	-	2,400
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,400
1a.1.21	Rigging/Cont. Cntrl Envlp/s/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	158	24	182	182	-	-	-	-	-	-	-	-	-	1,230
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	15,945	2,392	18,336	17,669	-	668	-	-	-	-	-	-	-	78,157
Period 1a Additional Costs																					
1a.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
1a.2	Subtotal Period 1a Additional Costs	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
Period 1a Collateral Costs																					
1a.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	614	-	-	-	-	-	153	767	767	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	50	-	14	82	82	-	-	610	-	-	-	-	12,190	20	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	1,137	114	1,251	1,251	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,931	4,040	30,971	30,971	-	-	-	-	-	-	-	-	-	422,240
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,367	12	5	-	50	47,456	6,970	55,860	52,918	2,942	-	-	610	-	-	-	12,190	20	544,960

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**Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet					
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	77,325	11,263	90,022	85,163	4,191	668	-	610	-	-	-	-	12,190	20	623,117
PERIOD 1b - Decommissioning Preparations																						
Period 1b Direct Decommissioning Activities																						
Detailed Work Procedures																						
1b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	-	-	4,733
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.3	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	-	2,500
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	-	-	1,350
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	-	-	3,630
1b.1.1.9	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	-	-	1,200
1b.1.1.10	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	-	-	450
1b.1.1.11	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	-	1,200
1b.1.1.12	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	-	4,600
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	-	-	1,000
1b.1.1.14	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	-	1,560
1b.1.1.15	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	-	1,560
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	-	2,730
1b.1.1.17	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	-	2,730
1b.1.1	Total	-	-	-	-	-	-	4,272	641	4,913	3,989	-	924	-	-	-	-	-	-	-	-	33,243
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	4,272	927	5,772	4,848	-	924	-	-	-	-	-	-	-	1,067	33,243
Period 1b Additional Costs																						
1b.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	-	21,020	8,332
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	-	351,977	2,348	-
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	-	166,959	20,907	-
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	-	518,936	44,275	8,332
Period 1b Collateral Costs																						
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	-	9,127	30	-
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	-	62,689	110	-
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-	-
1b.3.9	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-	-
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	3,082	2,072	13,836	13,025	811	-	-	152	588	-	-	-	71,815	140	-
Period 1b Period-Dependent Costs																						
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,806	181	1,987	1,987	-	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	475	-	-	-	-	-	119	594	594	-	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	7	3	-	29	-	8	48	48	-	-	-	356	-	-	-	-	7,122	12	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	323	32	355	355	-	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	-	-	61,192
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	5,846	877	6,723	6,723	-	-	-	-	-	-	-	-	-	-	63,266
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	13,505	2,026	15,531	15,531	-	-	-	-	-	-	-	-	-	-	211,579
1b.4	Subtotal Period 1b Period-Dependent Costs	38	851	7	3	-	29	30,149	4,513	35,590	34,123	1,467	-	-	356	-	-	-	-	7,122	12	336,037
1b.0	TOTAL PERIOD 1b COST	3,795	4,613	440	475	178	5,354	41,023	9,641	65,519	62,317	2,278	924	6,132	13,351	588	-	-	597,873	45,493	377,612	

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**Table D-1
Prairie Island DECON Unit 1
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(Thousands of 2020 Dollars)**

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															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1 TOTALS		3,795	5,980	452	480	178	5,404	118,348	20,903	155,540	147,480	6,468	1,592	6,132	13,961	588	-	-	610,063	45,513	1,000,729
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	35,411	1,421	-
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	23,594	630	-
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	295,800	2,049	100
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	185,015	1,666	938
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	1,689,435	11,613	2,875
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	177,400	8,104	-
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	164,987	25,123	1,163
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	576,524	25,123	1,163
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	3,148,166	75,729	6,240
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	203,265	4,667	-
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	271,824	39,151	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
2a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
2a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
2a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
2a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
2a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
2a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
2a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
2a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
2a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
2a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
2a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
2a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
2a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
2a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
2a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
2a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
2a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
2a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
2a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
2a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
2a.1.5.21	Steam Generator Blowdown	-	478	22	29	340	234	-	235	1,337	1,337	-	-	2,031	686	-	-	-	126,640	6,667	-
2a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-
2a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-
2a.1.5	Totals	-	3,445	44	108	2,144	234	-	1,048	7,023	4,565	-	2,458	12,815	686	-	-	-	564,572	48,794	-
2a.1.6	Scaffolding in support of decommissioning	-	930	3	1	26	4	-	238	1,202	1,202	-	-	138	12	-	-	-	6,985	6,368	-
2a.1	Subtotal Period 2a Activity Costs	613	23,011	19,092	3,950	5,810	19,628	614	25,102	97,819	95,362	-	2,458	37,556	33,533	125	673	-	4,194,811	182,298	6,240
Period 2a Additional Costs																					
2a.2.1	Retired RPV Upper Internals Package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	48	-	32	58	-	130	-	68	337	337	-	-	-	299	-	-	-	17,968	58	-
2a.3.2	Process decommissioning chemical flush waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2a.3.3	Small tool allowance	-	239	-	-	-	-	-	36	274	247	-	27	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,639	246	1,885	-	1,885	-	-	-	-	-	-	-	-	-
2a.3.5	Retention and Severance	-	-	-	-	-	-	12,780	1,917	14,697	14,697	-	-	-	-	-	-	-	-	-	-
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-
2a.3.7	On-site survey and release of 0.0 tons clean metallic waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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*Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis*

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Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
2a.3	Subtotal Period 2a Collateral Costs	48	239	32	58	-	130	16,198	2,267	18,972	15,281	3,664	27	-	299	-	-	-	17,968	58	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	
2a.4.3	Property taxes	-	-	-	-	-	-	5,009	501	5,510	5,510	-	-	-	-	-	-	-	-	-	
2a.4.4	Health physics supplies	-	1,950	-	-	-	-	-	487	2,437	2,437	-	-	-	-	-	-	-	-	-	
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	
2a.4.6	Disposal of DAW generated	-	-	73	30	-	303	-	88	493	493	-	-	-	3,681	-	-	-	73,619	120	
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	
2a.4.8	NRC Fees	-	-	-	-	-	-	842	84	926	926	-	-	-	-	-	-	-	-	-	
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	
2a.4.15	Security Staff Cost	-	-	-	-	-	-	11,727	1,759	13,486	13,486	-	-	-	-	-	-	-	-	172,726	
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	225,210	
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	26,905	4,036	30,941	30,941	-	-	-	-	-	-	-	-	417,453	
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,515	73	30	-	303	74,968	11,922	92,918	89,223	3,696	-	-	3,681	-	-	-	73,619	120	815,389
2a.0	TOTAL PERIOD 2a COST	768	29,021	19,584	4,254	5,810	21,456	91,780	40,333	213,006	203,161	7,360	2,485	37,556	37,889	237	673	-	4,336,562	185,810	821,762
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	29	-
2b.1.1.2	Battery Rm Special Ventilation	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
2b.1.1.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-
2b.1.1.4	Chemical & Volume Control	1,120	1,389	89	90	753	973	-	1,286	5,700	5,700	-	-	4,498	2,846	-	-	-	366,565	34,533	-
2b.1.1.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-
2b.1.1.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-
2b.1.1.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-
2b.1.1.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-
2b.1.1.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-
2b.1.1.10	Containment Ventilation	-	255	24	51	828	248	-	260	1,667	1,667	-	-	4,951	737	-	-	-	247,952	3,668	-
2b.1.1.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-
2b.1.1.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-
2b.1.1.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-
2b.1.1.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-
2b.1.1.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-
2b.1.1.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-
2b.1.1.17	Electrical - Contaminated	-	611	7	20	423	32	-	228	1,321	1,321	-	-	2,527	95	-	-	-	108,690	8,377	-
2b.1.1.18	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-
2b.1.1.19	Fuel Handling	-	121	6	11	152	73	-	74	436	436	-	-	908	218	-	-	-	50,723	1,784	-
2b.1.1.20	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-
2b.1.1.21	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-
2b.1.1.22	HVAC - Contaminated	-	374	9	26	546	41	-	190	1,186	1,186	-	-	3,261	123	-	-	-	140,257	5,032	-
2b.1.1.23	Incore Instrumentation	0	28	1	2	10	19	-	14	74	74	-	-	60	57	-	-	-	6,058	425	-
2b.1.1.24	Misc Drains & Vents	-	233	15	13	65	176	-	115	618	618	-	-	390	514	-	-	-	49,062	3,091	-
2b.1.1.25	Reactor Coolant	153	311	21	18	58	265	-	234	1,060	1,060	-	-	344	777	-	-	-	64,085	6,470	-
2b.1.1.26	Reactor Hot Sampling	149	136	12	7	11	118	-	142	576	576	-	-	66	342	-	-	-	25,063	3,946	-
2b.1.1.27	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-
2b.1.1.28	Reactor Vessel	9	21	1	0	4	5	-	12	52	52	-	-	26	14	-	-	-	2,000	425	-
2b.1.1.29	Residual Heat Removal	357	419	85	86	484	1,105	-	654	3,190	3,190	-	-	2,895	3,252	-	-	-	326,425	7,621	-
2b.1.1.30	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-
2b.1.1.31	Safety Injection	-	893	42	73	1,136	393	-	507	3,044	3,044	-	-	6,788	1,156	-	-	-	349,908	12,561	-
2b.1.1.32	Sampling	-	60	4	3	10	37	-	26	140	140	-	-	59	107	-	-	-	9,420	811	-
2b.1.1.33	Shield Bldg Ventilation	-	140	14	26	360	165	-	135	839	839	-	-	2,152	491	-	-	-	118,583	2,030	-
2b.1.1.34	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-
2b.1.1.35	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-
2b.1.1.36	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-
2b.1.1.37	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-
2b.1.1.38	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-
2b.1.1	Totals	1,789	13,544	429	786	12,979	3,651	-	7,032	40,209	37,119	-	3,091	77,571	10,728	-	-	-	3,840,299	205,829	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
2b.1.2	Scaffolding in support of decommissioning	-	1,163	4	2	32	5	-	297	1,503	1,503	-	-	173	15	-	-	-	8,731	7,960	-
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,807	240	1,236	373	13,624	-	4,981	24,476	24,476	-	-	2,230	83,429	-	-	-	3,633,417	50,950	-
2b.1.3.2	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3	Totals	1,215	2,835	243	1,253	373	13,721	-	5,015	24,655	24,655	-	-	2,230	84,358	-	-	-	3,677,313	51,251	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096
2b.1.5	Receive NRC approval of termination plan									a											
2b.1	Subtotal Period 2b Activity Costs	3,004	17,542	675	2,041	13,384	17,377	526	12,423	66,973	63,882	-	3,091	79,974	95,101	-	-	-	7,526,343	265,040	4,096
Period 2b Additional Costs																					
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	108	-	74	132	-	298	-	156	768	768	-	-	-	684	-	-	-	41,053	133	-
2b.3.2	Process decommissioning chemical flush waste	2	-	90	296	-	677	-	224	1,289	1,289	-	-	-	875	-	-	-	93,252	164	-
2b.3.3	Small tool allowance	-	315	-	-	-	-	-	47	362	362	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	6,924	1,039	7,963	-	7,963	-	-	-	-	-	-	-	-	-
2b.3.5	Retention and Severance	-	-	-	-	-	-	6,141	921	7,063	7,063	-	-	-	-	-	-	-	-	-	-
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-
2b.3.7	On-site survey and release of 0.0 tons clean metallic waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	110	315	164	428	-	975	14,414	2,387	18,793	9,482	9,311	-	-	1,559	-	-	-	134,305	297	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	511	-	-	-	-	-	-	128	639	639	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	3,435	344	3,779	3,779	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,140	-	-	-	-	-	535	2,675	2,675	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	70	28	-	290	-	84	472	472	-	-	-	3,521	-	-	-	70,425	115	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	638	64	701	701	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	10,738	1,611	12,348	12,348	-	-	-	-	-	-	-	-	-	121,244
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	13,928	2,089	16,017	16,017	-	-	-	-	-	-	-	-	-	225,649
2b.4	Subtotal Period 2b Period-Dependent Costs	511	4,914	70	28	-	290	44,145	7,454	57,412	54,612	2,800	-	-	3,521	-	-	-	70,425	115	468,137
2b.0	TOTAL PERIOD 2b COST	3,626	23,946	920	2,533	13,990	18,642	63,658	23,341	150,657	135,455	12,111	3,091	85,854	100,182	-	-	-	7,878,073	272,879	472,233
PERIOD 2c - Spent fuel delay prior to SFP decon																					
Period 2c Direct Decommissioning Activities																					
Period 2c Collateral Costs																					
2c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	51,274	7,691	58,965	-	58,965	-	-	-	-	-	-	-	-	-
2c.3.2	Retention and Severance	-	-	-	-	-	-	3,512	527	4,039	4,039	-	-	-	-	-	-	-	-	-	-
2c.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,526	-	1,526	-	1,526	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	56,312	8,218	64,530	4,039	60,491	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	592	59	651	651	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	3,512	351	3,863	3,863	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	263	-	-	-	-	-	66	328	328	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	9	4	-	38	-	11	61	61	-	-	-	457	-	-	-	9,141	15	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	1,486	223	1,709	1,709	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	687	69	756	756	-	-	-	-	-	-	-	-	-	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2c Period-Dependent Costs (continued)																					
2c.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,271	227	2,498	-	2,498	-	-	-	-	-	-	-	-	-
2c.4.8	Fixed Overhead	-	-	-	-	-	-	1,454	218	1,672	1,672	-	-	-	-	-	-	-	-	-	-
2c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	516	77	593	-	593	-	-	-	-	-	-	-	-	-
2c.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	260	39	298	298	-	-	-	-	-	-	-	-	-	-
2c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	68	10	79	-	79	-	-	-	-	-	-	-	-	-
2c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	76	11	88	88	-	-	-	-	-	-	-	-	-	-
2c.4.13	Security Staff Cost	-	-	-	-	-	-	9,348	1,402	10,751	10,751	-	-	-	-	-	-	-	-	-	137,246
2c.4.14	Utility Staff Cost	-	-	-	-	-	-	1,195	179	1,375	1,375	-	-	-	-	-	-	-	-	-	19,062
2c.4	Subtotal Period 2c Period-Dependent Costs	-	263	9	4	-	38	21,465	2,943	24,721	21,552	3,170	-	-	457	-	-	-	9,141	15	156,308
2c.0	TOTAL PERIOD 2c COST	-	263	9	4	-	38	77,777	11,161	89,252	25,591	63,661	-	-	457	-	-	-	9,141	15	156,308
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	152	2	5	103	8	-	56	325	325	-	-	615	23	-	-	-	26,449	2,077	-
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-
2d.1.2.3	HVAC - Contaminated - Fuel Pool	-	160	4	11	234	18	-	82	508	508	-	-	1,398	53	-	-	-	60,110	2,157	-
2d.1.2.4	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
2d.1.2.5	Spent Fuel Pool Cooling	303	357	34	32	135	450	-	382	1,693	1,693	-	-	806	1,325	-	-	-	117,816	7,613	-
2d.1.2.6	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-
2d.1.2	Totals	303	1,721	52	96	1,554	476	-	954	5,157	5,157	-	-	9,290	1,401	-	-	-	467,176	25,468	-
2d.1.4	Scaffolding in support of decommissioning	-	233	1	0	6	1	-	59	301	301	-	-	35	3	-	-	-	1,746	1,592	-
2d.1	Subtotal Period 2d Activity Costs	650	1,989	139	138	1,561	1,180	-	1,386	7,042	7,042	-	-	9,325	3,496	-	-	-	601,841	27,637	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	30	-	21	38	-	86	-	44	220	220	-	-	-	197	-	-	-	11,793	38	-
2d.3.2	Process decommissioning chemical flush waste	1	-	34	110	-	251	-	83	478	478	-	-	-	324	-	-	-	34,576	61	-
2d.3.3	Small tool allowance	-	37	-	-	-	-	-	6	42	42	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
2d.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	31	37	185	215	1,112	514	975	367	3,437	2,462	975	-	6,000	1,050	-	-	-	349,977	246	-
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	59	-	-	-	-	-	-	15	73	73	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	575	-	-	-	-	-	144	719	719	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	16	7	-	68	-	20	111	111	-	-	-	830	-	-	-	16,609	27	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	439	44	483	483	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681
2d.4	Subtotal Period 2d Period-Dependent Costs	59	2,582	16	7	-	68	25,896	4,220	32,848	30,323	2,525	-	-	830	-	-	-	16,609	27	281,377
2d.0	TOTAL PERIOD 2d COST	740	4,608	340	360	2,673	1,763	27,908	6,284	44,675	41,175	3,501	-	15,325	5,377	-	-	-	968,427	27,910	287,617

***Prairie Island Nuclear Generating Plant
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**Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
2f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
2f.4	Subtotal Period 2f Period-Dependent Costs	-	501	7	3	-	28	17,620	2,646	20,803	18,384	2,420	-	-	334	-	-	-	6,685	11	186,687
2f.0	TOTAL PERIOD 2f COST	-	501	7	3	-	28	23,183	3,845	27,566	24,212	3,354	-	-	334	-	-	-	6,685	40,542	189,807
PERIOD 2 TOTALS		5,134	58,338	20,860	7,153	22,473	41,926	284,307	84,964	525,155	429,593	89,987	5,576	138,734	144,239	237	673	-	13,198,890	527,156	1,927,726
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
3b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
3b.1.1.3	Structures below 3' below grade	-	1,651	-	-	-	-	-	248	1,899	-	-	1,899	-	-	-	-	-	-	8,411	-
3b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
3b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1	Totals	-	8,803	-	-	-	-	-	1,320	10,123	-	-	10,123	-	-	-	-	-	-	76,939	-
Site Closeout Activities																					
3b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
3b.1	Subtotal Period 3b Activity Costs	-	9,251	-	-	-	-	200	1,418	10,869	231	-	10,639	-	-	-	-	-	-	77,859	1,560
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
3b.2.2	Intake Strucutre Cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-
3b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-
3b.2	Subtotal Period 3b Additional Costs	-	5,875	-	-	-	-	15	883	6,773	-	-	6,773	-	-	-	-	-	-	16,458	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	-	-
3b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	120	-	-	-	-	2,649	18	2,787	-	2,649	138	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-

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**Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and																			
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor																			
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours																			
Period 3b Period-Dependent Costs (continued)																																								
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-																			
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-																			
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-																			
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-																			
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-																			
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-																			
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-																			
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340																			
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885																			
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,004	751	5,755	-	1,237	4,517	-	-	-	-	-	-	-	74,431																			
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,444	4,935	39,523	1,114	13,117	25,292	-	-	-	-	-	-	-	248,656																			
3b.0	TOTAL PERIOD 3b COST	-	22,390	-	-	-	-	30,308	7,255	59,952	1,345	15,766	42,842	-	-	-	-	-	-	94,317	250,216																			
PERIOD 3c - Fuel Storage Operations/Shipping																																								
Period 3c Direct Decommissioning Activities																																								
Period 3c Collateral Costs																																								
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	18,191	2,729	20,919	-	20,919	-	-	-	-	-	-	-	-	-																			
3c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	44,363	-	44,363	-	44,363	-	-	-	-	-	-	-	-	-																			
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	62,554	2,729	65,283	-	65,283	-	-	-	-	-	-	-	-	-																			
Period 3c Period-Dependent Costs																																								
3c.4.1	Insurance	-	-	-	-	-	-	8,599	860	9,459	-	9,459	-	-	-	-	-	-	-	-	-																			
3c.4.2	Property taxes	-	-	-	-	-	-	49,245	4,924	54,169	-	54,169	-	-	-	-	-	-	-	-	-																			
3c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																			
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	5,140	514	5,653	-	5,653	-	-	-	-	-	-	-	-	-																			
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	2,633	263	2,896	-	2,896	-	-	-	-	-	-	-	-	-																			
3c.4.6	Fixed Overhead	-	-	-	-	-	-	5,787	868	6,655	-	6,655	-	-	-	-	-	-	-	-	-																			
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	1,988	298	2,286	-	2,286	-	-	-	-	-	-	-	-	-																			
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	2,220	333	2,554	-	2,554	-	-	-	-	-	-	-	-	-																			
3c.4.9	Security Staff Cost	-	-	-	-	-	-	77,306	11,596	88,902	-	88,902	-	-	-	-	-	-	-	-	960,328																			
3c.4.10	Utility Staff Cost	-	-	-	-	-	-	18,035	2,705	20,740	-	20,740	-	-	-	-	-	-	-	-	249,316																			
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	170,952	22,362	193,314	-	193,314	-	-	-	-	-	-	-	-	1,209,643																			
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	233,506	25,091	258,597	-	258,597	-	-	-	-	-	-	-	-	1,209,643																			
PERIOD 3d - GTCC shipping																																								
Period 3d Direct Decommissioning Activities																																								
Nuclear Steam Supply System Removal																																								
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-																			
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-																			
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-																			
Period 3d Collateral Costs																																								
3d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-																			
3d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-																			
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-																			
Period 3d Period-Dependent Costs																																								
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-																			
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-																			
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-																			
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-																			
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-																			
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-																			
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	-	1,037																			
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269																			
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	-	1,306																			
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	256	1,691	12,071	11,984	87	-	-	-	-	-	1,773	344,823	-	1,306																			

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**Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Craft	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.	Manhours	Manhours
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	License Termination ISFSI	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
3e.2	Subtotal Period 3e Additional Costs	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
3e.0	TOTAL PERIOD 3e COST	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
3f.2	Subtotal Period 3f Additional Costs	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
3f.0	TOTAL PERIOD 3f COST	-	577	-	-	-	-	284	128	989	-	-	989	-	-	-	-	-	-	2,219	2,156
PERIOD 3 TOTALS		-	22,992	1,525	435	-	11,212	265,729	35,276	337,169	18,889	274,449	43,831	-	9,355	-	-	1,773	1,468,280	100,298	1,468,781
TOTAL COST TO DECOMMISSION		8,929	87,309	22,838	8,068	22,651	58,542	668,385	141,143	1,017,865	595,962	370,904	50,998	144,866	167,555	826	673	1,773	15,277,230	672,967	4,397,236

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Table D-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site	LLRW	Other Costs	Total Contingency	Total Costs	NRC	Spent Fuel	Site	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
						Processing Costs	Disposal Costs				Lic. Term. Costs	Management Costs	Restoration Costs		Class A	Class B	Class C	GTCC			
TOTAL COST TO DECOMMISSION WITH 16.1% CONTINGENCY:					\$1,017,865	thousands of 2020 dollars															
TOTAL NRC LICENSE TERMINATION COST IS 58.55% OR:					\$595,962	thousands of 2020 dollars															
SPENT FUEL MANAGEMENT COST IS 36.44% OR:					\$370,904	thousands of 2020 dollars															
NON-NUCLEAR DEMOLITION COST IS 5.01% OR:					\$50,998	thousands of 2020 dollars															
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					169,054	Cubic Feet															
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773	Cubic Feet															
TOTAL SCRAP METAL REMOVED:					32,925	Tons															
TOTAL CRAFT LABOR REQUIREMENTS:					672,967	Man-hours															

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.10	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.12	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.13	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.14	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
1a.1.16	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	270	41	311	280	-	31	-	-	-	-	-	-	-	2,104
1a.1.17.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.4	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,036
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
1a.1.17.6	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.7	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
1a.1.17.9	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.10	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
1a.1.17.12	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
1a.1.17	Total	-	-	-	-	-	-	2,079	312	2,391	2,105	-	286	-	-	-	-	-	-	-	16,175
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	10,195	1,529	11,724	11,439	-	286	-	-	-	-	-	-	-	33,420
Period 1a Additional Costs																					
1a.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1a.2	Subtotal Period 1a Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	578	-	-	-	-	-	144	722	722	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	11	5	-	47	-	13	76	76	-	-	-	565	-	-	-	11,299	18	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	638	64	702	702	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1a Period-Dependent Costs (continued)																					
1a.4.1.2	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.1.3	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.1.4	Utility Staff Cost	-	-	-	-	-	-	21,681	3,252	24,933	24,933	-	-	-	-	-	-	-	-	-	345,280
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,331	11	5	-	47	41,706	6,122	49,221	46,279	2,942	-	-	565	-	-	-	11,299	18	468,000
1a.0	TOTAL PERIOD 1a COST	-	1,331	11	5	-	47	71,324	10,377	83,095	77,089	5,720	286	-	565	-	-	-	11,299	18	501,420
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.3	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552
1b.1.1.9	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513
1b.1.1.10	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192
1b.1.1.11	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
1b.1.1.12	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428
1b.1.1.14	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
1b.1.1.15	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
1b.1.1.17	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
1b.1.1	Total	-	-	-	-	-	-	1,827	274	2,101	1,706	-	395	-	-	-	-	-	-	-	14,215
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	1,827	560	2,959	2,564	-	395	-	-	-	-	-	-	1,067	14,215
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	9,127	30	-
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	62,689	110	-
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	399	60	459	-	459	-	-	-	-	-	-	-	-	-
1b.3.9	Retention and Severance	-	-	-	-	-	-	4,017	603	4,620	4,620	-	-	-	-	-	-	-	-	-	-
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	6,303	2,555	17,540	16,458	1,082	-	-	152	588	-	-	71,815	140	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,713	171	1,884	1,884	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	449	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,473	11	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	196	20	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours
Period 1b Period-Dependent Costs (continued)																					
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	-	61,192
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	4,182	627	4,810	4,810	-	-	-	-	-	-	-	-	-	46,672
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	10,811	1,622	12,432	12,432	-	-	-	-	-	-	-	-	-	172,167
1b.4	Subtotal Period 1b Period-Dependent Costs	38	825	6	3	-	27	25,571	3,830	30,299	28,832	1,467	-	-	324	-	-	-	6,473	11	280,031
1b.0	TOTAL PERIOD 1b COST	3,795	4,586	440	475	178	5,351	35,206	8,470	58,501	55,557	2,549	395	6,132	13,319	588	-	-	597,225	33,460	297,808
PERIOD 1 TOTALS		3,795	5,917	451	479	178	5,398	106,531	18,847	141,595	132,646	8,269	681	6,132	13,884	588	-	-	608,524	33,478	799,228
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	35,411	1,421	-
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	23,594	630	-
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	295,800	2,049	100
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	185,015	1,666	938
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	1,689,435	11,613	2,875
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	177,400	8,104	-
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	164,987	25,123	1,163
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	576,524	25,123	1,163
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	3,148,166	75,729	6,240
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	203,265	4,667	-
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	271,824	39,151	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
2a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	1,309	-
2a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	65	-
2a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	8,963	-
Disposal of Plant Systems																					
2a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	90	-
2a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	422	-
2a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	676	-
2a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	7,214	486	-
2a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	1,331	-
2a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	9,761	468	-
2a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	261	-
2a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	634	31	-
2a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	401	-
2a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	7,537	-
2a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	2,987	-
2a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	19,616	493	-
2a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	143	-
2a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	385	-
2a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	29,284	938	-
2a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	1,840	-
2a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	168,414	3,377	-
2a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	504	-
2a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	5,638	-
2a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	86	-
2a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	100	12	-
2a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	366	-
2a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	1,482	-
2a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	209,799	5,146	-
2a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	490	82	-
2a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	32	-
2a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	966	47	-
2a.1.5.29	Steam Generator Blowdown	-	416	21	27	319	215	-	212	1,210	1,210	-	-	1,906	631	-	-	-	118,130	5,778	-
2a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
2a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	5,472	-
2a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	757	-
2a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	6,677	-
2a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	4,652	252	-
2a.1.5	Totals	-	3,817	43	108	2,177	215	-	1,100	7,461	4,528	-	2,933	13,010	631	-	-	-	569,060	54,280	-
2a.1.6	Scaffolding in support of decommissioning	-	3,020	22	10	188	30	-	794	4,064	4,064	-	-	1,012	89	-	-	-	51,216	26,270	-
2a.1	Subtotal Period 2a Activity Costs	613	25,702	19,110	3,959	6,005	19,635	614	25,745	101,384	98,450	-	2,933	38,625	33,556	125	673	-	4,243,531	209,060	6,240
Period 2a Additional Costs																					
2a.2.1	Retired RPV Upper Internals Package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	49	-	33	60	-	134	-	70	347	347	-	-	-	308	-	-	-	18,487	60	-
2a.3.2	Process decommissioning chemical flush waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2a.3.3	Small tool allowance	-	269	-	-	-	-	-	40	309	278	-	31	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	8,593	1,289	9,882	-	9,882	-	-	-	-	-	-	-	-	-
2a.3.5	Retention and Severance	-	-	-	-	-	-	8,215	1,232	9,447	9,447	-	-	-	-	-	-	-	-	-	-
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	49	269	33	60	-	134	18,588	2,632	21,765	10,072	11,662	31	-	308	-	-	-	18,487	60	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	4,548	455	5,002	5,002	-	-	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	2,103	-	-	-	-	-	526	2,629	2,629	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	86	35	-	358	-	103	582	582	-	-	-	4,345	-	-	-	86,891	142	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	526	53	578	578	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	-
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	-
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	-
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	-
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	-
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	-
2a.4.15	Security Staff Cost	-	-	-	-	-	-	10,900	1,635	12,534	12,534	-	-	-	-	-	-	-	-	-	160,018
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	-	225,210
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	27,056	4,058	31,115	31,115	-	-	-	-	-	-	-	-	-	419,049
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,668	86	35	-	358	73,514	11,797	91,565	87,870	3,696	-	-	4,345	-	-	-	86,891	142	804,276
2a.0	TOTAL PERIOD 2a COST	770	31,895	19,616	4,270	6,005	21,522	92,716	41,215	218,009	199,687	15,358	2,964	38,625	38,584	237	673	-	4,399,073	212,595	810,649
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	ADT & Misc Ventilation	-	25	1	1	26	3	-	11	66	66	-	-	153	9	-	-	-	6,803	363	-
2b.1.1.2	Aux Bldg Normal Ventilation	-	69	2	6	116	13	-	39	246	246	-	-	692	39	-	-	-	30,595	1,013	-
2b.1.1.3	Aux Bldg Special Ventilation	-	14	0	1	12	2	-	6	34	34	-	-	70	6	-	-	-	3,234	197	-
2b.1.1.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	24	-
2b.1.1.5	Boron Recycle	0	4	0	0	0	3	-	2	10	10	-	-	3	9	-	-	-	700	50	-
2b.1.1.6	Chemical & Volume Control	749	942	62	57	394	677	-	853	3,736	3,736	-	-	2,356	1,977	-	-	-	223,753	23,197	-
2b.1.1.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
2b.1.1.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	487,169	8,583	-
2b.1.1.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	502	-
2b.1.1.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	111,390	3,949	-
2b.1.1.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	5,742	494	-
2b.1.1.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	59,019	2,617	-
2b.1.1.13	Containment Ventilation	-	235	23	49	790	243	-	248	1,587	1,587	-	-	4,721	722	-	-	-	237,643	3,375	-
2b.1.1.14	Control/Relay/Cmptr Rm Vent	-	31	1	2	44	7	-	17	102	102	-	-	260	20	-	-	-	11,878	454	-
2b.1.1.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	2,344	-
2b.1.1.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	342,822	6,311	-
2b.1.1.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	4,184	48	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
2b.1.1.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
2b.1.1.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
2b.1.1.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2b.1.1.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
2b.1.1.22	Electrical - Contaminated	-	475	5	16	334	25	-	178	1,034	1,034	-	-	1,997	75	-	-	-	85,887	6,503	-
2b.1.1.23	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
2b.1.1.24	Filter Rm Ventilation	-	5	0	0	4	0	-	2	11	11	-	-	24	1	-	-	-	1,017	69	-
2b.1.1.25	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
2b.1.1.26	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
2b.1.1.27	Fuel Handling	-	74	1	2	34	17	-	28	156	156	-	-	200	49	-	-	-	11,273	1,101	-
2b.1.1.28	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
2b.1.1.29	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
2b.1.1.30	HVAC - Contaminated	-	1,231	29	87	1,798	136	-	627	3,908	3,908	-	-	10,745	405	-	-	-	462,103	16,579	-
2b.1.1.31	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
2b.1.1.32	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
2b.1.1.33	Hot Lab & Sample Rm Ventilation	-	20	0	1	18	1	-	8	48	48	-	-	107	4	-	-	-	4,622	285	-
2b.1.1.34	Incore Instrumentation	0	30	1	2	10	20	-	14	77	77	-	-	60	58	-	-	-	6,143	458	-
2b.1.1.35	Misc Drains & Vents	-	234	12	12	77	145	-	109	590	590	-	-	458	426	-	-	-	46,079	3,180	-
2b.1.1.36	Misc Lab & Service Areas Vent	-	129	8	8	62	84	-	65	356	356	-	-	370	244	-	-	-	30,899	1,713	-
2b.1.1.37	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
2b.1.1.38	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
2b.1.1.39	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
2b.1.1.40	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
2b.1.1.41	Reactor Coolant	163	236	20	16	38	249	-	213	937	937	-	-	229	730	-	-	-	56,440	5,517	-
2b.1.1.42	Reactor Hot Sampling	140	126	11	7	9	108	-	132	533	533	-	-	54	312	-	-	-	22,678	3,686	-
2b.1.1.43	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
2b.1.1.44	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
2b.1.1.45	Reactor Vessel	9	18	1	0	4	5	-	11	47	47	-	-	22	14	-	-	-	1,816	385	-
2b.1.1.46	Residual Heat Removal	348	393	84	86	477	1,102	-	641	3,132	3,132	-	-	2,853	3,244	-	-	-	324,232	7,112	-
2b.1.1.47	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2b.1.1.48	Safety Injection	-	874	42	72	1,117	395	-	500	3,000	3,000	-	-	6,676	1,161	-	-	-	345,708	12,284	-
2b.1.1.49	Sampling	-	52	3	2	6	32	-	23	119	119	-	-	37	93	-	-	-	7,628	714	-
2b.1.1.50	Service Bldg & New Cmptr Vent	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
2b.1.1.51	Shield Bldg Ventilation	-	120	13	25	339	163	-	127	787	787	-	-	2,028	484	-	-	-	113,139	1,743	-
2b.1.1.52	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
2b.1.1.53	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
2b.1.1.54	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
2b.1.1.55	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
2b.1.1.56	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
2b.1.1.57	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
2b.1.1.58	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
2b.1.1.59	Waste Gas Disposal	553	479	43	45	410	464	-	585	2,581	2,581	-	-	2,453	1,358	-	-	-	187,339	14,308	-
2b.1.1.60	Waste Liquid Disposal	1,436	1,800	116	100	612	1,234	-	1,595	6,893	6,893	-	-	3,655	3,594	-	-	-	381,754	44,485	-
2b.1.1.61	Waste Solid Disposal	115	145	12	11	65	134	-	140	622	622	-	-	389	393	-	-	-	41,177	3,481	-
2b.1.1	Totals	3,515	16,542	596	980	15,220	5,264	-	9,399	51,516	48,072	-	3,444	90,963	15,429	-	-	-	4,689,210	270,390	-
2b.1.2	Scaffolding in support of decommissioning	-	3,775	27	13	235	37	-	993	5,081	5,081	-	-	1,265	112	-	-	-	64,020	32,837	-
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,808	240	1,236	373	13,625	-	4,981	24,479	24,479	-	-	2,230	83,434	-	-	-	3,633,771	50,962	-
2b.1.3.2	Auxiliary	1,292	422	23	117	177	648	-	960	3,639	3,639	-	-	1,060	6,118	-	-	-	332,495	23,821	-
2b.1.3.3	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3.4	Drum Transfer & Truck Loading Enclosure	18	9	1	3	3	14	-	16	63	63	-	-	19	135	-	-	-	7,118	369	-
2b.1.3.5	LLRW Storage Enclosure	123	54	3	17	6	96	-	103	403	403	-	-	38	920	-	-	-	44,971	2,426	-
2b.1.3.6	Radwaste	55	24	1	8	7	43	-	47	185	185	-	-	42	412	-	-	-	21,136	1,083	-
2b.1.3.7	Resin Disposal	16	12	1	3	14	14	-	17	76	76	-	-	83	124	-	-	-	9,271	383	-
2b.1.3	Totals	2,720	3,357	271	1,400	581	14,537	-	6,158	29,024	29,024	-	-	3,471	92,071	-	-	-	4,092,658	79,343	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
2b.1.5	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	6,235	23,674	895	2,393	16,035	19,839	225	16,584	85,879	82,435	-	3,444	95,700	107,611	-	-	-	8,845,887	382,570	1,751

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Decommissioning Cost Analysis**

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Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and																			
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor																			
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours																			
Period 2b Additional Costs																																								
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-																			
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-																			
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-																			
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-																			
Period 2b Collateral Costs																																								
2b.3.1	Process decommissioning water waste	166	-	113	203	-	456	-	239	1,176	1,176	-	-	-	1,047	-	-	-	62,844	204	-																			
2b.3.2	Process decommissioning chemical flush waste	3	-	119	390	-	893	-	295	1,699	1,699	-	-	-	1,154	-	-	-	122,948	216	-																			
2b.3.3	Small tool allowance	-	446	-	-	-	-	-	67	513	513	-	-	-	-	-	-	-	-	-	-																			
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	49,678	7,452	57,129	-	57,129	-	-	-	-	-	-	-	-	-																			
2b.3.5	Retention and Severance	-	-	-	-	-	-	2,839	426	3,265	3,265	-	-	-	-	-	-	-	-	-	-																			
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-																			
2b.3	Subtotal Period 2b Collateral Costs	169	446	232	592	-	1,349	53,866	8,478	65,132	6,654	58,478	-	-	2,201	-	-	-	185,792	420	-																			
Period 2b Period-Dependent Costs																																								
2b.4.1	Decon supplies	1,219	-	-	-	-	-	-	305	1,524	1,524	-	-	-	-	-	-	-	-	-	-																			
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-																			
2b.4.3	Property taxes	-	-	-	-	-	-	3,075	308	3,383	3,383	-	-	-	-	-	-	-	-	-	-																			
2b.4.4	Health physics supplies	-	2,866	-	-	-	-	-	716	3,582	3,582	-	-	-	-	-	-	-	-	-	-																			
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-																			
2b.4.6	Disposal of DAW generated	-	-	103	42	-	429	-	124	698	698	-	-	-	5,209	-	-	-	104,172	170	-																			
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-																			
2b.4.8	NRC Fees	-	-	-	-	-	-	398	40	438	438	-	-	-	-	-	-	-	-	-	-																			
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-																			
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-																			
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-																			
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-																			
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-																			
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-																			
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-																			
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244																			
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	15,117	2,268	17,385	17,385	-	-	-	-	-	-	-	-	-	163,904																			
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	19,642	2,946	22,588	22,588	-	-	-	-	-	-	-	-	-	304,233																			
2b.4	Subtotal Period 2b Period-Dependent Costs	1,219	5,640	103	42	-	429	53,639	9,307	70,380	67,579	2,800	-	-	5,209	-	-	-	104,172	170	589,381																			
2b.0	TOTAL PERIOD 2b COST	7,623	30,935	1,242	3,063	16,641	21,617	112,303	35,446	228,869	164,147	61,278	3,444	101,580	115,021	-	-	-	9,282,851	390,587	591,132																			
PERIOD 2d - Decontamination Following Wet Fuel Storage																																								
Period 2d Direct Decommissioning Activities																																								
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-																			
Disposal of Plant Systems																																								
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	203	2	7	145	11	-	77	445	445	-	-	864	33	-	-	-	37,167	2,783	-																			
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-																			
2d.1.2.3	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-																			
2d.1.2.4	HVAC - Contaminated - Fuel Pool	-	553	13	39	808	61	-	282	1,756	1,756	-	-	4,828	182	-	-	-	207,612	7,448	-																			
2d.1.2.5	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-																			
2d.1.2.6	Spent Fuel Pool Cooling	32	36	3	2	6	37	-	36	152	152	-	-	39	107	-	-	-	8,481	882	-																			
2d.1.2.7	Spent Fuel Pool Normal Ventilation	-	27	1	2	44	4	-	15	93	93	-	-	265	12	-	-	-	11,505	394	-																			
2d.1.2	Totals	32	2,130	36	112	2,405	113	-	958	5,786	5,786	-	-	14,376	333	-	-	-	605,100	28,530	-																			
Decontamination of Site Buildings																																								
2d.1.3.1	Fuel Handling of Aux Building	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-																			
2d.1.3	Totals	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-																			
2d.1.4	Scaffolding in support of decommissioning	-	755	5	3	47	7	-	199	1,016	1,016	-	-	253	22	-	-	-	12,804	6,567	-																			
2d.1	Subtotal Period 2d Activity Costs	1,408	4,058	141	202	2,857	1,018	-	2,445	12,128	12,128	-	-	17,046	4,099	-	-	-	928,579	66,078	-																			
Period 2d Additional Costs																																								
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240																			
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240																			

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Decommissioning Cost Analysis***

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and																			
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor																			
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours																			
Period 2d Collateral Costs																																								
2d.3.1	Process decommissioning water waste	45	-	31	56	-	126	-	65	323	323	-	-	-	288	-	-	-	-	17,293	56	-																		
2d.3.2	Process decommissioning chemical flush waste	0	-	1	5	-	10	-	3	20	20	-	-	-	13	-	-	-	-	1,422	2	-																		
2d.3.3	Small tool allowance	-	83	-	-	-	-	-	12	95	95	-	-	-	-	-	-	-	-	-	-	-																		
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	-	303,608	147	-																		
2d.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-	-																		
2d.3	Subtotal Period 2d Collateral Costs	45	83	162	128	1,112	314	975	316	3,135	2,160	975	-	6,000	831	-	-	-	-	322,324	206	-																		
Period 2d Period-Dependent Costs																																								
2d.4.1	Decon supplies	236	-	-	-	-	-	-	59	295	295	-	-	-	-	-	-	-	-	-	-	-																		
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-																			
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-																			
2d.4.4	Health physics supplies	-	794	-	-	-	-	-	198	992	992	-	-	-	-	-	-	-	-	-	-																			
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-																			
2d.4.6	Disposal of DAW generated	-	-	40	16	-	165	-	48	268	268	-	-	-	2,002	-	-	-	-	40,031	65																			
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-																			
2d.4.8	NRC Fees	-	-	-	-	-	-	277	28	305	305	-	-	-	-	-	-	-	-	-	-																			
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-																			
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-																			
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-																			
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-																			
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-																			
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-																			
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454																			
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243																			
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681																			
2d.4	Subtotal Period 2d Period-Dependent Costs	236	2,801	40	16	-	165	25,734	4,330	33,321	30,796	2,525	-	-	2,002	-	-	-	-	40,031	65	281,377																		
2d.0	TOTAL PERIOD 2d COST	1,689	6,941	343	346	3,969	1,496	27,746	7,403	49,932	46,432	3,501	-	23,046	6,931	-	-	-	-	1,290,933	66,348	287,617																		
PERIOD 2f - License Termination																																								
Period 2f Direct Decommissioning Activities																																								
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-																			
2f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-																			
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-																			
Period 2f Additional Costs																																								
2f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	-	100,895																			
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	-	100,895																			
Period 2f Collateral Costs																																								
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-																			
2f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-																			
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-																			
Period 2f Period-Dependent Costs																																								
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-																			
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-																			
2f.4.3	Health physics supplies	-	710	-	-	-	-	-	178	888	888	-	-	-	-	-	-	-	-	-	-																			
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	-	6,685	11																			
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-																			
2f.4.6	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	-																			
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-																			
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-																			
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-																			
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-																			
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898																			
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283																			
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507																			
2f.4	Subtotal Period 2f Period-Dependent Costs	-	710	7	3	-	28	17,461	2,682	20,890	18,470	2,420	-	-	334	-	-	-	-	6,685	11	186,687																		
2f.0	TOTAL PERIOD 2f COST	-	710	7	3	-	28	26,867	5,034	32,648	29,294	3,354	-	-	334	-	-	-	-	6,685	100,906	189,807																		
PERIOD 2 TOTALS		10,081	70,482	21,208	7,682	26,615	44,663	259,631	89,097	529,458	439,560	83,490	6,408	163,252	160,871	237	673	-	-	14,979,540	770,436	1,879,206																		

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	44,679	-
3b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	11,902	-
3b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	33	-
3b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	1,405	-
3b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	84	-
3b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	221	-
3b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	47	-
3b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	853	-
3b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	22,582	-
3b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	1,400	-
3b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	120	-
3b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
3b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	35	-
3b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	21,997	-
3b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	213	-
3b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	56	-
3b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	70	-
3b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	2,690	-
3b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	8,240	-
3b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	127,723	-
Site Closeout Activities																					
3b.1.2	Remove Rubble	-	1,330	-	-	-	-	-	200	1,530	-	-	1,530	-	-	-	-	-	-	6,495	-
3b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	667
3b.1	Subtotal Period 3b Activity Costs	-	17,279	-	-	-	-	86	2,605	19,969	99	-	19,871	-	-	-	-	-	-	135,138	667
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	18,372	-
3b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	3,552	-
3b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	9,327	-
3b.2	Subtotal Period 3b Additional Costs	-	14,610	-	-	-	-	2,160	2,516	19,286	-	-	19,286	-	-	-	-	-	-	31,251	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	212	-	-	-	-	-	32	244	-	-	244	-	-	-	-	-	-	-	-
3b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	212	-	-	-	-	2,649	32	2,892	-	2,649	244	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,004	751	5,755	-	1,237	4,517	-	-	-	-	-	-	-	74,431
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,444	4,935	39,523	1,114	13,117	25,292	-	-	-	-	-	-	-	248,656
3b.0	TOTAL PERIOD 3b COST	-	39,245	-	-	-	-	32,338	10,087	81,671	1,213	15,766	64,692	-	-	-	-	-	-	166,388	249,323

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Direct Decommissioning Activities																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	18,191	2,729	20,919	-	20,919	-	-	-	-	-	-	-	-	-
3c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	44,363	-	44,363	-	44,363	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	62,554	2,729	65,283	-	65,283	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	8,599	860	9,459	-	9,459	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	49,245	4,924	54,169	-	54,169	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	5,140	514	5,653	-	5,653	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	2,633	263	2,896	-	2,896	-	-	-	-	-	-	-	-	-
3c.4.6	Fixed Overhead	-	-	-	-	-	-	5,787	868	6,655	-	6,655	-	-	-	-	-	-	-	-	-
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	1,988	298	2,286	-	2,286	-	-	-	-	-	-	-	-	-
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	2,220	333	2,554	-	2,554	-	-	-	-	-	-	-	-	-
3c.4.9	Security Staff Cost	-	-	-	-	-	-	77,306	11,596	88,902	-	88,902	-	-	-	-	-	-	-	-	960,328
3c.4.10	Utility Staff Cost	-	-	-	-	-	-	18,035	2,705	20,740	-	20,740	-	-	-	-	-	-	-	-	249,316
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	170,952	22,362	193,314	-	193,314	-	-	-	-	-	-	-	-	1,209,643
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	233,506	25,091	258,597	-	258,597	-	-	-	-	-	-	-	-	1,209,643
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 3d Collateral Costs																					
3d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
3d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	-	1,037
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	-	1,306
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	256	1,691	12,071	11,984	87	-	-	-	-	-	1,773	344,823	-	1,306
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	License Termination ISFSI	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
3e.2	Subtotal Period 3e Additional Costs	-	24	81	435	-	2,532	839	978	4,890	4,890	-	-	-	9,355	-	-	-	1,123,457	3,762	1,065
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396

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**Table D-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3e.0	TOTAL PERIOD 3e COST	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
3f.2	Subtotal Period 3f Additional Costs	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
3f.0	TOTAL PERIOD 3f COST	-	577	-	-	-	-	284	128	989	-	-	989	-	-	-	-	-	-	2,219	2,156
PERIOD 3 TOTALS		-	39,847	1,525	435	-	11,212	267,760	38,109	358,887	18,757	274,449	65,681	-	9,355	-	-	1,773	1,468,280	172,370	1,467,888
TOTAL COST TO DECOMMISSION		13,876	116,246	23,184	8,596	26,793	61,273	633,922	146,053	1,029,941	590,962	366,208	72,770	169,384	184,110	826	673	1,773	17,056,350	976,284	4,146,322
TOTAL COST TO DECOMMISSION WITH 16.52% CONTINGENCY:					\$1,029,941	thousands of 2020 dollars															
TOTAL NRC LICENSE TERMINATION COST IS 57.38% OR:					\$590,962	thousands of 2020 dollars															
SPENT FUEL MANAGEMENT COST IS 35.56% OR:					\$366,208	thousands of 2020 dollars															
NON-NUCLEAR DEMOLITION COST IS 7.07% OR:					\$72,770	thousands of 2020 dollars															
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					185,608	Cubic Feet															
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773	Cubic Feet															
TOTAL SCRAP METAL REMOVED:					42,328	Tons															
TOTAL CRAFT LABOR REQUIREMENTS:					976,284	Man-hours															

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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APPENDIX E
DETAILED COST ANALYSIS
SCENARIO 3: DECON with 100 Year DFS

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**Table E-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	77,325	11,263	90,022	85,163	4,191	668	-	610	-	-	-	12,190	20	623,117
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	-	4,733
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.3	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	2,500
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	-	1,350
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	-	3,630
1b.1.1.9	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	-	1,200
1b.1.1.10	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	-	450
1b.1.1.11	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
1b.1.1.12	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	-	1,000
1b.1.1.14	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
1b.1.1.15	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
1b.1.1.17	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
1b.1.1	Total	-	-	-	-	-	-	4,272	641	4,913	3,989	-	924	-	-	-	-	-	-	-	33,243
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	4,272	927	5,772	4,848	-	924	-	-	-	-	-	-	1,067	33,243
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	21,020	8,332
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	702	-	-	351,977	2,348	-
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	518,936	44,275	8,332
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	9,127	30	-
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	62,689	110	-
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-
1b.3.9	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	3,082	2,072	13,836	13,025	811	-	-	152	588	-	-	71,815	140	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,806	181	1,987	1,987	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	475	-	-	-	-	-	119	594	594	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	7	3	-	29	-	8	48	48	-	-	-	356	-	-	-	7,122	12	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	323	32	355	355	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	-	61,192
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	5,846	877	6,723	6,723	-	-	-	-	-	-	-	-	-	63,266
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	13,505	2,026	15,531	15,531	-	-	-	-	-	-	-	-	-	211,579
1b.4	Subtotal Period 1b Period-Dependent Costs	38	851	7	3	-	29	30,149	4,513	35,590	34,123	1,467	-	-	356	-	-	-	7,122	12	336,037
1b.0	TOTAL PERIOD 1b COST	3,795	4,613	440	475	178	5,354	41,023	9,641	65,519	62,317	2,278	924	6,132	13,351	588	-	-	597,873	45,493	377,612

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table E-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1 TOTALS		3,795	5,980	452	480	178	5,404	118,348	20,903	155,540	147,480	6,468	1,592	6,132	13,961	588	-	-	610,063	45,513	1,000,729
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	35,411	1,421	-
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	23,594	630	-
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	295,800	2,049	100
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	185,015	1,666	938
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	1,689,435	11,613	2,875
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	177,400	8,104	-
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	164,987	25,123	1,163
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	576,524	25,123	1,163
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	3,148,166	75,729	6,240
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	203,265	4,667	-
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	271,824	39,151	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
2a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
2a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
2a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
2a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
2a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
2a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
2a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
2a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
2a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
2a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
2a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
2a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
2a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
2a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
2a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
2a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
2a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
2a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
2a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
2a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
2a.1.5.21	Steam Generator Blowdown	-	478	22	29	340	234	-	235	1,337	1,337	-	-	2,031	686	-	-	-	126,640	6,667	-
2a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-
2a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-
2a.1.5	Totals	-	3,445	44	108	2,144	234	-	1,048	7,023	4,565	-	2,458	12,815	686	-	-	-	564,572	48,794	-
2a.1.6	Scaffolding in support of decommissioning	-	930	3	1	26	4	-	238	1,202	1,202	-	-	138	12	-	-	-	6,985	6,368	-
2a.1	Subtotal Period 2a Activity Costs	613	23,011	19,092	3,950	5,810	19,628	614	25,102	97,819	95,362	-	2,458	37,556	33,533	125	673	-	4,194,811	182,298	6,240
Period 2a Additional Costs																					
2a.2.1	Retired RPV Upper Internals Package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	48	-	32	58	-	130	-	68	337	337	-	-	-	299	-	-	-	17,968	58	-
2a.3.3	Small tool allowance	-	239	-	-	-	-	-	36	274	247	-	27	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,639	246	1,885	-	1,885	-	-	-	-	-	-	-	-	-
2a.3.5	Retention and Severance	-	-	-	-	-	-	12,780	1,917	14,697	14,697	-	-	-	-	-	-	-	-	-	-
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-
2a.3.7	On-site survey and release of 0.0 tons clean metallic waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	48	239	32	58	-	130	16,198	2,267	18,972	15,281	3,664	27	-	299	-	-	-	17,968	58	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table E-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	5,009	501	5,510	5,510	-	-	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	1,950	-	-	-	-	-	487	2,437	2,437	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	73	30	-	303	-	88	493	493	-	-	-	3,681	-	-	-	73,619	120	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	842	84	926	926	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	-
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	-
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	-
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	-
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	-
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	-
2a.4.15	Security Staff Cost	-	-	-	-	-	-	11,727	1,759	13,486	13,486	-	-	-	-	-	-	-	-	-	172,726
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	-	225,210
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	26,905	4,036	30,941	30,941	-	-	-	-	-	-	-	-	-	417,453
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,515	73	30	-	303	74,968	11,922	92,918	89,223	3,696	-	-	3,681	-	-	-	73,619	120	815,389
2a.0	TOTAL PERIOD 2a COST	768	29,021	19,584	4,254	5,810	21,456	91,780	40,333	213,006	203,161	7,360	2,485	37,556	37,889	237	673	-	4,336,562	185,810	821,762
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	29	-
2b.1.1.2	Battery Rm Special Ventilation	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
2b.1.1.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-
2b.1.1.4	Chemical & Volume Control	1,120	1,389	89	90	753	973	-	1,286	5,700	5,700	-	-	4,498	2,846	-	-	-	366,565	34,533	-
2b.1.1.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-
2b.1.1.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-
2b.1.1.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-
2b.1.1.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-
2b.1.1.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-
2b.1.1.10	Containment Ventilation	-	255	24	51	828	248	-	260	1,667	1,667	-	-	4,951	737	-	-	-	247,952	3,668	-
2b.1.1.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-
2b.1.1.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-
2b.1.1.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-
2b.1.1.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-
2b.1.1.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-
2b.1.1.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-
2b.1.1.17	Electrical - Contaminated	-	611	7	20	423	32	-	228	1,321	1,321	-	-	2,527	95	-	-	-	108,690	8,377	-
2b.1.1.18	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-
2b.1.1.19	Fuel Handling	-	121	6	11	152	73	-	74	436	436	-	-	908	218	-	-	-	50,723	1,784	-
2b.1.1.20	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-
2b.1.1.21	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-
2b.1.1.22	HVAC - Contaminated	-	374	9	26	546	41	-	190	1,186	1,186	-	-	3,261	123	-	-	-	140,257	5,032	-
2b.1.1.23	Incore Instrumentation	0	28	1	2	10	19	-	14	74	74	-	-	60	57	-	-	-	6,058	425	-
2b.1.1.24	Misc Drains & Vents	-	233	15	13	65	176	-	115	618	618	-	-	390	514	-	-	-	49,062	3,091	-
2b.1.1.25	Reactor Coolant	153	311	21	18	58	265	-	234	1,060	1,060	-	-	344	777	-	-	-	64,085	6,470	-
2b.1.1.26	Reactor Hot Sampling	149	136	12	7	11	118	-	142	576	576	-	-	66	342	-	-	-	25,063	3,946	-
2b.1.1.27	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-
2b.1.1.28	Reactor Vessel	9	21	1	0	4	5	-	12	52	52	-	-	26	14	-	-	-	2,000	425	-
2b.1.1.29	Residual Heat Removal	357	419	85	86	484	1,105	-	654	3,190	3,190	-	-	2,895	3,252	-	-	-	326,425	7,621	-
2b.1.1.30	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-
2b.1.1.31	Safety Injection	-	893	42	73	1,136	393	-	507	3,044	3,044	-	-	6,788	1,156	-	-	-	349,908	12,561	-
2b.1.1.32	Sampling	-	60	4	3	10	37	-	26	140	140	-	-	59	107	-	-	-	9,420	811	-
2b.1.1.33	Shield Bldg Ventilation	-	140	14	26	360	165	-	135	839	839	-	-	2,152	491	-	-	-	118,583	2,030	-
2b.1.1.34	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-
2b.1.1.35	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-
2b.1.1.36	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-
2b.1.1.37	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-
2b.1.1.38	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-
2b.1.1	Totals	1,789	13,544	429	786	12,979	3,651	-	7,032	40,209	37,119	-	3,091	77,571	10,728	-	-	-	3,840,299	205,829	-
2b.1.2	Scaffolding in support of decommissioning	-	1,163	4	2	32	5	-	297	1,503	1,503	-	-	173	15	-	-	-	8,731	7,960	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table E-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,807	240	1,236	373	13,624	-	4,981	24,476	24,476	-	-	2,230	83,429	-	-	-	3,633,417	50,950	-
2b.1.3.2	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3	Totals	1,215	2,835	243	1,253	373	13,721	-	5,015	24,655	24,655	-	-	2,230	84,358	-	-	-	3,677,313	51,251	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096
2b.1.5	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	3,004	17,542	675	2,041	13,384	17,377	526	12,423	66,973	63,882	-	3,091	79,974	95,101	-	-	-	7,526,343	265,040	4,096
Period 2b Additional Costs																					
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	108	-	74	132	-	298	-	156	768	768	-	-	-	684	-	-	-	41,053	133	-
2b.3.2	Process decommissioning chemical flush waste	2	-	90	296	-	677	-	224	1,289	1,289	-	-	-	875	-	-	-	93,252	164	-
2b.3.3	Small tool allowance	-	315	-	-	-	-	-	47	362	362	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	10,782	1,617	12,400	-	12,400	-	-	-	-	-	-	-	-	-
2b.3.5	Retention and Severance	-	-	-	-	-	-	6,141	921	7,063	7,063	-	-	-	-	-	-	-	-	-	-
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	110	315	164	428	-	975	18,272	2,965	23,230	9,482	13,748	-	-	1,559	-	-	-	134,305	297	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	511	-	-	-	-	-	-	128	639	639	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	3,435	344	3,779	3,779	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,140	-	-	-	-	-	535	2,675	2,675	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	70	28	-	290	-	84	472	472	-	-	-	3,521	-	-	-	70,425	115	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	638	64	701	701	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	10,738	1,611	12,348	12,348	-	-	-	-	-	-	-	-	-	121,244
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	13,928	2,089	16,017	16,017	-	-	-	-	-	-	-	-	-	225,649
2b.4	Subtotal Period 2b Period-Dependent Costs	511	4,914	70	28	-	290	44,145	7,454	57,412	54,612	2,800	-	-	3,521	-	-	-	70,425	115	468,137
2b.0	TOTAL PERIOD 2b COST	3,626	23,946	920	2,533	13,990	18,642	67,516	23,920	155,093	135,455	16,548	3,091	85,854	100,182	-	-	-	7,878,073	272,879	472,233
PERIOD 2c - Spent fuel delay prior to SFP decon																					
Period 2c Direct Decommissioning Activities																					
Period 2c Collateral Costs																					
2c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	53,816	8,072	61,889	-	61,889	-	-	-	-	-	-	-	-	-
2c.3.2	Retention and Severance	-	-	-	-	-	-	3,512	527	4,039	4,039	-	-	-	-	-	-	-	-	-	-
2c.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,526	-	1,526	-	1,526	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	58,855	8,599	67,455	4,039	63,415	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	592	59	651	651	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	3,512	351	3,863	3,863	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	263	-	-	-	-	-	66	328	328	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	9	4	-	38	-	11	61	61	-	-	-	457	-	-	-	9,141	15	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	1,486	223	1,709	1,709	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	687	69	756	756	-	-	-	-	-	-	-	-	-	-
2c.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,271	227	2,498	-	2,498	-	-	-	-	-	-	-	-	-
2c.4.8	Fixed Overhead	-	-	-	-	-	-	1,454	218	1,672	1,672	-	-	-	-	-	-	-	-	-	-
2c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	516	77	593	-	593	-	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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Table E-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2c Period-Dependent Costs (continued)																					
2c.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	260	39	298	298	-	-	-	-	-	-	-	-	-	-
2c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	68	10	79	-	79	-	-	-	-	-	-	-	-	-
2c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	76	11	88	88	-	-	-	-	-	-	-	-	-	-
2c.4.13	Security Staff Cost	-	-	-	-	-	-	9,348	1,402	10,751	10,751	-	-	-	-	-	-	-	-	-	137,246
2c.4.14	Utility Staff Cost	-	-	-	-	-	-	1,195	179	1,375	1,375	-	-	-	-	-	-	-	-	-	19,062
2c.4	Subtotal Period 2c Period-Dependent Costs	-	263	9	4	-	38	21,465	2,943	24,721	21,552	3,170	-	-	457	-	-	-	9,141	15	156,308
2c.0	TOTAL PERIOD 2c COST	-	263	9	4	-	38	80,320	11,543	92,176	25,591	66,585	-	-	457	-	-	-	9,141	15	156,308
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	152	2	5	103	8	-	56	325	325	-	-	615	23	-	-	-	26,449	2,077	-
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-
2d.1.2.3	HVAC - Contaminated - Fuel Pool	-	160	4	11	234	18	-	82	508	508	-	-	1,398	53	-	-	-	60,110	2,157	-
2d.1.2.4	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
2d.1.2.5	Spent Fuel Pool Cooling	303	357	34	32	135	450	-	382	1,693	1,693	-	-	806	1,325	-	-	-	117,816	7,613	-
2d.1.2.6	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-
2d.1.2	Totals	303	1,721	52	96	1,554	476	-	954	5,157	5,157	-	-	9,290	1,401	-	-	-	467,176	25,468	-
2d.1.4	Scaffolding in support of decommissioning	-	233	1	0	6	1	-	59	301	301	-	-	35	3	-	-	-	1,746	1,592	-
2d.1	Subtotal Period 2d Activity Costs	650	1,989	139	138	1,561	1,180	-	1,386	7,042	7,042	-	-	9,325	3,496	-	-	-	601,841	27,637	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	30	-	21	38	-	86	-	44	220	220	-	-	-	197	-	-	-	11,793	38	-
2d.3.2	Process decommissioning chemical flush waste	1	-	34	110	-	251	-	83	478	478	-	-	-	324	-	-	-	34,576	61	-
2d.3.3	Small tool allowance	-	37	-	-	-	-	-	6	42	42	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
2d.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	31	37	185	215	1,112	514	975	367	3,437	2,462	975	-	6,000	1,050	-	-	-	349,977	246	-
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	59	-	-	-	-	-	-	15	73	73	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	575	-	-	-	-	-	144	719	719	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	16	7	-	68	-	20	111	111	-	-	-	830	-	-	-	16,609	27	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	439	44	483	483	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681
2d.4	Subtotal Period 2d Period-Dependent Costs	59	2,582	16	7	-	68	25,896	4,220	32,848	30,323	2,525	-	-	830	-	-	-	16,609	27	281,377
2d.0	TOTAL PERIOD 2d COST	740	4,608	340	360	2,673	1,763	27,908	6,284	44,675	41,175	3,501	-	15,325	5,377	-	-	-	968,427	27,910	287,617
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-

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**Table E-1
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(Thousands of 2020 Dollars)**

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															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
2f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	334	-	-	-	-	6,685	11	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
2f.4	Subtotal Period 2f Period-Dependent Costs	-	501	7	3	-	28	17,620	2,646	20,803	18,384	2,420	-	-	334	-	-	-	6,685	11	186,687
2f.0	TOTAL PERIOD 2f COST	-	501	7	3	-	28	23,183	3,845	27,566	24,212	3,354	-	-	334	-	-	-	6,685	40,542	189,807
PERIOD 2 TOTALS		5,134	58,338	20,860	7,153	22,473	41,926	290,708	85,924	532,517	429,593	97,348	5,576	138,734	144,239	237	673	-	13,198,890	527,156	1,927,726
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
3b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
3b.1.1.3	Structures below 3' below grade	-	1,651	-	-	-	-	-	248	1,899	-	-	1,899	-	-	-	-	-	-	8,411	-
3b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
3b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1	Totals	-	8,803	-	-	-	-	-	1,320	10,123	-	-	10,123	-	-	-	-	-	-	76,939	-
Site Closeout Activities																					
3b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
3b.1	Subtotal Period 3b Activity Costs	-	9,251	-	-	-	-	200	1,418	10,869	231	-	10,639	-	-	-	-	-	-	77,859	1,560
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
3b.2.2	Intake Structure cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-
3b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-
3b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	1,059,612	146	-
3b.2	Subtotal Period 3b Additional Costs	-	5,899	80	418	-	2,390	15	1,611	10,413	3,640	-	6,773	-	8,929	-	-	-	1,059,612	16,604	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	121	-	-	-	-	-	18	139	-	-	139	-	-	-	-	-	-	-	-
3b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	121	-	-	-	-	2,649	18	2,787	-	2,649	139	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table E-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3b Period-Dependent Costs (continued)																					
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,610	4,960	39,714	1,114	13,158	25,442	-	-	-	-	-	-	-	250,861
3b.0	TOTAL PERIOD 3b COST	-	22,414	80	418	-	2,390	30,474	8,008	63,784	4,985	15,807	42,993	-	8,929	-	-	-	1,059,612	94,463	252,421
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Direct Decommissioning Activities																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	270,755	40,613	311,368	-	311,368	-	-	-	-	-	-	-	-	-
3c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	94,360	-	94,360	-	94,360	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	365,115	40,613	405,728	-	405,728	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	18,290	1,829	20,119	-	20,119	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	104,580	10,458	115,038	-	115,038	-	-	-	-	-	-	-	-	-
3c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	9,306	931	10,237	-	10,237	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	5,600	560	6,160	-	6,160	-	-	-	-	-	-	-	-	-
3c.4.6	Fixed Overhead	-	-	-	-	-	-	12,308	1,846	14,155	-	14,155	-	-	-	-	-	-	-	-	-
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	4,228	634	4,862	-	4,862	-	-	-	-	-	-	-	-	-
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	4,723	708	5,431	-	5,431	-	-	-	-	-	-	-	-	-
3c.4.9	Security Staff Cost	-	-	-	-	-	-	164,428	24,664	189,092	-	189,092	-	-	-	-	-	-	-	-	2,042,594
3c.4.10	DOC Staff Cost	-	-	-	-	-	-	11,579	1,737	13,316	-	13,316	-	-	-	-	-	-	-	-	78,561
3c.4.11	Utility Staff Cost	-	-	-	-	-	-	71,292	10,694	81,986	-	81,986	-	-	-	-	-	-	-	-	1,040,937
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	406,334	54,061	460,395	-	460,395	-	-	-	-	-	-	-	-	3,162,093
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	771,448	94,674	866,123	-	866,123	-	-	-	-	-	-	-	-	3,162,093
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 3d Collateral Costs																					
3d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
3d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	-	1,037
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	-	1,306
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	256	1,691	12,071	11,984	87	-	-	-	-	-	1,773	344,823	-	1,306
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
3e.2	Subtotal Period 3e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161

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Decommissioning Cost Analysis**

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Table E-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
3e.0	TOTAL PERIOD 3e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
3f.2	Subtotal Period 3f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
3f.0	TOTAL PERIOD 3f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 3 TOTALS																					
		-	23,601	1,525	435	-	11,212	804,289	105,079	946,142	19,335	882,017	44,790	-	9,353	-	-	1,773	1,470,189	105,190	3,423,532
TOTAL COST TO DECOMMISSION		8,929	87,919	22,838	8,068	22,651	58,542	1,213,346	211,907	1,634,199	596,408	985,833	51,958	144,866	167,553	826	673	1,773	15,279,140	677,859	6,351,987

TOTAL COST TO DECOMMISSION WITH 14.9% CONTINGENCY:	\$1,634,199	thousands of 2020 dollars
TOTAL NRC LICENSE TERMINATION COST IS 36.5% OR:	\$596,408	thousands of 2020 dollars
SPENT FUEL MANAGEMENT COST IS 60.33% OR:	\$985,833	thousands of 2020 dollars
NON-NUCLEAR DEMOLITION COST IS 3.18% OR:	\$51,958	thousands of 2020 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	169,051	Cubic Feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	1,773	Cubic Feet
TOTAL SCRAP METAL REMOVED:	32,925	Tons
TOTAL CRAFT LABOR REQUIREMENTS:	677,859	Man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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**Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.10	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.12	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.13	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.14	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
1a.1.16	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	270	41	311	280	-	31	-	-	-	-	-	-	-	2,104
1a.1.17.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.4	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,036
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
1a.1.17.6	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.7	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
1a.1.17.9	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.10	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
1a.1.17.12	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
1a.1.17	Total	-	-	-	-	-	-	2,079	312	2,391	2,105	-	286	-	-	-	-	-	-	-	16,175
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	10,195	1,529	11,724	11,439	-	286	-	-	-	-	-	-	-	33,420
Period 1a Additional Costs																					
1a.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1a.2	Subtotal Period 1a Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	578	-	-	-	-	-	144	722	722	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	11	5	-	47	-	13	76	76	-	-	-	565	-	-	-	11,299	18	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	638	64	702	702	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet					
Period 1a Period-Dependent Costs (continued)																						
1a.4.1.2	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-	
1a.4.1.3	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720	
1a.4.1.4	Utility Staff Cost	-	-	-	-	-	-	21,681	3,252	24,933	24,933	-	-	-	-	-	-	-	-	-	345,280	
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,331	11	5	-	47	41,706	6,122	49,221	46,279	2,942	-	-	565	-	-	-	11,299	18	468,000	
1a.0	TOTAL PERIOD 1a COST	-	1,331	11	5	-	47	71,324	10,377	83,095	77,089	5,720	286	-	565	-	-	-	11,299	18	501,420	
PERIOD 1b - Decommissioning Preparations																						
Period 1b Direct Decommissioning Activities																						
Detailed Work Procedures																						
1b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024	
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428	
1b.1.1.3	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069	
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577	
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428	
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428	
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428	
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552	
1b.1.1.9	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513	
1b.1.1.10	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192	
1b.1.1.11	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513	
1b.1.1.12	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967	
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428	
1b.1.1.14	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667	
1b.1.1.15	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667	
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167	
1b.1.1.17	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167	
1b.1.1	Total	-	-	-	-	-	-	1,827	274	2,101	1,706	-	395	-	-	-	-	-	-	-	14,215	
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	1,067	-	
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	1,827	560	2,959	2,564	-	395	-	-	-	-	-	-	1,067	14,215	
Period 1b Additional Costs																						
1b.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563	
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-	
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-	
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563	
Period 1b Collateral Costs																						
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-	
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-	
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	9,127	30	-	
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	62,689	110	-	
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-	
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-	
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-	
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	399	60	459	-	459	-	-	-	-	-	-	-	-	-	
1b.3.9	Retention and Severance	-	-	-	-	-	-	4,017	603	4,620	4,620	-	-	-	-	-	-	-	-	-	-	
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-	
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	6,303	2,555	17,540	16,458	1,082	-	-	152	588	-	-	71,815	140	-	
Period 1b Period-Dependent Costs																						
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-	
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-	
1b.4.3	Property taxes	-	-	-	-	-	-	1,713	171	1,884	1,884	-	-	-	-	-	-	-	-	-	-	
1b.4.4	Health physics supplies	-	449	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-	
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-	
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,473	11	-	
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-	
1b.4.8	NRC Fees	-	-	-	-	-	-	196	20	216	216	-	-	-	-	-	-	-	-	-	-	
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-	
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-	
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-	
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-	

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Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours			
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet						
Period 1b Period-Dependent Costs (continued)																								
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-				
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	61,192				
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	4,182	627	4,810	4,810	-	-	-	-	-	-	-	-	46,672				
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	10,811	1,622	12,432	12,432	-	-	-	-	-	-	-	-	172,167				
1b.4	Subtotal Period 1b Period-Dependent Costs	38	825	6	3	-	27	25,571	3,830	30,299	28,832	1,467	-	-	324	-	-	-	6,473	11	280,031			
1b.0	TOTAL PERIOD 1b COST	3,795	4,586	440	475	178	5,351	35,206	8,470	58,501	55,557	2,549	395	6,132	13,319	588	-	-	597,225	33,460	297,808			
PERIOD 1 TOTALS		3,795	5,917	451	479	178	5,398	106,531	18,847	141,595	132,646	8,269	681	6,132	13,884	588	-	-	608,524	33,478	799,228			
PERIOD 2a - Large Component Removal																								
Period 2a Direct Decommissioning Activities																								
Nuclear Steam Supply System Removal																								
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	35,411	1,421	-			
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	23,594	630	-			
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	295,800	2,049	100			
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	185,015	1,666	938			
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	1,689,435	11,613	2,875			
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	177,400	8,104	-			
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	164,987	25,123	1,163			
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	576,524	25,123	1,163			
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	3,148,166	75,729	6,240			
Removal of Major Equipment																								
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	203,265	4,667	-			
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	271,824	39,151	-			
Cascading Costs from Clean Building Demolition																								
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-			
2a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	1,309	-			
2a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	65	-			
2a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	8,963	-			
Disposal of Plant Systems																								
2a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	90	-			
2a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	422	-			
2a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	676	-			
2a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	7,214	486	-			
2a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	1,331	-			
2a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	9,761	468	-			
2a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	261	-			
2a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	634	31	-			
2a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	401	-			
2a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	7,537	-			
2a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	2,987	-			
2a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	19,616	493	-			
2a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	143	-			
2a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	385	-			
2a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	29,284	938	-			
2a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	1,840	-			
2a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	168,414	3,377	-			
2a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	504	-			
2a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	5,638	-			
2a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	86	-			
2a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	100	12	-			
2a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	366	-			
2a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-			
2a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	1,482	-			
2a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	209,799	5,146	-			
2a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	490	82	-			
2a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	32	-			
2a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	966	47	-			
2a.1.5.29	Steam Generator Blowdown	-	416	21	27	319	215	-	212	1,210	1,210	-	-	1,906	631	-	-	-	118,130	5,778	-			
2a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-			

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC	Burial / Processed	Craft	Utility and Contractor
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	Cu. Feet	Wt., Lbs.	Manhours	Manhours	
Disposal of Plant Systems (continued)																						
2a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	-	5,472	-
2a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	-	757	-
2a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	-	6,677	-
2a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	-	4,652	252	-
2a.1.5	Totals	-	3,817	43	108	2,177	215	-	1,100	7,461	4,528	-	2,933	13,010	631	-	-	-	-	569,060	54,280	-
2a.1.6	Scaffolding in support of decommissioning	-	3,020	22	10	188	30	-	794	4,064	4,064	-	-	1,012	89	-	-	-	-	51,216	26,270	-
2a.1	Subtotal Period 2a Activity Costs	613	25,702	19,110	3,959	6,005	19,635	614	25,745	101,384	98,450	-	2,933	38,625	33,556	125	673	-	-	4,243,531	209,060	6,240
Period 2a	Additional Costs																					
2a.2.1	Retired RPV upper internals package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	-	50,164	3,333	133
Period 2a	Collateral Costs																					
2a.3.1	Process decommissioning water waste	49	-	33	60	-	134	-	70	347	347	-	-	-	308	-	-	-	-	18,487	60	-
2a.3.3	Small tool allowance	-	269	-	-	-	-	-	40	309	278	-	31	-	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	13,363	2,004	15,368	-	15,368	-	-	-	-	-	-	-	-	-	-
2a.3.5	Retention and Severance	-	-	-	-	-	-	8,215	1,232	9,447	9,447	-	-	-	-	-	-	-	-	-	-	-
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	49	269	33	60	-	134	23,358	3,347	27,250	10,072	17,147	31	-	308	-	-	-	-	18,487	60	-
Period 2a	Period-Dependent Costs																					
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	4,548	455	5,002	5,002	-	-	-	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	2,103	-	-	-	-	-	526	2,629	2,629	-	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	86	35	-	358	-	103	582	582	-	-	-	4,345	-	-	-	-	86,891	142	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	526	53	578	578	-	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	-	-
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	-	-
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	-	-
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	-	-
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	-	-
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	-	-
2a.4.15	Security Staff Cost	-	-	-	-	-	-	10,900	1,635	12,534	12,534	-	-	-	-	-	-	-	-	-	-	160,018
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	-	-	225,210
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	27,056	4,058	31,115	31,115	-	-	-	-	-	-	-	-	-	-	419,049
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,668	86	35	-	358	73,514	11,797	91,565	87,870	3,696	-	-	4,345	-	-	-	-	86,891	142	804,276
2a.0	TOTAL PERIOD 2a COST	770	31,895	19,616	4,270	6,005	21,522	97,486	41,931	223,495	199,687	20,843	2,964	38,625	38,584	237	673	-	-	4,399,073	212,595	810,649
PERIOD 2b - Site Decontamination																						
Period 2b Direct Decommissioning Activities																						
Disposal of Plant Systems																						
2b.1.1.1	ADT & Misc Ventilation	-	25	1	1	26	3	-	11	66	66	-	-	153	9	-	-	-	-	6,803	363	-
2b.1.1.2	Aux Bldg Normal Ventilation	-	69	2	6	116	13	-	39	246	246	-	-	692	39	-	-	-	-	30,595	1,013	-
2b.1.1.3	Aux Bldg Special Ventilation	-	14	0	1	12	2	-	6	34	34	-	-	70	6	-	-	-	-	3,234	197	-
2b.1.1.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	-	24	-
2b.1.1.5	Boron Recycle	0	4	0	0	0	3	-	2	10	10	-	-	3	9	-	-	-	-	700	50	-
2b.1.1.6	Chemical & Volume Control	749	942	62	57	394	677	-	853	3,736	3,736	-	-	2,356	1,977	-	-	-	-	223,753	23,197	-
2b.1.1.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	-	9	-
2b.1.1.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	-	487,169	8,583	-
2b.1.1.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	-	502	-
2b.1.1.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	-	111,390	3,949	-
2b.1.1.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	-	5,742	494	-
2b.1.1.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	-	59,019	2,617	-
2b.1.1.13	Containment Ventilation	-	235	23	49	790	243	-	248	1,587	1,587	-	-	4,721	722	-	-	-	-	237,643	3,375	-
2b.1.1.14	Control/Relay/Cmptr Rm Vent	-	31	1	2	44	7	-	17	102	102	-	-	260	20	-	-	-	-	11,878	454	-
2b.1.1.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	-	2,344	-
2b.1.1.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	-	342,822	6,311	-
2b.1.1.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	-	4,184	48	-
2b.1.1.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	-	141	-
2b.1.1.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	-	141	-

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**Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
2b.1.1.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2b.1.1.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
2b.1.1.22	Electrical - Contaminated	-	475	5	16	334	25	-	178	1,034	1,034	-	-	1,997	75	-	-	-	85,887	6,503	-
2b.1.1.23	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
2b.1.1.24	Filter Rm Ventilation	-	5	0	0	4	0	-	2	11	11	-	-	24	1	-	-	-	1,017	69	-
2b.1.1.25	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
2b.1.1.26	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
2b.1.1.27	Fuel Handling	-	74	1	2	34	17	-	28	156	156	-	-	200	49	-	-	-	11,273	1,101	-
2b.1.1.28	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
2b.1.1.29	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
2b.1.1.30	HVAC - Contaminated	-	1,231	29	87	1,798	136	-	627	3,908	3,908	-	-	10,745	405	-	-	-	462,103	16,579	-
2b.1.1.31	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
2b.1.1.32	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
2b.1.1.33	Hot Lab & Sample Rm Ventilation	-	20	0	1	18	1	-	8	48	48	-	-	107	4	-	-	-	4,622	285	-
2b.1.1.34	Incore Instrumentation	0	30	1	2	10	20	-	14	77	77	-	-	60	58	-	-	-	6,143	458	-
2b.1.1.35	Misc Drains & Vents	-	234	12	12	77	145	-	109	590	590	-	-	458	426	-	-	-	46,079	3,180	-
2b.1.1.36	Misc Lab & Service Areas Vent	-	129	8	8	62	84	-	65	356	356	-	-	370	244	-	-	-	30,899	1,713	-
2b.1.1.37	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
2b.1.1.38	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
2b.1.1.39	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
2b.1.1.40	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
2b.1.1.41	Reactor Coolant	163	236	20	16	38	249	-	213	937	937	-	-	229	730	-	-	-	56,440	5,517	-
2b.1.1.42	Reactor Hot Sampling	140	126	11	7	9	108	-	132	533	533	-	-	54	312	-	-	-	22,678	3,686	-
2b.1.1.43	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
2b.1.1.44	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
2b.1.1.45	Reactor Vessel	9	18	1	0	4	5	-	11	47	47	-	-	22	14	-	-	-	1,816	385	-
2b.1.1.46	Residual Heat Removal	348	393	84	86	477	1,102	-	641	3,132	3,132	-	-	2,853	3,244	-	-	-	324,232	7,112	-
2b.1.1.47	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2b.1.1.48	Safety Injection	-	874	42	72	1,117	395	-	500	3,000	3,000	-	-	6,676	1,161	-	-	-	345,708	12,284	-
2b.1.1.49	Sampling	-	52	3	2	6	32	-	23	119	119	-	-	37	93	-	-	-	7,628	714	-
2b.1.1.50	Service Bldg & New Cmptr Vent	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
2b.1.1.51	Shield Bldg Ventilation	-	120	13	25	339	163	-	127	787	787	-	-	2,028	484	-	-	-	113,139	1,743	-
2b.1.1.52	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
2b.1.1.53	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
2b.1.1.54	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
2b.1.1.55	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
2b.1.1.56	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
2b.1.1.57	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
2b.1.1.58	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
2b.1.1.59	Waste Gas Disposal	553	479	43	45	410	464	-	585	2,581	2,581	-	-	2,453	1,358	-	-	-	187,339	14,308	-
2b.1.1.60	Waste Liquid Disposal	1,436	1,800	116	100	612	1,234	-	1,595	6,893	6,893	-	-	3,655	3,594	-	-	-	381,754	44,485	-
2b.1.1.61	Waste Solid Disposal	115	145	12	11	65	134	-	140	622	622	-	-	389	393	-	-	-	41,177	3,481	-
2b.1.1	Totals	3,515	16,542	596	980	15,220	5,264	-	9,399	51,516	48,072	-	3,444	90,963	15,429	-	-	-	4,689,210	270,390	-
2b.1.2	Scaffolding in support of decommissioning	-	3,775	27	13	235	37	-	993	5,081	5,081	-	-	1,265	112	-	-	-	64,020	32,837	-
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,808	240	1,236	373	13,625	-	4,981	24,479	24,479	-	-	2,230	83,434	-	-	-	3,633,771	50,962	-
2b.1.3.2	Auxiliary	1,292	422	23	117	177	648	-	960	3,639	3,639	-	-	1,060	6,118	-	-	-	332,495	23,821	-
2b.1.3.3	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3.4	Drum Transfer & Truck Loading Enclosure	18	9	1	3	3	14	-	16	63	63	-	-	19	135	-	-	-	7,118	369	-
2b.1.3.5	LLRW Storage Enclosure	123	54	3	17	6	96	-	103	403	403	-	-	38	920	-	-	-	44,971	2,426	-
2b.1.3.6	Radwaste	55	24	1	8	7	43	-	47	185	185	-	-	42	412	-	-	-	21,136	1,083	-
2b.1.3.7	Resin Disposal	16	12	1	3	14	14	-	17	76	76	-	-	83	124	-	-	-	9,271	383	-
2b.1.3	Totals	2,720	3,357	271	1,400	581	14,537	-	6,158	29,024	29,024	-	-	3,471	92,071	-	-	-	4,092,658	79,343	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
2b.1.5	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	6,235	23,674	895	2,393	16,035	19,839	225	16,584	85,879	82,435	-	3,444	95,700	107,611	-	-	-	8,845,887	382,570	1,751
Period 2b Additional Costs																					
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	166	-	113	203	-	456	-	239	1,176	1,176	-	-	-	1,047	-	-	-	62,844	204	-
2b.3.2	Process decommissioning chemical flush waste	3	-	119	390	-	893	-	295	1,699	1,699	-	-	-	1,154	-	-	-	122,948	216	-
2b.3.3	Small tool allowance	-	446	-	-	-	-	-	67	513	513	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	51,308	7,696	59,005	-	59,005	-	-	-	-	-	-	-	-	-
2b.3.5	Retention and Severance	-	-	-	-	-	-	2,839	426	3,265	3,265	-	-	-	-	-	-	-	-	-	-
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-
2b.3.7	On-site survey and release of 0.437 tons clean metallic waste	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	169	446	232	592	-	1,349	55,497	8,723	67,007	6,654	60,353	-	-	2,201	-	-	-	185,792	420	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	1,219	-	-	-	-	-	-	305	1,524	1,524	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	3,075	308	3,383	3,383	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,866	-	-	-	-	-	716	3,582	3,582	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	103	42	-	429	-	124	698	698	-	-	-	5,209	-	-	-	104,172	170	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	398	40	438	438	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	15,117	2,268	17,385	17,385	-	-	-	-	-	-	-	-	-	163,904
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	19,642	2,946	22,588	22,588	-	-	-	-	-	-	-	-	-	304,233
2b.4	Subtotal Period 2b Period-Dependent Costs	1,219	5,640	103	42	-	429	53,639	9,307	70,380	67,579	2,800	-	-	5,209	-	-	-	104,172	170	589,381
2b.0	TOTAL PERIOD 2b COST	7,623	30,935	1,242	3,063	16,641	21,617	113,934	35,690	230,744	164,147	63,153	3,444	101,580	115,021	-	-	-	9,282,851	390,587	591,132
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	203	2	7	145	11	-	77	445	445	-	-	864	33	-	-	-	37,167	2,783	-
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-
2d.1.2.3	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-
2d.1.2.4	HVAC - Contaminated - Fuel Pool	-	553	13	39	808	61	-	282	1,756	1,756	-	-	4,828	182	-	-	-	207,612	7,448	-
2d.1.2.5	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-
2d.1.2.6	Spent Fuel Pool Cooling	32	36	3	2	6	37	-	36	152	152	-	-	39	107	-	-	-	8,481	882	-
2d.1.2.7	Spent Fuel Pool Normal Ventilation	-	27	1	2	44	4	-	15	93	93	-	-	265	12	-	-	-	11,505	394	-
2d.1.2	Totals	32	2,130	36	112	2,405	113	-	958	5,786	5,786	-	-	14,376	333	-	-	-	605,100	28,530	-
Decontamination of Site Buildings																					
2d.1.3.1	Fuel Handling of Aux Building	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-
2d.1.3	Totals	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-
2d.1.4	Scaffolding in support of decommissioning	-	755	5	3	47	7	-	199	1,016	1,016	-	-	253	22	-	-	-	12,804	6,567	-
2d.1	Subtotal Period 2d Activity Costs	1,408	4,058	141	202	2,857	1,018	-	2,445	12,128	12,128	-	-	17,046	4,099	-	-	-	928,579	66,078	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	45	-	31	56	-	126	-	65	323	323	-	-	-	288	-	-	-	17,293	56	-
2d.3.2	Process decommissioning chemical flush waste	0	-	1	5	-	10	-	3	20	20	-	-	-	13	-	-	-	1,422	2	-
2d.3.3	Small tool allowance	-	83	-	-	-	-	-	12	95	95	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
2d.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	45	83	162	128	1,112	314	975	316	3,135	2,160	975	-	6,000	831	-	-	-	322,324	206	-

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Decommissioning Cost Analysis**

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**Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	236	-	-	-	-	-	-	59	295	295	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	794	-	-	-	-	-	198	992	992	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	40	16	-	165	-	48	268	268	-	-	-	2,002	-	-	-	40,031	65	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	277	28	305	305	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681
2d.4	Subtotal Period 2d Period-Dependent Costs	236	2,801	40	16	-	165	25,734	4,330	33,321	30,796	2,525	-	-	2,002	-	-	-	40,031	65	281,377
2d.0	TOTAL PERIOD 2d COST	1,689	6,941	343	346	3,969	1,496	27,746	7,403	49,932	46,432	3,501	-	23,046	6,931	-	-	-	1,290,933	66,348	287,617
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license	-	-	-	-	-	-	-	-	a 216	-	-	-	-	-	-	-	-	-	-	-
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
2f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	710	-	-	-	-	-	178	888	888	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
2f.4	Subtotal Period 2f Period-Dependent Costs	-	710	7	3	-	28	17,461	2,682	20,890	18,470	2,420	-	-	334	-	-	-	6,685	11	186,687
2f.0	TOTAL PERIOD 2f COST	-	710	7	3	-	28	26,867	5,034	32,648	29,294	3,354	-	-	334	-	-	-	6,685	100,906	189,807
PERIOD 2 TOTALS		10,081	70,482	21,208	7,682	26,615	44,663	266,032	90,058	536,819	439,560	90,851	6,408	163,252	160,871	237	673	-	14,979,540	770,436	1,879,206
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	44,679	-
3b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	11,902	-
3b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	33	-
3b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	1,405	-
3b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	84	-

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DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Demolition of Remaining Site Buildings (continued)																					
3b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	221	-
3b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	47	-
3b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	853	-
3b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	22,582	-
3b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	1,400	-
3b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	120	-
3b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
3b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	35	-
3b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	21,997	-
3b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	213	-
3b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	56	-
3b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	70	-
3b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	2,690	-
3b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	8,240	-
3b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	127,723	-
Site Closeout Activities																					
3b.1.2	Remove Rubble	-	1,330	-	-	-	-	-	200	1,530	-	-	1,530	-	-	-	-	-	-	6,495	-
3b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	667
3b.1	Subtotal Period 3b Activity Costs	-	17,279	-	-	-	-	86	2,605	19,969	99	-	19,871	-	-	-	-	-	-	135,138	667
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	18,372	-
3b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	3,552	-
3b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	9,327	-
3b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	1,059,612	146	-
3b.2	Subtotal Period 3b Additional Costs	-	14,634	80	418	-	2,390	2,160	3,244	22,926	3,640	-	19,286	-	8,929	-	-	-	1,059,612	31,397	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	212	-	-	-	-	-	32	244	-	-	244	-	-	-	-	-	-	-	-
3b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	212	-	-	-	-	2,649	32	2,893	-	2,649	244	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,610	4,960	39,714	1,114	13,158	25,442	-	-	-	-	-	-	-	250,861
3b.0	TOTAL PERIOD 3b COST	-	39,269	80	418	-	2,390	32,505	10,840	85,502	4,853	15,807	64,843	-	8,929	-	-	-	1,059,612	166,534	251,528
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Direct Decommissioning Activities																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	270,755	40,613	311,368	-	311,368	-	-	-	-	-	-	-	-	-
3c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	94,360	-	94,360	-	94,360	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	365,115	40,613	405,728	-	405,728	-	-	-	-	-	-	-	-	-

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**Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	18,290	1,829	20,119	-	20,119	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	104,580	10,458	115,038	-	115,038	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	9,306	931	10,237	-	10,237	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	5,600	560	6,160	-	6,160	-	-	-	-	-	-	-	-	-
3c.4.6	Fixed Overhead	-	-	-	-	-	-	12,308	1,846	14,155	-	14,155	-	-	-	-	-	-	-	-	-
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	4,228	634	4,862	-	4,862	-	-	-	-	-	-	-	-	-
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	4,723	708	5,431	-	5,431	-	-	-	-	-	-	-	-	-
3c.4.9	Security Staff Cost	-	-	-	-	-	-	164,428	24,664	189,092	-	189,092	-	-	-	-	-	-	-	-	2,042,594
3c.4.10	DOC Staff Cost	-	-	-	-	-	-	11,579	1,737	13,316	-	13,316	-	-	-	-	-	-	-	-	78,561
3c.4.11	Utility Staff Cost	-	-	-	-	-	-	71,292	10,694	81,986	-	81,986	-	-	-	-	-	-	-	-	1,040,937
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	406,334	54,061	460,395	-	460,395	-	-	-	-	-	-	-	-	3,162,093
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	771,448	94,674	866,123	-	866,123	-	-	-	-	-	-	-	-	3,162,093
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 3d Collateral Costs																					
3d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
3d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	-	1,037
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	-	1,306
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	256	1,691	12,071	11,984	87	-	-	-	-	-	1,773	344,823	-	1,306
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
3e.2	Subtotal Period 3e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
3e.0	TOTAL PERIOD 3e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556

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Table E-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
3f.2	Subtotal Period 3f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
3f.0	TOTAL PERIOD 3f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 3 TOTALS		-	40,456	1,525	435	-	11,212	806,320	107,912	967,861	19,203	882,017	66,641	-	9,353	-	-	1,773	1,470,189	177,262	3,422,639
TOTAL COST TO DECOMMISSION		13,876	116,855	23,184	8,596	26,793	61,273	1,178,883	216,817	1,646,275	591,409	981,137	73,730	169,384	184,108	826	673	1,773	17,058,250	981,176	6,101,073
TOTAL COST TO DECOMMISSION WITH 15.17% CONTINGENCY:					\$1,646,275 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 35.92% OR:					\$591,409 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 59.6% OR:					\$981,137 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 4.48% OR:					\$73,730 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					185,606 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					42,328 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					981,176 Man-hours																

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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Decommissioning Cost Analysis***

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APPENDIX F

DETAILED COST ANALYSIS

SCENARIO 4: DECON with 200 Year DFS

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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.10	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.12	Define major work sequence	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.13	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
1a.1.14	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
1a.1.16	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	632	95	727	654	-	73	-	-	-	-	-	-	-	4,920
1a.1.17.2	Plant systems	-	-	-	-	-	-	536	80	616	554	-	62	-	-	-	-	-	-	-	4,167
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
1a.1.17.4	Reactor internals	-	-	-	-	-	-	912	137	1,049	1,049	-	-	-	-	-	-	-	-	-	7,100
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	835	125	961	961	-	-	-	-	-	-	-	-	-	6,500
1a.1.17.6	Biological shield	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
1a.1.17.7	Steam generators	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	206	31	236	118	-	118	-	-	-	-	-	-	-	1,600
1a.1.17.9	Main Turbine	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
1a.1.17.10	Main Condensers	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	401	60	461	231	-	231	-	-	-	-	-	-	-	3,120
1a.1.17.12	Waste management	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	116	17	133	67	-	67	-	-	-	-	-	-	-	900
1a.1.17	Total	-	-	-	-	-	-	4,861	729	5,591	4,923	-	668	-	-	-	-	-	-	-	37,827
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	308	46	355	355	-	-	-	-	-	-	-	-	-	2,400
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,400
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	158	24	182	182	-	-	-	-	-	-	-	-	-	1,230
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	15,945	2,392	18,336	17,669	-	668	-	-	-	-	-	-	-	78,157
Period 1a Additional Costs																					
1a.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
1a.2	Subtotal Period 1a Additional Costs	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
Period 1a Collateral Costs																					
1a.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	614	-	-	-	-	-	153	767	767	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	50	-	14	82	82	-	-	610	-	-	-	-	12,190	20	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	1,137	114	1,251	1,251	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,931	4,040	30,971	30,971	-	-	-	-	-	-	-	-	-	422,240
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,367	12	5	-	50	47,456	6,970	55,860	52,918	2,942	-	610	-	-	-	-	12,190	20	544,960

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	77,325	11,263	90,022	85,163	4,191	668	-	610	-	-	-	12,190	20	623,117
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	-	4,733
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.3	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	2,500
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	-	1,350
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	-	3,630
1b.1.1.9	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	-	1,200
1b.1.1.10	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	-	450
1b.1.1.11	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
1b.1.1.12	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	-	1,000
1b.1.1.14	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
1b.1.1.15	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
1b.1.1.17	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
1b.1.1	Total	-	-	-	-	-	-	4,272	641	4,913	3,989	-	924	-	-	-	-	-	-	-	33,243
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	4,272	927	5,772	4,848	-	924	-	-	-	-	-	-	1,067	33,243
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	21,020	8,332
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	518,936	44,275	8,332
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	9,127	30	-
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	62,689	110	-
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-
1b.3.9	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	3,082	2,072	13,836	13,025	811	-	-	152	588	-	-	71,815	140	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,806	181	1,987	1,987	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	475	-	-	-	-	-	119	594	594	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	7	3	-	29	-	8	48	48	-	-	-	356	-	-	-	7,122	12	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	323	32	355	355	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	-	61,192
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	5,846	877	6,723	6,723	-	-	-	-	-	-	-	-	-	63,266
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	13,505	2,026	15,531	15,531	-	-	-	-	-	-	-	-	-	211,579
1b.4	Subtotal Period 1b Period-Dependent Costs	38	851	7	3	-	29	30,149	4,513	35,590	34,123	1,467	-	-	356	-	-	-	7,122	12	336,037
1b.0	TOTAL PERIOD 1b COST	3,795	4,613	440	475	178	5,354	41,023	9,641	65,519	62,317	2,278	924	6,132	13,351	588	-	-	597,873	45,493	377,612

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***Prairie Island Nuclear Generating Plant
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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1 TOTALS		3,795	5,980	452	480	178	5,404	118,348	20,903	155,540	147,480	6,468	1,592	6,132	13,961	588	-	-	610,063	45,513	1,000,729
PERIOD 2a - Large Component Removal																					
Period 2a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	35,411	1,421	-
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	23,594	630	-
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	295,800	2,049	100
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	185,015	1,666	938
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	1,689,435	11,613	2,875
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	177,400	8,104	-
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	164,987	25,123	1,163
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	576,524	25,123	1,163
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	3,148,166	75,729	6,240
Removal of Major Equipment																					
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	203,265	4,667	-
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	271,824	39,151	-
Cascading Costs from Clean Building Demolition																					
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
2a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
2a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
2a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
2a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
2a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
2a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
2a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
2a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
2a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
2a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
2a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
2a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
2a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
2a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
2a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
2a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
2a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
2a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
2a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
2a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
2a.1.5.21	Steam Generator Blowdown	-	478	22	29	340	234	-	235	1,337	1,337	-	-	2,031	686	-	-	-	126,640	6,667	-
2a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-
2a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-
2a.1.5	Totals	-	3,445	44	108	2,144	234	-	1,048	7,023	4,565	-	2,458	12,815	686	-	-	-	564,572	48,794	-
2a.1.6	Scaffolding in support of decommissioning	-	930	3	1	26	4	-	238	1,202	1,202	-	-	138	12	-	-	-	6,985	6,368	-
2a.1	Subtotal Period 2a Activity Costs	613	23,011	19,092	3,950	5,810	19,628	614	25,102	97,819	95,362	-	2,458	37,556	33,533	125	673	-	4,194,811	182,298	6,240
Period 2a Additional Costs																					
2a.2.1	Retired RPV Upper Internals Package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	48	-	32	58	-	130	-	68	337	337	-	-	-	299	-	-	-	17,968	58	-
2a.3.2	Process decommissioning chemical flush waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2a.3.3	Small tool allowance	-	239	-	-	-	-	-	36	274	247	-	27	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,639	246	1,885	-	1,885	-	-	-	-	-	-	-	-	-
2a.3.5	Retention and Severance	-	-	-	-	-	-	12,780	1,917	14,697	14,697	-	-	-	-	-	-	-	-	-	-
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	48	239	32	58	-	130	16,198	2,267	18,972	15,281	3,664	27	-	299	-	-	-	17,968	58	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	5,009	501	5,510	5,510	-	-	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	1,950	-	-	-	-	-	487	2,437	2,437	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	73	30	-	303	-	88	493	493	-	-	-	3,681	-	-	-	73,619	120	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	842	84	926	926	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	-
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	-
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	-
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	-
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	-
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	-
2a.4.15	Security Staff Cost	-	-	-	-	-	-	11,727	1,759	13,486	13,486	-	-	-	-	-	-	-	-	-	172,726
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	-	225,210
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	26,905	4,036	30,941	30,941	-	-	-	-	-	-	-	-	-	417,453
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,515	73	30	-	303	74,968	11,922	92,918	89,223	3,696	-	-	3,681	-	-	-	73,619	120	815,389
2a.0	TOTAL PERIOD 2a COST	768	29,021	19,584	4,254	5,810	21,456	91,780	40,333	213,006	203,161	7,360	2,485	37,556	37,889	237	673	-	4,336,562	185,810	821,762
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	29	-
2b.1.1.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-
2b.1.1.4	Chemical & Volume Control	1,120	1,389	89	90	753	973	-	1,286	5,700	5,700	-	-	4,498	2,846	-	-	-	366,565	34,533	-
2b.1.1.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-
2b.1.1.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-
2b.1.1.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-
2b.1.1.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-
2b.1.1.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-
2b.1.1.10	Containment Ventilation	-	255	24	51	828	248	-	260	1,667	1,667	-	-	4,951	737	-	-	-	247,952	3,668	-
2b.1.1.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-
2b.1.1.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-
2b.1.1.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-
2b.1.1.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-
2b.1.1.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-
2b.1.1.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-
2b.1.1.17	Electrical - Contaminated	-	611	7	20	423	32	-	228	1,321	1,321	-	-	2,527	95	-	-	-	108,690	8,377	-
2b.1.1.18	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-
2b.1.1.19	Fuel Handling	-	121	6	11	152	73	-	74	436	436	-	-	908	218	-	-	-	50,723	1,784	-
2b.1.1.20	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-
2b.1.1.21	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-
2b.1.1.22	HVAC - Contaminated	-	374	9	26	546	41	-	190	1,186	1,186	-	-	3,261	123	-	-	-	140,257	5,032	-
2b.1.1.23	Incore Instrumentation	0	28	1	2	10	19	-	14	74	74	-	-	60	57	-	-	-	6,058	425	-
2b.1.1.24	Misc Drains & Vents	-	233	15	13	65	176	-	115	618	618	-	-	390	514	-	-	-	49,062	3,091	-
2b.1.1.25	Reactor Coolant	153	311	21	18	58	265	-	234	1,060	1,060	-	-	344	777	-	-	-	64,085	6,470	-
2b.1.1.26	Reactor Hot Sampling	149	136	12	7	11	118	-	142	576	576	-	-	66	342	-	-	-	25,063	3,946	-
2b.1.1.27	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-
2b.1.1.28	Reactor Vessel	9	21	1	0	4	5	-	12	52	52	-	-	26	14	-	-	-	2,000	425	-
2b.1.1.29	Residual Heat Removal	357	419	85	86	484	1,105	-	654	3,190	3,190	-	-	2,895	3,252	-	-	-	326,425	7,621	-
2b.1.1.30	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-
2b.1.1.31	Safety Injection	-	893	42	73	1,136	393	-	507	3,044	3,044	-	-	6,788	1,156	-	-	-	349,908	12,561	-
2b.1.1.32	Sampling	-	60	4	3	10	37	-	26	140	140	-	-	59	107	-	-	-	9,420	811	-
2b.1.1.33	Shield Bldg Ventilation	-	140	14	26	360	165	-	135	839	839	-	-	2,152	491	-	-	-	118,583	2,030	-
2b.1.1.34	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-
2b.1.1.35	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-
2b.1.1.36	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-
2b.1.1.37	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-
2b.1.1.38	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-
2b.1.1	Totals	1,789	13,544	429	786	12,979	3,651	-	7,032	40,209	37,119	-	3,091	77,571	10,728	-	-	-	3,840,299	205,829	-
2b.1.2	Scaffolding in support of decommissioning	-	1,163	4	2	32	5	-	297	1,503	1,503	-	-	173	15	-	-	-	8,731	7,960	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,807	240	1,236	373	13,624	-	4,981	24,476	24,476	-	-	2,230	83,429	-	-	-	3,633,417	50,950	-
2b.1.3.2	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3	Totals	1,215	2,835	243	1,253	373	13,721	-	5,015	24,655	24,655	-	-	2,230	84,358	-	-	-	3,677,313	51,251	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096
2b.1.5	Receive NRC approval of termination plan									a											
2b.1	Subtotal Period 2b Activity Costs	3,004	17,542	675	2,041	13,384	17,377	526	12,423	66,973	63,882	-	3,091	79,974	95,101	-	-	-	7,526,343	265,040	4,096
Period 2b Additional Costs																					
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	108	-	74	132	-	298	-	156	768	768	-	-	-	684	-	-	-	41,053	133	-
2b.3.2	Process decommissioning chemical flush waste	2	-	90	296	-	677	-	224	1,289	1,289	-	-	-	875	-	-	-	93,252	164	-
2b.3.3	Small tool allowance	-	315	-	-	-	-	-	47	362	362	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	10,782	1,617	12,400	-	12,400	-	-	-	-	-	-	-	-	-
2b.3.5	Retention and Severance	-	-	-	-	-	-	6,141	921	7,063	7,063	-	-	-	-	-	-	-	-	-	-
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	110	315	164	428	-	975	18,272	2,965	23,230	9,482	13,748	-	-	1,559	-	-	-	134,305	297	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	511	-	-	-	-	-	-	128	639	639	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	3,435	344	3,779	3,779	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,140	-	-	-	-	-	535	2,675	2,675	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	70	28	-	290	-	84	472	472	-	-	-	3,521	-	-	-	70,425	115	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	638	64	701	701	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	10,738	1,611	12,348	12,348	-	-	-	-	-	-	-	-	-	121,244
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	13,928	2,089	16,017	16,017	-	-	-	-	-	-	-	-	-	225,649
2b.4	Subtotal Period 2b Period-Dependent Costs	511	4,914	70	28	-	290	44,145	7,454	57,412	54,612	2,800	-	-	3,521	-	-	-	70,425	115	468,137
2b.0	TOTAL PERIOD 2b COST	3,626	23,946	920	2,533	13,990	18,642	67,516	23,920	155,093	135,455	16,548	3,091	85,854	100,182	-	-	-	7,878,073	272,879	472,233
PERIOD 2c - Spent fuel delay prior to SFP decon																					
Period 2c Direct Decommissioning Activities																					
Period 2c Collateral Costs																					
2c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	53,816	8,072	61,889	-	61,889	-	-	-	-	-	-	-	-	-
2c.3.2	Retention and Severance	-	-	-	-	-	-	3,512	527	4,039	4,039	-	-	-	-	-	-	-	-	-	-
2c.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,526	-	1,526	-	1,526	-	-	-	-	-	-	-	-	-
2c.3	Subtotal Period 2c Collateral Costs	-	-	-	-	-	-	58,855	8,599	67,455	4,039	63,415	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	592	59	651	651	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	3,512	351	3,863	3,863	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	263	-	-	-	-	-	66	328	328	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	9	4	-	38	-	11	61	61	-	-	-	457	-	-	-	9,141	15	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	1,486	223	1,709	1,709	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	687	69	756	756	-	-	-	-	-	-	-	-	-	-
2c.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,271	227	2,498	-	2,498	-	-	-	-	-	-	-	-	-
2c.4.8	Fixed Overhead	-	-	-	-	-	-	1,454	218	1,672	1,672	-	-	-	-	-	-	-	-	-	-
2c.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	516	77	593	-	593	-	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2c Period-Dependent Costs (continued)																					
2c.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	260	39	298	298	-	-	-	-	-	-	-	-	-	-
2c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	68	10	79	-	79	-	-	-	-	-	-	-	-	-
2c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	76	11	88	88	-	-	-	-	-	-	-	-	-	-
2c.4.13	Security Staff Cost	-	-	-	-	-	-	9,348	1,402	10,751	10,751	-	-	-	-	-	-	-	-	-	137,246
2c.4.14	Utility Staff Cost	-	-	-	-	-	-	1,195	179	1,375	1,375	-	-	-	-	-	-	-	-	-	19,062
2c.4	Subtotal Period 2c Period-Dependent Costs	-	263	9	4	-	38	21,465	2,943	24,721	21,552	3,170	-	-	457	-	-	-	9,141	15	156,308
2c.0	TOTAL PERIOD 2c COST	-	263	9	4	-	38	80,320	11,543	92,176	25,591	66,585	-	-	457	-	-	-	9,141	15	156,308
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	152	2	5	103	8	-	56	325	325	-	-	615	23	-	-	-	26,449	2,077	-
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-
2d.1.2.3	HVAC - Contaminated - Fuel Pool	-	160	4	11	234	18	-	82	508	508	-	-	1,398	53	-	-	-	60,110	2,157	-
2d.1.2.4	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
2d.1.2.5	Spent Fuel Pool Cooling	303	357	34	32	135	450	-	382	1,693	1,693	-	-	806	1,325	-	-	-	117,816	7,613	-
2d.1.2.6	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-
2d.1.2	Totals	303	1,721	52	96	1,554	476	-	954	5,157	5,157	-	-	9,290	1,401	-	-	-	467,176	25,468	-
2d.1.4	Scaffolding in support of decommissioning	-	233	1	0	6	1	-	59	301	301	-	-	35	3	-	-	-	1,746	1,592	-
2d.1	Subtotal Period 2d Activity Costs	650	1,989	139	138	1,561	1,180	-	1,386	7,042	7,042	-	-	9,325	3,496	-	-	-	601,841	27,637	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	30	-	21	38	-	86	-	44	220	220	-	-	-	197	-	-	-	11,793	38	-
2d.3.2	Process decommissioning chemical flush waste	1	-	34	110	-	251	-	83	478	478	-	-	-	324	-	-	-	34,576	61	-
2d.3.3	Small tool allowance	-	37	-	-	-	-	-	6	42	42	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
2d.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	31	37	185	215	1,112	514	975	367	3,437	2,462	975	-	6,000	1,050	-	-	-	349,977	246	-
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	59	-	-	-	-	-	-	15	73	73	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	575	-	-	-	-	-	144	719	719	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	16	7	-	68	-	20	111	111	-	-	-	830	-	-	-	16,609	27	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	439	44	483	483	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681
2d.4	Subtotal Period 2d Period-Dependent Costs	59	2,582	16	7	-	68	25,896	4,220	32,848	30,323	2,525	-	-	830	-	-	-	16,609	27	281,377
2d.0	TOTAL PERIOD 2d COST	740	4,608	340	360	2,673	1,763	27,908	6,284	44,675	41,175	3,501	-	15,325	5,377	-	-	-	968,427	27,910	287,617
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-

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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
2f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	334	-	-	-	-	6,685	11	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
2f.4	Subtotal Period 2f Period-Dependent Costs	-	501	7	3	-	28	17,620	2,646	20,803	18,384	2,420	-	-	334	-	-	-	6,685	11	186,687
2f.0	TOTAL PERIOD 2f COST	-	501	7	3	-	28	23,183	3,845	27,566	24,212	3,354	-	-	334	-	-	-	6,685	40,542	189,807
PERIOD 2 TOTALS		5,134	58,338	20,860	7,153	22,473	41,926	290,708	85,924	532,517	429,593	97,348	5,576	138,734	144,239	237	673	-	13,198,890	527,156	1,927,726
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
3b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
3b.1.1.3	Structures below 3' below grade	-	1,651	-	-	-	-	-	248	1,899	-	-	1,899	-	-	-	-	-	-	8,411	-
3b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
3b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1	Totals	-	8,803	-	-	-	-	-	1,320	10,123	-	-	10,123	-	-	-	-	-	-	76,939	-
Site Closeout Activities																					
3b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
3b.1	Subtotal Period 3b Activity Costs	-	9,251	-	-	-	-	200	1,418	10,869	231	-	10,639	-	-	-	-	-	-	77,859	1,560
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
3b.2.2	Intake Structure cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-
3b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-
3b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	1,059,612	146	-
3b.2	Subtotal Period 3b Additional Costs	-	5,899	80	418	-	2,390	15	1,611	10,413	3,640	-	6,773	-	8,929	-	-	-	1,059,612	16,604	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	121	-	-	-	-	-	18	139	-	-	139	-	-	-	-	-	-	-	-
3b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	121	-	-	-	-	2,649	18	2,787	-	2,649	139	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-

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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and																			
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor																			
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours																			
Period 3b Period-Dependent Costs (continued)																																								
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-																			
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340																			
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885																			
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637																			
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,610	4,960	39,714	1,114	13,158	25,442	-	-	-	-	-	-	-	250,861																			
3b.0	TOTAL PERIOD 3b COST	-	22,414	80	418	-	2,390	30,474	8,008	63,784	4,985	15,807	42,993	-	8,929	-	-	-	1,059,612	94,463	252,421																			
PERIOD 3c - Fuel Storage Operations/Shipping																																								
Period 3c Direct Decommissioning Activities																																								
Period 3c Collateral Costs																																								
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	625,425	93,814	719,239	-	719,239	-	-	-	-	-	-	-	-	-																			
3c.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	219,357	-	219,357	-	219,357	-	-	-	-	-	-	-	-	-																			
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	844,782	93,814	938,596	-	938,596	-	-	-	-	-	-	-	-	-																			
Period 3c Period-Dependent Costs																																								
3c.4.1	Insurance	-	-	-	-	-	-	42,518	4,252	46,770	-	46,770	-	-	-	-	-	-	-	-	-																			
3c.4.2	Property taxes	-	-	-	-	-	-	242,919	24,292	267,210	-	267,210	-	-	-	-	-	-	-	-	-																			
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	19,571	1,957	21,528	-	21,528	-	-	-	-	-	-	-	-	-																			
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	13,018	1,302	14,320	-	14,320	-	-	-	-	-	-	-	-	-																			
3c.4.6	Fixed Overhead	-	-	-	-	-	-	28,613	4,292	32,905	-	32,905	-	-	-	-	-	-	-	-	-																			
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	9,828	1,474	11,302	-	11,302	-	-	-	-	-	-	-	-	-																			
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	10,979	1,647	12,626	-	12,626	-	-	-	-	-	-	-	-	-																			
3c.4.9	Security Staff Cost	-	-	-	-	-	-	382,242	57,336	439,578	-	439,578	-	-	-	-	-	-	-	-	4,748,373																			
3c.4.10	DOC Staff Cost	-	-	-	-	-	-	26,917	4,038	30,955	-	30,955	-	-	-	-	-	-	-	-	182,630																			
3c.4.11	Utility Staff Cost	-	-	-	-	-	-	165,731	24,860	190,591	-	190,591	-	-	-	-	-	-	-	-	2,419,844																			
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	942,335	125,449	1,067,784	-	1,067,784	-	-	-	-	-	-	-	-	7,350,846																			
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	1,787,117	219,263	2,006,380	-	2,006,380	-	-	-	-	-	-	-	-	7,350,846																			
PERIOD 3d - GTCC shipping																																								
Period 3d Direct Decommissioning Activities																																								
Nuclear Steam Supply System Removal																																								
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-																			
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-																			
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-																			
Period 3d Collateral Costs																																								
3d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-																			
3d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-																			
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-																			
Period 3d Period-Dependent Costs																																								
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-																			
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-																			
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-																			
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-																			
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-																			
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-																			
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	-	1,037																			
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269																			
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	-	1,306																			
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	256	1,691	12,071	11,984	87	-	-	-	-	-	1,773	344,823	-	1,306																			
PERIOD 3e - ISFSI Decontamination																																								
Period 3e Direct Decommissioning Activities																																								
Period 3e Additional Costs																																								
3e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161																			
3e.2	Subtotal Period 3e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161																			

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**Table F-1
Prairie Island DECON Unit 1
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
3e.0	TOTAL PERIOD 3e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
3f.2	Subtotal Period 3f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
3f.0	TOTAL PERIOD 3f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 3 TOTALS																					
		-	23,601	1,525	435	-	11,212	1,819,958	229,668	2,086,399	19,335	2,022,273	44,790	-	9,353	-	-	1,773	1,470,189	105,190	7,612,285
TOTAL COST TO DECOMMISSION		8,929	87,919	22,838	8,068	22,651	58,542	2,229,014	336,495	2,774,456	596,408	2,126,090	51,958	144,866	167,553	826	673	1,773	15,279,140	677,859	10,540,740

TOTAL COST TO DECOMMISSION WITH 13.8% CONTINGENCY:	\$2,774,456	thousands of 2020 dollars
TOTAL NRC LICENSE TERMINATION COST IS 21.5% OR:	\$596,408	thousands of 2020 dollars
SPENT FUEL MANAGEMENT COST IS 76.63% OR:	\$2,126,090	thousands of 2020 dollars
NON-NUCLEAR DEMOLITION COST IS 1.87% OR:	\$51,958	thousands of 2020 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	169,051	Cubic Feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	1,773	Cubic Feet
TOTAL SCRAP METAL REMOVED:	32,925	Tons
TOTAL CRAFT LABOR REQUIREMENTS:	677,859	Man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.2	Notification of Cessation of Operations									a											
1a.1.3	Remove fuel & source material									n/a											
1a.1.4	Notification of Permanent Defueling									a											
1a.1.5	Deactivate plant systems & process waste									a											
1a.1.6	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.7	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.8	Perform detailed rad survey									a											
1a.1.9	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.10	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.12	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.13	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.14	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
1a.1.16	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
1a.1.17.1	Plant & temporary facilities	-	-	-	-	-	-	270	41	311	280	-	31	-	-	-	-	-	-	-	2,104
1a.1.17.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
1a.1.17.3	NSSS Decontamination Flush	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.4	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,036
1a.1.17.5	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
1a.1.17.6	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
1a.1.17.7	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.17.8	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
1a.1.17.9	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.10	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
1a.1.17.11	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
1a.1.17.12	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1a.1.17.13	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
1a.1.17	Total	-	-	-	-	-	-	2,079	312	2,391	2,105	-	286	-	-	-	-	-	-	-	16,175
Planning & Site Preparations																					
1a.1.18	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
1a.1.19	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
1a.1.20	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
1a.1.21	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
1a.1.22	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	10,195	1,529	11,724	11,439	-	286	-	-	-	-	-	-	-	33,420
Period 1a Additional Costs																					
1a.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1a.2	Subtotal Period 1a Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	578	-	-	-	-	-	144	722	722	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	11	5	-	47	-	13	76	76	-	-	-	565	-	-	-	11,299	18	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	638	64	702	702	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1a Period-Dependent Costs (continued)																					
1a.4.1.2	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.1.3	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.1.4	Utility Staff Cost	-	-	-	-	-	-	21,681	3,252	24,933	24,933	-	-	-	-	-	-	-	-	-	345,280
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,331	11	5	-	47	41,706	6,122	49,221	46,279	2,942	-	-	565	-	-	-	11,299	18	468,000
1a.0	TOTAL PERIOD 1a COST	-	1,331	11	5	-	47	71,324	10,377	83,095	77,089	5,720	286	-	565	-	-	-	11,299	18	501,420
PERIOD 1b - Decommissioning Preparations																					
Period 1b Direct Decommissioning Activities																					
Detailed Work Procedures																					
1b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024
1b.1.1.2	NSSS Decontamination Flush	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.3	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069
1b.1.1.4	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577
1b.1.1.5	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.6	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.7	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1b.1.1.8	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552
1b.1.1.9	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513
1b.1.1.10	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192
1b.1.1.11	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
1b.1.1.12	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
1b.1.1.13	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428
1b.1.1.14	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
1b.1.1.15	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
1b.1.1.16	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
1b.1.1.17	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
1b.1.1	Total	-	-	-	-	-	-	1,827	274	2,101	1,706	-	395	-	-	-	-	-	-	-	14,215
1b.1.2	Decon primary loop	572	-	-	-	-	-	-	286	859	859	-	-	-	-	-	-	-	-	1,067	-
1b.1	Subtotal Period 1b Activity Costs	572	-	-	-	-	-	1,827	560	2,959	2,564	-	395	-	-	-	-	-	-	1,067	14,215
Period 1b Additional Costs																					
1b.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563
1b.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
1b.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
1b.2	Subtotal Period 1b Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
1b.3.3	Process decommissioning water waste	25	-	16	29	-	66	-	35	172	172	-	-	-	152	-	-	-	9,127	30	-
1b.3.4	Process decommissioning chemical flush waste	2	-	61	199	-	3,889	-	1,009	5,159	5,159	-	-	-	-	588	-	-	62,689	110	-
1b.3.5	Small tool allowance	-	36	-	-	-	-	-	5	42	42	-	-	-	-	-	-	-	-	-	-
1b.3.6	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
1b.3.7	Decon rig	2,104	-	-	-	-	-	-	316	2,419	2,419	-	-	-	-	-	-	-	-	-	-
1b.3.8	Spent Fuel Capital and Transfer	-	-	-	-	-	-	399	60	459	-	459	-	-	-	-	-	-	-	-	-
1b.3.9	Retention and Severance	-	-	-	-	-	-	4,017	603	4,620	4,620	-	-	-	-	-	-	-	-	-	-
1b.3.10	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	3,185	1,236	77	228	-	3,955	6,303	2,555	17,540	16,458	1,082	-	-	152	588	-	-	71,815	140	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	828	83	910	910	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	1,713	171	1,884	1,884	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	449	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,473	11	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	1,617	243	1,859	1,859	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	196	20	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	1,084	108	1,193	-	1,193	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	211	32	242	-	242	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	Cu. Feet				
Period 1b Period-Dependent Costs (continued)																						
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-	
1b.4.14	Security Staff Cost	-	-	-	-	-	-	4,153	623	4,775	4,775	-	-	-	-	-	-	-	-	-	61,192	
1b.4.15	DOC Staff Cost	-	-	-	-	-	-	4,182	627	4,810	4,810	-	-	-	-	-	-	-	-	-	46,672	
1b.4.16	Utility Staff Cost	-	-	-	-	-	-	10,811	1,622	12,432	12,432	-	-	-	-	-	-	-	-	-	172,167	
1b.4	Subtotal Period 1b Period-Dependent Costs	38	825	6	3	-	27	25,571	3,830	30,299	28,832	1,467	-	-	324	-	-	-	-	6,473	11	280,031
1b.0	TOTAL PERIOD 1b COST	3,795	4,586	440	475	178	5,351	35,206	8,470	58,501	55,557	2,549	395	6,132	13,319	588	-	-	-	597,225	33,460	297,808
PERIOD 1 TOTALS		3,795	5,917	451	479	178	5,398	106,531	18,847	141,595	132,646	8,269	681	6,132	13,884	588	-	-	-	608,524	33,478	799,228
PERIOD 2a - Large Component Removal																						
Period 2a Direct Decommissioning Activities																						
Nuclear Steam Supply System Removal																						
2a.1.1.1	Reactor Coolant Piping	54	47	10	18	-	187	-	89	406	406	-	-	-	508	-	-	-	-	35,411	1,421	-
2a.1.1.2	Pressurizer Relief Tank	24	21	6	12	-	125	-	51	238	238	-	-	-	338	-	-	-	-	23,594	630	-
2a.1.1.3	Reactor Coolant Pumps & Motors	57	68	110	93	-	463	-	186	977	977	-	-	-	2,332	-	-	-	-	295,800	2,049	100
2a.1.1.4	Pressurizer	-	77	503	97	-	776	-	278	1,732	1,732	-	-	-	2,196	-	-	-	-	185,015	1,666	938
2a.1.1.5	Steam Generators	-	3,307	2,269	1,770	2,409	4,001	-	2,681	16,437	16,437	-	-	18,672	11,316	-	-	-	-	1,689,435	11,613	2,875
2a.1.1.6	CRDMs/ICIs/Service Structure Removal	302	281	218	66	-	938	-	488	2,294	2,294	-	-	-	4,797	-	-	-	-	177,400	8,104	-
2a.1.1.7	Reactor Vessel Internals	82	4,861	13,621	929	-	9,015	307	11,878	40,693	40,693	-	-	-	501	125	673	-	-	164,987	25,123	1,163
2a.1.1.8	Reactor Vessel	94	6,046	2,028	728	-	2,975	307	6,804	18,982	18,982	-	-	-	8,073	-	-	-	-	576,524	25,123	1,163
2a.1.1	Totals	613	14,709	18,764	3,714	2,409	18,480	614	22,455	81,759	81,759	-	-	18,672	30,062	125	673	-	-	3,148,166	75,729	6,240
Removal of Major Equipment																						
2a.1.2	Main Turbine/Generator	-	331	172	64	527	377	-	283	1,752	1,752	-	-	2,131	1,187	-	-	-	-	203,265	4,667	-
2a.1.3	Main Condensers	-	2,801	109	62	705	533	-	960	5,170	5,170	-	-	3,800	1,587	-	-	-	-	271,824	39,151	-
Cascading Costs from Clean Building Demolition																						
2a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	-	7,589	-
2a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	-	1,309	-
2a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	-	65	-
2a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	-	8,963	-
Disposal of Plant Systems																						
2a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	-	90	-
2a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	-	422	-
2a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	-	676	-
2a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	-	7,214	486	-
2a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	-	1,331	-
2a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	-	9,761	468	-
2a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	-	261	-
2a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	-	634	31	-
2a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	-	401	-
2a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	-	7,537	-
2a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	-	2,987	-
2a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	-	19,616	493	-
2a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	-	143	-
2a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	-	385	-
2a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	-	29,284	938	-
2a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	-	1,840	-
2a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	-	168,414	3,377	-
2a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	-	504	-
2a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	-	5,638	-
2a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	-	86	-
2a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	-	100	12	-
2a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	-	366	-
2a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	-	5	-
2a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	-	1,482	-
2a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	-	209,799	5,146	-
2a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	-	490	82	-
2a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	-	32	-
2a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	-	966	47	-
2a.1.5.29	Steam Generator Blowdown	-	416	21	27	319	215	-	212	1,210	1,210	-	-	1,906	631	-	-	-	-	118,130	5,778	-
2a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	-	75	-

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
2a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	5,472	-
2a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	757	-
2a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	6,677	-
2a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	4,652	252	-
2a.1.5	Totals	-	3,817	43	108	2,177	215	-	1,100	7,461	4,528	-	2,933	13,010	631	-	-	-	569,060	54,280	-
2a.1.6	Scaffolding in support of decommissioning	-	3,020	22	10	188	30	-	794	4,064	4,064	-	-	1,012	89	-	-	-	51,216	26,270	-
2a.1	Subtotal Period 2a Activity Costs	613	25,702	19,110	3,959	6,005	19,635	614	25,745	101,384	98,450	-	2,933	38,625	33,556	125	673	-	4,243,531	209,060	6,240
Period 2a	Additional Costs																				
2a.2.1	Retired RPV upper internals package	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
2a.2	Subtotal Period 2a Additional Costs	-	257	387	217	-	1,394	-	1,041	3,296	3,296	-	-	-	376	112	-	-	50,164	3,333	133
Period 2a Collateral Costs																					
2a.3.1	Process decommissioning water waste	49	-	33	60	-	134	-	70	347	347	-	-	-	308	-	-	-	18,487	60	-
2a.3.3	Small tool allowance	-	269	-	-	-	-	-	40	309	278	-	31	-	-	-	-	-	-	-	-
2a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	13,363	2,004	15,368	-	15,368	-	-	-	-	-	-	-	-	-
2a.3.5	Retention and Severance	-	-	-	-	-	-	8,215	1,232	9,447	9,447	-	-	-	-	-	-	-	-	-	-
2a.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,780	-	1,780	-	1,780	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	49	269	33	60	-	134	23,358	3,347	27,250	10,072	17,147	31	-	308	-	-	-	18,487	60	-
Period 2a Period-Dependent Costs																					
2a.4.1	Decon supplies	107	-	-	-	-	-	-	27	134	134	-	-	-	-	-	-	-	-	-	-
2a.4.2	Insurance	-	-	-	-	-	-	690	69	759	759	-	-	-	-	-	-	-	-	-	-
2a.4.3	Property taxes	-	-	-	-	-	-	4,548	455	5,002	5,002	-	-	-	-	-	-	-	-	-	-
2a.4.4	Health physics supplies	-	2,103	-	-	-	-	-	526	2,629	2,629	-	-	-	-	-	-	-	-	-	-
2a.4.5	Heavy equipment rental	-	3,565	-	-	-	-	-	535	4,100	4,100	-	-	-	-	-	-	-	-	-	-
2a.4.6	Disposal of DAW generated	-	-	86	35	-	358	-	103	582	582	-	-	-	4,345	-	-	-	86,891	142	-
2a.4.7	Plant energy budget	-	-	-	-	-	-	2,194	329	2,523	2,523	-	-	-	-	-	-	-	-	-	-
2a.4.8	NRC Fees	-	-	-	-	-	-	526	53	578	578	-	-	-	-	-	-	-	-	-	-
2a.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,647	265	2,912	-	2,912	-	-	-	-	-	-	-	-	-
2a.4.10	Fixed Overhead	-	-	-	-	-	-	1,695	254	1,949	1,949	-	-	-	-	-	-	-	-	-	-
2a.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	602	90	692	-	692	-	-	-	-	-	-	-	-	-
2a.4.12	ISFSI Operating Costs	-	-	-	-	-	-	80	12	92	-	92	-	-	-	-	-	-	-	-	-
2a.4.13	Railroad Track Maintenance	-	-	-	-	-	-	318	48	366	366	-	-	-	-	-	-	-	-	-	-
2a.4.14	Remedial Actions Surveys	-	-	-	-	-	-	1,596	239	1,835	1,835	-	-	-	-	-	-	-	-	-	-
2a.4.15	Security Staff Cost	-	-	-	-	-	-	10,900	1,635	12,534	12,534	-	-	-	-	-	-	-	-	-	160,018
2a.4.16	DOC Staff Cost	-	-	-	-	-	-	20,663	3,099	23,763	23,763	-	-	-	-	-	-	-	-	-	225,210
2a.4.17	Utility Staff Cost	-	-	-	-	-	-	27,056	4,058	31,115	31,115	-	-	-	-	-	-	-	-	-	419,049
2a.4	Subtotal Period 2a Period-Dependent Costs	107	5,668	86	35	-	358	73,514	11,797	91,565	87,870	3,696	-	-	4,345	-	-	-	86,891	142	804,276
2a.0	TOTAL PERIOD 2a COST	770	31,895	19,616	4,270	6,005	21,522	97,486	41,931	223,495	199,687	20,843	2,964	38,625	38,584	237	673	-	4,399,073	212,595	810,649
PERIOD 2b - Site Decontamination																					
Period 2b Direct Decommissioning Activities																					
Disposal of Plant Systems																					
2b.1.1.1	ADT & Misc Ventilation	-	25	1	1	26	3	-	11	66	66	-	-	153	9	-	-	-	6,803	363	-
2b.1.1.2	Aux Bldg Normal Ventilation	-	69	2	6	116	13	-	39	246	246	-	-	692	39	-	-	-	30,595	1,013	-
2b.1.1.3	Aux Bldg Special Ventilation	-	14	0	1	12	2	-	6	34	34	-	-	70	6	-	-	-	3,234	197	-
2b.1.1.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	24	-
2b.1.1.5	Boron Recycle	0	4	0	0	0	3	-	2	10	10	-	-	3	9	-	-	-	700	50	-
2b.1.1.6	Chemical & Volume Control	749	942	62	57	394	677	-	853	3,736	3,736	-	-	2,356	1,977	-	-	-	223,753	23,197	-
2b.1.1.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
2b.1.1.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	487,169	8,583	-
2b.1.1.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	502	-
2b.1.1.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	111,390	3,949	-
2b.1.1.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	5,742	494	-
2b.1.1.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	59,019	2,617	-
2b.1.1.13	Containment Ventilation	-	235	23	49	790	243	-	248	1,587	1,587	-	-	4,721	722	-	-	-	237,643	3,375	-
2b.1.1.14	Control/Relay/Cmptr Rm Vent	-	31	1	2	44	7	-	17	102	102	-	-	260	20	-	-	-	11,878	454	-
2b.1.1.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	2,344	-
2b.1.1.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	342,822	6,311	-
2b.1.1.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	4,184	48	-
2b.1.1.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
2b.1.1.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
2b.1.1.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
2b.1.1.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
2b.1.1.22	Electrical - Contaminated	-	475	5	16	334	25	-	178	1,034	1,034	-	-	1,997	75	-	-	-	85,887	6,503	-
2b.1.1.23	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
2b.1.1.24	Filter Rm Ventilation	-	5	0	0	4	0	-	2	11	11	-	-	24	1	-	-	-	1,017	69	-
2b.1.1.25	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
2b.1.1.26	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
2b.1.1.27	Fuel Handling	-	74	1	2	34	17	-	28	156	156	-	-	200	49	-	-	-	11,273	1,101	-
2b.1.1.28	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
2b.1.1.29	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
2b.1.1.30	HVAC - Contaminated	-	1,231	29	87	1,798	136	-	627	3,908	3,908	-	-	10,745	405	-	-	-	462,103	16,579	-
2b.1.1.31	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
2b.1.1.32	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
2b.1.1.33	Hot Lab & Sample Rm Ventilation	-	20	0	1	18	1	-	8	48	48	-	-	107	4	-	-	-	4,622	285	-
2b.1.1.34	Incore Instrumentation	0	30	1	2	10	20	-	14	77	77	-	-	60	58	-	-	-	6,143	458	-
2b.1.1.35	Misc Drains & Vents	-	234	12	12	77	145	-	109	590	590	-	-	458	426	-	-	-	46,079	3,180	-
2b.1.1.36	Misc Lab & Service Areas Vent	-	129	8	8	62	84	-	65	356	356	-	-	370	244	-	-	-	30,899	1,713	-
2b.1.1.37	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
2b.1.1.38	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
2b.1.1.39	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
2b.1.1.40	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
2b.1.1.41	Reactor Coolant	163	236	20	16	38	249	-	213	937	937	-	-	229	730	-	-	-	56,440	5,517	-
2b.1.1.42	Reactor Hot Sampling	140	126	11	7	9	108	-	132	533	533	-	-	54	312	-	-	-	22,678	3,686	-
2b.1.1.43	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
2b.1.1.44	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
2b.1.1.45	Reactor Vessel	9	18	1	0	4	5	-	11	47	47	-	-	22	14	-	-	-	1,816	385	-
2b.1.1.46	Residual Heat Removal	348	393	84	86	477	1,102	-	641	3,132	3,132	-	-	2,853	3,244	-	-	-	324,232	7,112	-
2b.1.1.47	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
2b.1.1.48	Safety Injection	-	874	42	72	1,117	395	-	500	3,000	3,000	-	-	6,676	1,161	-	-	-	345,708	12,284	-
2b.1.1.49	Sampling	-	52	3	2	6	32	-	23	119	119	-	-	37	93	-	-	-	7,628	714	-
2b.1.1.50	Service Bldg & New Cmptr Vent	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
2b.1.1.51	Shield Bldg Ventilation	-	120	13	25	339	163	-	127	787	787	-	-	2,028	484	-	-	-	113,139	1,743	-
2b.1.1.52	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
2b.1.1.53	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
2b.1.1.54	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
2b.1.1.55	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
2b.1.1.56	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
2b.1.1.57	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
2b.1.1.58	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
2b.1.1.59	Waste Gas Disposal	553	479	43	45	410	464	-	585	2,581	2,581	-	-	2,453	1,358	-	-	-	187,339	14,308	-
2b.1.1.60	Waste Liquid Disposal	1,436	1,800	116	100	612	1,234	-	1,595	6,893	6,893	-	-	3,655	3,594	-	-	-	381,754	44,485	-
2b.1.1.61	Waste Solid Disposal	115	145	12	11	65	134	-	140	622	622	-	-	389	393	-	-	-	41,177	3,481	-
2b.1.1	Totals	3,515	16,542	596	980	15,220	5,264	-	9,399	51,516	48,072	-	3,444	90,963	15,429	-	-	-	4,689,210	270,390	-
2b.1.2	Scaffolding in support of decommissioning	-	3,775	27	13	235	37	-	993	5,081	5,081	-	-	1,265	112	-	-	-	64,020	32,837	-
Decontamination of Site Buildings																					
2b.1.3.1	Reactor	1,215	2,808	240	1,236	373	13,625	-	4,981	24,479	24,479	-	-	2,230	83,434	-	-	-	3,633,771	50,962	-
2b.1.3.2	Auxiliary	1,292	422	23	117	177	648	-	960	3,639	3,639	-	-	1,060	6,118	-	-	-	332,495	23,821	-
2b.1.3.3	Backwash Waste Receiving Tank	-	28	3	17	-	97	-	34	179	179	-	-	-	929	-	-	-	43,896	301	-
2b.1.3.4	Drum Transfer & Truck Loading Enclosure	18	9	1	3	3	14	-	16	63	63	-	-	19	135	-	-	-	7,118	369	-
2b.1.3.5	LLRW Storage Enclosure	123	54	3	17	6	96	-	103	403	403	-	-	38	920	-	-	-	44,971	2,426	-
2b.1.3.6	Radwaste	55	24	1	8	7	43	-	47	185	185	-	-	42	412	-	-	-	21,136	1,083	-
2b.1.3.7	Resin Disposal	16	12	1	3	14	14	-	17	76	76	-	-	83	124	-	-	-	9,271	383	-
2b.1.3	Totals	2,720	3,357	271	1,400	581	14,537	-	6,158	29,024	29,024	-	-	3,471	92,071	-	-	-	4,092,658	79,343	-
2b.1.4	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
2b.1.5	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	6,235	23,674	895	2,393	16,035	19,839	225	16,584	85,879	82,435	-	3,444	95,700	107,611	-	-	-	8,845,887	382,570	1,751
Period 2b Additional Costs																					
2b.2.1	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
2b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
2b.2.3	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2b.2	Subtotal Period 2b Additional Costs	-	1,175	11	36	606	-	4,573	1,077	7,478	7,478	-	-	5,880	-	-	-	-	147,000	7,427	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Collateral Costs																					
2b.3.1	Process decommissioning water waste	166	-	113	203	-	456	-	239	1,176	1,176	-	-	-	1,047	-	-	-	62,844	204	-
2b.3.2	Process decommissioning chemical flush waste	3	-	119	390	-	893	-	295	1,699	1,699	-	-	-	1,154	-	-	-	122,948	216	-
2b.3.3	Small tool allowance	-	446	-	-	-	-	-	67	513	513	-	-	-	-	-	-	-	-	-	-
2b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	51,308	7,696	59,005	-	59,005	-	-	-	-	-	-	-	-	-
2b.3.5	Retention and Severance	-	-	-	-	-	-	2,839	426	3,265	3,265	-	-	-	-	-	-	-	-	-	-
2b.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,348	-	1,348	-	1,348	-	-	-	-	-	-	-	-	-
2b.3.7	On-site survey and release of 0.437 tons clean metallic waste	-	-	-	-	-	-	1	0	1	1	-	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	169	446	232	592	-	1,349	55,497	8,723	67,007	6,654	60,353	-	-	2,201	-	-	-	185,792	420	-
Period 2b Period-Dependent Costs																					
2b.4.1	Decon supplies	1,219	-	-	-	-	-	-	305	1,524	1,524	-	-	-	-	-	-	-	-	-	-
2b.4.2	Insurance	-	-	-	-	-	-	523	52	575	575	-	-	-	-	-	-	-	-	-	-
2b.4.3	Property taxes	-	-	-	-	-	-	3,075	308	3,383	3,383	-	-	-	-	-	-	-	-	-	-
2b.4.4	Health physics supplies	-	2,866	-	-	-	-	-	716	3,582	3,582	-	-	-	-	-	-	-	-	-	-
2b.4.5	Heavy equipment rental	-	2,774	-	-	-	-	-	416	3,190	3,190	-	-	-	-	-	-	-	-	-	-
2b.4.6	Disposal of DAW generated	-	-	103	42	-	429	-	124	698	698	-	-	-	5,209	-	-	-	104,172	170	-
2b.4.7	Plant energy budget	-	-	-	-	-	-	1,313	197	1,509	1,509	-	-	-	-	-	-	-	-	-	-
2b.4.8	NRC Fees	-	-	-	-	-	-	398	40	438	438	-	-	-	-	-	-	-	-	-	-
2b.4.9	Emergency Planning Fees	-	-	-	-	-	-	2,006	201	2,207	-	2,207	-	-	-	-	-	-	-	-	-
2b.4.10	Fixed Overhead	-	-	-	-	-	-	1,284	193	1,477	1,477	-	-	-	-	-	-	-	-	-	-
2b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	456	68	524	-	524	-	-	-	-	-	-	-	-	-
2b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	229	34	264	264	-	-	-	-	-	-	-	-	-	-
2b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	60	9	69	-	69	-	-	-	-	-	-	-	-	-
2b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	67	10	78	78	-	-	-	-	-	-	-	-	-	-
2b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,209	181	1,391	1,391	-	-	-	-	-	-	-	-	-	-
2b.4.16	Security Staff Cost	-	-	-	-	-	-	8,259	1,239	9,497	9,497	-	-	-	-	-	-	-	-	-	121,244
2b.4.17	DOC Staff Cost	-	-	-	-	-	-	15,117	2,268	17,385	17,385	-	-	-	-	-	-	-	-	-	163,904
2b.4.18	Utility Staff Cost	-	-	-	-	-	-	19,642	2,946	22,588	22,588	-	-	-	-	-	-	-	-	-	304,233
2b.4	Subtotal Period 2b Period-Dependent Costs	1,219	5,640	103	42	-	429	53,639	9,307	70,380	67,579	2,800	-	-	5,209	-	-	-	104,172	170	589,381
2b.0	TOTAL PERIOD 2b COST	7,623	30,935	1,242	3,063	16,641	21,617	113,934	35,690	230,744	164,147	63,153	3,444	101,580	115,021	-	-	-	9,282,851	390,587	591,132
PERIOD 2d - Decontamination Following Wet Fuel Storage																					
Period 2d Direct Decommissioning Activities																					
2d.1.1	Remove spent fuel racks	347	35	86	41	-	703	-	373	1,585	1,585	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
2d.1.2.1	Electrical - Contaminated - Fuel Pool	-	203	2	7	145	11	-	77	445	445	-	-	864	33	-	-	-	37,167	2,783	-
2d.1.2.2	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-
2d.1.2.3	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-
2d.1.2.4	HVAC - Contaminated - Fuel Pool	-	553	13	39	808	61	-	282	1,756	1,756	-	-	4,828	182	-	-	-	207,612	7,448	-
2d.1.2.5	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-
2d.1.2.6	Spent Fuel Pool Cooling	32	36	3	2	6	37	-	36	152	152	-	-	39	107	-	-	-	8,481	882	-
2d.1.2.7	Spent Fuel Pool Normal Ventilation	-	27	1	2	44	4	-	15	93	93	-	-	265	12	-	-	-	11,505	394	-
2d.1.2	Totals	32	2,130	36	112	2,405	113	-	958	5,786	5,786	-	-	14,376	333	-	-	-	605,100	28,530	-
Decontamination of Site Buildings																					
2d.1.3.1	Fuel Handling of Aux Building	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-
2d.1.3	Totals	1,029	1,138	13	45	404	195	-	916	3,741	3,741	-	-	2,417	1,652	-	-	-	177,755	30,404	-
2d.1.4	Scaffolding in support of decommissioning	-	755	5	3	47	7	-	199	1,016	1,016	-	-	253	22	-	-	-	12,804	6,567	-
2d.1	Subtotal Period 2d Activity Costs	1,408	4,058	141	202	2,857	1,018	-	2,445	12,128	12,128	-	-	17,046	4,099	-	-	-	928,579	66,078	-
Period 2d Additional Costs																					
2d.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
2d.2	Subtotal Period 2d Additional Costs	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
Period 2d Collateral Costs																					
2d.3.1	Process decommissioning water waste	45	-	31	56	-	126	-	65	323	323	-	-	-	288	-	-	-	17,293	56	-
2d.3.2	Process decommissioning chemical flush waste	0	-	1	5	-	10	-	3	20	20	-	-	-	13	-	-	-	1,422	2	-
2d.3.3	Small tool allowance	-	83	-	-	-	-	-	12	95	95	-	-	-	-	-	-	-	-	-	-
2d.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
2d.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	975	-	975	-	975	-	-	-	-	-	-	-	-	-
2d.3	Subtotal Period 2d Collateral Costs	45	83	162	128	1,112	314	975	316	3,135	2,160	975	-	6,000	831	-	-	-	322,324	206	-

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Decommissioning Cost Analysis**

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2d Period-Dependent Costs																					
2d.4.1	Decon supplies	236	-	-	-	-	-	-	59	295	295	-	-	-	-	-	-	-	-	-	-
2d.4.2	Insurance	-	-	-	-	-	-	378	38	416	416	-	-	-	-	-	-	-	-	-	-
2d.4.3	Property taxes	-	-	-	-	-	-	2,004	200	2,204	2,204	-	-	-	-	-	-	-	-	-	-
2d.4.4	Health physics supplies	-	794	-	-	-	-	-	198	992	992	-	-	-	-	-	-	-	-	-	-
2d.4.5	Heavy equipment rental	-	2,007	-	-	-	-	-	301	2,308	2,308	-	-	-	-	-	-	-	-	-	-
2d.4.6	Disposal of DAW generated	-	-	40	16	-	165	-	48	268	268	-	-	-	2,002	-	-	-	40,031	65	-
2d.4.7	Plant energy budget	-	-	-	-	-	-	506	76	582	582	-	-	-	-	-	-	-	-	-	-
2d.4.8	NRC Fees	-	-	-	-	-	-	277	28	305	305	-	-	-	-	-	-	-	-	-	-
2d.4.9	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
2d.4.10	Fixed Overhead	-	-	-	-	-	-	929	139	1,068	1,068	-	-	-	-	-	-	-	-	-	-
2d.4.11	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	332	50	381	381	-	-	-	-	-	-	-	-	-	-
2d.4.12	ISFSI Operating Costs	-	-	-	-	-	-	44	7	50	-	50	-	-	-	-	-	-	-	-	-
2d.4.13	Railroad Track Maintenance	-	-	-	-	-	-	49	7	56	56	-	-	-	-	-	-	-	-	-	-
2d.4.14	Remedial Actions Surveys	-	-	-	-	-	-	875	131	1,006	1,006	-	-	-	-	-	-	-	-	-	-
2d.4.15	Security Staff Cost	-	-	-	-	-	-	5,782	867	6,649	4,694	1,955	-	-	-	-	-	-	-	-	84,454
2d.4.16	DOC Staff Cost	-	-	-	-	-	-	6,401	960	7,361	7,361	-	-	-	-	-	-	-	-	-	70,243
2d.4.17	Utility Staff Cost	-	-	-	-	-	-	8,100	1,215	9,315	8,858	456	-	-	-	-	-	-	-	-	126,681
2d.4	Subtotal Period 2d Period-Dependent Costs	236	2,801	40	16	-	165	25,734	4,330	33,321	30,796	2,525	-	-	2,002	-	-	-	40,031	65	281,377
2d.0	TOTAL PERIOD 2d COST	1,689	6,941	343	346	3,969	1,496	27,746	7,403	49,932	46,432	3,501	-	23,046	6,931	-	-	-	1,290,933	66,348	287,617
PERIOD 2f - License Termination																					
Period 2f Direct Decommissioning Activities																					
2f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
2f.1.2	Terminate license	-	-	-	-	-	-	-	-	a 216	-	-	-	-	-	-	-	-	-	-	-
2f.1	Subtotal Period 2f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 2f Additional Costs																					
2f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
2f.2	Subtotal Period 2f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
Period 2f Collateral Costs																					
2f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
2f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
2f.3	Subtotal Period 2f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-
Period 2f Period-Dependent Costs																					
2f.4.1	Insurance	-	-	-	-	-	-	362	36	398	398	-	-	-	-	-	-	-	-	-	-
2f.4.2	Property taxes	-	-	-	-	-	-	1,771	177	1,948	1,948	-	-	-	-	-	-	-	-	-	-
2f.4.3	Health physics supplies	-	710	-	-	-	-	-	178	888	888	-	-	-	-	-	-	-	-	-	-
2f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
2f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
2f.4.6	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	-
2f.4.7	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
2f.4.8	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
2f.4.9	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
2f.4.10	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
2f.4.11	Security Staff Cost	-	-	-	-	-	-	5,538	831	6,369	4,497	1,873	-	-	-	-	-	-	-	-	80,898
2f.4.12	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
2f.4.13	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
2f.4	Subtotal Period 2f Period-Dependent Costs	-	710	7	3	-	28	17,461	2,682	20,890	18,470	2,420	-	-	334	-	-	-	6,685	11	186,687
2f.0	TOTAL PERIOD 2f COST	-	710	7	3	-	28	26,867	5,034	32,648	29,294	3,354	-	-	334	-	-	-	6,685	100,906	189,807
PERIOD 2 TOTALS		10,081	70,482	21,208	7,682	26,615	44,663	266,032	90,058	536,819	439,560	90,851	6,408	163,252	160,871	237	673	-	14,979,540	770,436	1,879,206

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Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3b - Site Restoration																					
Period 3b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
3b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	44,679	-
3b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	11,902	-
3b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	33	-
3b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	1,405	-
3b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	84	-
3b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	221	-
3b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	47	-
3b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	853	-
3b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	22,582	-
3b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	1,400	-
3b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	120	-
3b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
3b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	35	-
3b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	21,997	-
3b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
3b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	213	-
3b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	56	-
3b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	70	-
3b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	2,690	-
3b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	8,240	-
3b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	127,723	-
Site Closeout Activities																					
3b.1.2	Remove Rubble	-	1,330	-	-	-	-	-	200	1,530	-	-	1,530	-	-	-	-	-	-	6,495	-
3b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
3b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	667
3b.1	Subtotal Period 3b Activity Costs	-	17,279	-	-	-	-	86	2,605	19,969	99	-	19,871	-	-	-	-	-	-	135,138	667
Period 3b Additional Costs																					
3b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	18,372	-
3b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	3,552	-
3b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-
3b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	9,327	-
3b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	1,059,612	146	-
3b.2	Subtotal Period 3b Additional Costs	-	14,634	80	418	-	2,390	2,160	3,244	22,926	3,640	-	19,286	-	8,929	-	-	-	1,059,612	31,397	-
Period 3b Collateral Costs																					
3b.3.1	Small tool allowance	-	212	-	-	-	-	-	32	244	-	-	244	-	-	-	-	-	-	-	-
3b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	-	212	-	-	-	-	2,649	32	2,893	-	2,649	244	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Insurance	-	-	-	-	-	-	513	51	565	565	-	-	-	-	-	-	-	-	-	-
3b.4.2	Property taxes	-	-	-	-	-	-	4,167	417	4,583	-	4,583	-	-	-	-	-	-	-	-	-
3b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
3b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
3b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	218	22	239	-	239	-	-	-	-	-	-	-	-	-
3b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
3b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	397	781	-	-	-	-	-	-	-	-	-
3b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
3b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	361	54	416	153	263	-	-	-	-	-	-	-	-	-
3b.4.10	Security Staff Cost	-	-	-	-	-	-	4,616	692	5,308	-	5,308	-	-	-	-	-	-	-	-	57,340
3b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
3b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637
3b.4	Subtotal Period 3b Period-Dependent Costs	-	7,144	-	-	-	-	27,610	4,960	39,714	1,114	13,158	25,442	-	-	-	-	-	-	-	250,861
3b.0	TOTAL PERIOD 3b COST	-	39,269	80	418	-	2,390	32,505	10,840	85,502	4,853	15,807	64,843	-	8,929	-	-	-	1,059,612	166,534	251,528

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**Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

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															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 3c - Fuel Storage Operations/Shipping																					
Period 3c Direct Decommissioning Activities																					
Period 3c Collateral Costs																					
3c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	625,425	93,814	719,239	-	719,239	-	-	-	-	-	-	-	-	-
3c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	219,357	-	219,357	-	219,357	-	-	-	-	-	-	-	-	-
3c.3	Subtotal Period 3c Collateral Costs	-	-	-	-	-	-	844,782	93,814	938,596	-	938,596	-	-	-	-	-	-	-	-	-
Period 3c Period-Dependent Costs																					
3c.4.1	Insurance	-	-	-	-	-	-	42,518	4,252	46,770	-	46,770	-	-	-	-	-	-	-	-	-
3c.4.2	Property taxes	-	-	-	-	-	-	242,919	24,292	267,210	-	267,210	-	-	-	-	-	-	-	-	-
3c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	19,571	1,957	21,528	-	21,528	-	-	-	-	-	-	-	-	-
3c.4.5	Emergency Planning Fees	-	-	-	-	-	-	13,018	1,302	14,320	-	14,320	-	-	-	-	-	-	-	-	-
3c.4.6	Fixed Overhead	-	-	-	-	-	-	28,613	4,292	32,905	-	32,905	-	-	-	-	-	-	-	-	-
3c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	9,828	1,474	11,302	-	11,302	-	-	-	-	-	-	-	-	-
3c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	10,979	1,647	12,626	-	12,626	-	-	-	-	-	-	-	-	-
3c.4.9	Security Staff Cost	-	-	-	-	-	-	382,242	57,336	439,578	-	439,578	-	-	-	-	-	-	-	-	4,748,373
3c.4.10	DOC Staff Cost	-	-	-	-	-	-	26,917	4,038	30,955	-	30,955	-	-	-	-	-	-	-	-	182,630
3c.4.11	Utility Staff Cost	-	-	-	-	-	-	165,731	24,860	190,591	-	190,591	-	-	-	-	-	-	-	-	2,419,844
3c.4	Subtotal Period 3c Period-Dependent Costs	-	-	-	-	-	-	942,335	125,449	1,067,784	-	1,067,784	-	-	-	-	-	-	-	-	7,350,846
3c.0	TOTAL PERIOD 3c COST	-	-	-	-	-	-	1,787,117	219,263	2,006,380	-	2,006,380	-	-	-	-	-	-	-	-	7,350,846
PERIOD 3d - GTCC shipping																					
Period 3d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
3d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
3d.1	Subtotal Period 3d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 3d Collateral Costs																					
3d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
3d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
3d.3	Subtotal Period 3d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 3d Period-Dependent Costs																					
3d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
3d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
3d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
3d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
3d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
3d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
3d.4.8	Security Staff Cost	-	-	-	-	-	-	83	13	96	96	-	-	-	-	-	-	-	-	-	1,037
3d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
3d.4	Subtotal Period 3d Period-Dependent Costs	-	-	-	-	-	-	181	24	204	197	7	-	-	-	-	-	-	-	-	1,306
3d.0	TOTAL PERIOD 3d COST	-	-	1,444	-	-	8,680	256	1,691	12,071	11,984	87	-	-	-	-	-	1,773	344,823	-	1,306
PERIOD 3e - ISFSI Decontamination																					
Period 3e Direct Decommissioning Activities																					
Period 3e Additional Costs																					
3e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
3e.2	Subtotal Period 3e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
Period 3e Period-Dependent Costs																					
3e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
3e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
3e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
3e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
3e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
3e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
3e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
3e.4	Subtotal Period 3e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396

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Table F-2
Prairie Island DECON Unit 2
DECON Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3e.0	TOTAL PERIOD 3e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556
PERIOD 3f - ISFSI Site Restoration																					
Period 3f Direct Decommissioning Activities																					
Period 3f Additional Costs																					
3f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
3f.2	Subtotal Period 3f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
Period 3f Collateral Costs																					
3f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
3f.3	Subtotal Period 3f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
Period 3f Period-Dependent Costs																					
3f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
3f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
3f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
3f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
3f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
3f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
3f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
3f.4	Subtotal Period 3f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
3f.0	TOTAL PERIOD 3f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 3 TOTALS		-	40,456	1,525	435	-	11,212	1,821,988	232,501	2,108,117	19,203	2,022,273	66,641	-	9,353	-	-	1,773	1,470,189	177,262	7,611,392
TOTAL COST TO DECOMMISSION		13,876	116,855	23,184	8,596	26,793	61,273	2,194,551	341,405	2,786,532	591,409	2,121,394	73,730	169,384	184,108	826	673	1,773	17,058,250	981,176	10,289,830
TOTAL COST TO DECOMMISSION WITH 13.96% CONTINGENCY:					\$2,786,532 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 21.22% OR:					\$591,409 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 76.13% OR:					\$2,121,394 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 2.65% OR:					\$73,730 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					185,606 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					42,328 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					981,176 Man-hours																

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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APPENDIX G

DETAILED COST ANALYSIS

SCENARIO 5: SAFSTOR with 42 Year DFS

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	193	29	222	222	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	632	95	727	727	-	-	-	-	-	-	-	-	-	4,920
1a.1.16.2	Plant systems	-	-	-	-	-	-	536	80	616	616	-	-	-	-	-	-	-	-	-	4,167
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
1a.1.16.4	Waste management	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.16	Total	-	-	-	-	-	-	2,083	312	2,395	2,395	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	152	23	175	175	-	-	-	-	-	-	-	-	-	1,183
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
1a.1.17	Total	-	-	-	-	-	-	306	46	352	352	-	-	-	-	-	-	-	-	-	2,383
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	13	2	15	15	-	-	-	-	-	-	-	-	-	100
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	5,027	816	5,844	5,844	-	-	-	-	-	-	-	-	-	35,890
Period 1a Collateral Costs																					
1a.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	614	-	-	-	-	-	153	767	767	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	50	-	14	82	82	-	-	-	610	-	-	-	12,190	20	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	892	89	981	981	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,931	4,040	30,971	30,971	-	-	-	-	-	-	-	-	-	422,240
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,367	12	5	-	50	47,211	6,945	55,590	52,648	2,942	-	-	610	-	-	-	12,190	20	544,960
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	53,487	7,761	62,683	58,492	4,191	-	-	610	-	-	-	12,190	20	580,850

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A	Class B	Class C	GTCC			
															Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1	Totals	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1	Subtotal Period 1b Activity Costs	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	79	-	52	94	-	212	-	112	549	549	-	-	-	487	-	-	-	29,193	95	-
1b.3.4	Small tool allowance	-	20	-	-	-	-	-	3	23	23	-	-	-	-	-	-	-	-	-	-
1b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,134	20	52	94	-	212	311	273	2,097	1,785	311	-	-	487	-	-	-	29,193	95	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	449	-	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	250	-	-	-	-	-	63	313	313	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,486	11	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	449	438	6	3	-	27	11,709	1,866	14,498	13,764	733	-	-	324	-	-	-	6,486	11	135,867
1b.0	TOTAL PERIOD 1b COST	2,781	458	59	97	-	239	24,696	4,640	32,969	31,924	1,045	-	-	811	-	-	-	35,678	17,108	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	808	318	1,707	1,707	-	-	-	-	-	-	-	-	16,501	583
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	1,507	309	2,325	1,826	499	-	-	561	-	-	-	33,685	109	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1c Period-Dependent Costs (continued)																					
1c.4.7	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,709	1,749	13,910	13,177	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,024	2,376	17,943	16,710	1,233	-	-	713	-	-	-	36,724	16,615	136,450
PERIOD 1 TOTALS		2,873	2,846	134	212	-	546	92,207	14,777	113,594	107,126	6,468	-	-	2,134	-	-	-	84,593	33,743	853,167
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	54	8	62	62	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	520	130	650	650	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	574	138	712	712	-	-	-	-	-	-	-	-	-	-
Period 2a Additional Costs																					
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	60,919	9,138	70,057	-	70,057	-	-	-	-	-	-	-	-	-
2a.3.2	Retention and Severance	-	-	-	-	-	-	22,434	3,365	25,799	25,799	-	-	-	-	-	-	-	-	-	-
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	4,654	-	4,654	-	4,654	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	88,007	12,503	100,510	25,799	74,712	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	1,804	180	1,985	1,985	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	13,489	1,349	14,838	14,838	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	801	-	-	-	-	-	200	1,001	1,001	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	14	6	-	59	-	17	96	96	-	-	-	714	-	-	-	14,273	23	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,208	181	1,389	1,389	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	908	91	999	999	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	6,924	692	7,616	-	7,616	-	-	-	-	-	-	-	-	-
2a.4.8	Fixed Overhead	-	-	-	-	-	-	4,432	665	5,097	5,097	-	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,573	236	1,809	-	1,809	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	209	31	240	-	240	-	-	-	-	-	-	-	-	-
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	462	69	531	531	-	-	-	-	-	-	-	-	-	-
2a.4.12	Security Staff Cost	-	-	-	-	-	-	29,334	4,400	33,734	24,289	9,446	-	-	-	-	-	-	-	-	431,215
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	3,645	547	4,192	3,517	675	-	-	-	-	-	-	-	-	58,126
2a.4	Subtotal Period 2a Period-Dependent Costs	-	801	14	6	-	59	63,988	8,659	73,527	53,741	19,786	-	-	714	-	-	-	14,273	23	489,341
2a.0	TOTAL PERIOD 2a COST	-	801	14	6	-	59	156,917	21,952	179,749	85,251	94,498	-	-	714	-	-	-	14,273	23	489,341
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	524	79	602	602	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	5,052	1,263	6,315	6,315	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	5,575	1,342	6,917	6,917	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	15,884	2,383	18,267	-	18,267	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	45,219	-	45,219	-	45,219	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	61,103	2,383	63,486	-	63,486	-	-	-	-	-	-	-	-	-

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	17,530	1,753	19,283	19,283	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	131,056	13,106	144,162	144,162	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	4,112	-	-	-	-	-	1,028	5,140	5,140	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	74	30	-	308	-	89	501	501	-	-	-	3,739	-	-	-	74,786	122	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	5,869	880	6,749	6,749	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	8,234	823	9,058	9,058	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,684	268	2,952	-	2,952	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	5,898	885	6,783	6,783	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,026	304	2,330	-	2,330	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	2,263	339	2,603	2,603	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	101,034	15,155	116,189	25,562	90,627	-	-	-	-	-	-	-	-	1,355,328
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	49,438	7,416	56,854	35,704	21,150	-	-	-	-	-	-	-	-	752,960
2b.4	Subtotal Period 2b Period-Dependent Costs	-	4,112	74	30	-	308	326,032	42,046	372,602	255,544	117,059	-	-	3,739	-	-	-	74,786	122	2,108,288
2b.0	TOTAL PERIOD 2b COST	-	4,112	74	30	-	308	392,710	45,771	443,005	262,461	180,544	-	-	3,739	-	-	-	74,786	122	2,108,288
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-
2c.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-
2c.1.3	Prepare reports	-	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	1,740	435	2,176	2,176	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	1,921	462	2,383	2,383	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	3,484	348	3,833	3,833	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	28,957	2,896	31,852	31,852	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	1,401	-	-	-	-	-	350	1,752	1,752	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	25	10	-	105	-	30	170	170	-	-	-	1,269	-	-	-	25,389	41	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	2,022	303	2,325	2,325	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	2,559	256	2,814	2,814	-	-	-	-	-	-	-	-	-	-
2c.4.7	Fixed Overhead	-	-	-	-	-	-	2,032	305	2,337	2,337	-	-	-	-	-	-	-	-	-	-
2c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	780	117	897	897	-	-	-	-	-	-	-	-	-	-
2c.4.9	Security Staff Cost	-	-	-	-	-	-	29,821	4,473	34,295	34,295	-	-	-	-	-	-	-	-	-	389,103
2c.4.10	Utility Staff Cost	-	-	-	-	-	-	14,461	2,169	16,630	16,630	-	-	-	-	-	-	-	-	-	226,977
2c.4	Subtotal Period 2c Period-Dependent Costs	-	1,401	25	10	-	105	84,116	11,248	96,905	96,905	-	-	-	1,269	-	-	-	25,389	41	616,079
2c.0	TOTAL PERIOD 2c COST	-	1,401	25	10	-	105	86,036	11,710	99,288	99,288	-	-	-	1,269	-	-	-	25,389	41	616,079
PERIOD 2 TOTALS		-	6,314	113	46	-	472	635,664	79,433	722,042	447,000	275,042	-	-	5,722	-	-	-	114,448	187	3,213,708
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.6	Define major work sequence	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
3a.1.9	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
3a.1.10	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	947	142	1,089	980	-	109	-	-	-	-	-	-	-	7,370
3a.1.11.2	Plant systems	-	-	-	-	-	-	536	80	616	554	-	62	-	-	-	-	-	-	-	4,167
3a.1.11.3	Reactor internals	-	-	-	-	-	-	912	137	1,049	1,049	-	-	-	-	-	-	-	-	-	7,100
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	835	125	961	961	-	-	-	-	-	-	-	-	-	6,500
3a.1.11.5	Biological shield	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
3a.1.11.6	Steam generators	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	206	31	236	118	-	118	-	-	-	-	-	-	-	1,600
3a.1.11.8	Main Turbine	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
3a.1.11.9	Main Condensers	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400

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**Prairie Island Nuclear Generating Plant
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Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and	
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor	
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours	
Activity Specifications (continued)																						
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	401	60	461	231	-	231	-	-	-	-	-	-	-	3,120	
3a.1.11.11	Waste management	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600	
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	116	17	133	67	-	67	-	-	-	-	-	-	-	900	
3a.1.11	Total	-	-	-	-	-	-	5,112	767	5,879	5,175	-	704	-	-	-	-	-	-	-	39,777	
Planning & Site Preparations																						
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	308	46	355	355	-	-	-	-	-	-	-	-	-	2,400	
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-	
3a.1.14	Design water clean-up system	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,400	
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-	
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	158	24	182	182	-	-	-	-	-	-	-	-	-	1,230	
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	15,810	2,371	18,181	17,477	-	704	-	-	-	-	-	-	-	77,107	
Period 3a Additional Costs																						
3a.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	21,020	8,332	
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-	
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-	
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	518,936	44,275	8,332	
Period 3a Collateral Costs																						
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-	
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-	
Period 3a Period-Dependent Costs																						
3a.4.1	Insurance	-	-	-	-	-	-	279	28	307	307	-	-	-	-	-	-	-	-	-	-	
3a.4.2	Property taxes	-	-	-	-	-	-	2,320	232	2,553	2,553	-	-	-	-	-	-	-	-	-	-	
3a.4.3	Health physics supplies	-	669	-	-	-	-	-	167	836	836	-	-	-	-	-	-	-	-	-	-	
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-	
3a.4.5	Disposal of DAW generated	-	-	10	4	-	42	-	12	69	69	-	-	-	514	-	-	-	10,287	17	-	
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-	
3a.4.7	NRC Fees	-	-	-	-	-	-	335	33	368	368	-	-	-	-	-	-	-	-	-	-	
3a.4.8	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-	
3a.4.9	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-	
3a.4.10	Security Staff Cost	-	-	-	-	-	-	4,386	658	5,044	5,044	-	-	-	-	-	-	-	-	-	65,000	
3a.4.11	Utility Staff Cost	-	-	-	-	-	-	16,379	2,457	18,835	18,835	-	-	-	-	-	-	-	-	-	257,920	
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,422	10	4	-	42	26,823	4,169	32,471	32,471	-	-	-	514	-	-	-	10,287	17	322,920	
3a.0	TOTAL PERIOD 3a COST	-	3,982	366	248	178	1,411	46,153	8,674	61,013	60,308	-	704	6,132	13,357	-	-	-	529,223	44,292	408,359	
PERIOD 3b - Decommissioning Preparations																						
Period 3b Direct Decommissioning Activities																						
Detailed Work Procedures																						
3b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	-	4,733	
3b.1.1.2	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	2,500	
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	-	1,350	
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000	
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000	
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000	
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	-	3,630	
3b.1.1.8	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	-	1,200	
3b.1.1.9	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	-	450	
3b.1.1.10	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200	
3b.1.1.11	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600	
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	-	1,000	
3b.1.1.13	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560	
3b.1.1.14	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560	
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730	
3b.1.1.16	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730	
3b.1.1	Total	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	-	32,243	
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	-	32,243	
Period 3b Collateral Costs																						
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-	
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-	
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-	

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	1,264	528	4,047	4,047	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	
3b.4.3	Property taxes	-	-	-	-	-	-	1,155	116	1,271	1,271	-	-	-	-	-	-	-	-	-	
3b.4.4	Health physics supplies	-	295	-	-	-	-	-	74	369	369	-	-	-	-	-	-	-	-	-	
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	
3b.4.6	Disposal of DAW generated	-	-	6	2	-	24	-	7	39	39	-	-	-	290	-	-	-	5,802	9	
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	
3b.4.8	NRC Fees	-	-	-	-	-	-	167	17	183	183	-	-	-	-	-	-	-	-	-	
3b.4.9	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	
3b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	
3b.4.11	Security Staff Cost	-	-	-	-	-	-	2,187	328	2,515	2,515	-	-	-	-	-	-	-	-	32,411	
3b.4.12	DOC Staff Cost	-	-	-	-	-	-	5,344	802	6,146	6,146	-	-	-	-	-	-	-	-	58,080	
3b.4.13	Utility Staff Cost	-	-	-	-	-	-	8,167	1,225	9,392	9,392	-	-	-	-	-	-	-	-	128,607	
3b.4	Subtotal Period 3b Period-Dependent Costs	38	670	6	2	-	24	18,820	2,891	22,450	22,450	-	-	-	290	-	-	-	5,802	9	219,098
3b.0	TOTAL PERIOD 3b COST	1,092	1,870	6	2	-	24	24,227	4,040	31,262	30,338	-	924	-	290	-	-	-	5,802	9	251,341
PERIOD 3 TOTALS		1,092	5,852	372	251	178	1,435	70,380	12,715	92,275	90,647	-	1,628	6,132	13,647	-	-	-	535,025	44,301	659,700
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250
4a.1.1.6	CRDMs/CIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-
4a.1.1.7	Reactor Vessel Internals	53	4,650	11,331	828	-	8,610	278	10,900	36,649	36,649	-	-	-	1,174	-	742	-	167,605	22,373	1,053
4a.1.1.8	Vessel & Internals GTCC Disposal	-	-	-	-	-	8,680	-	1,302	9,982	9,982	-	-	-	-	-	-	1,773	344,823	-	-
4a.1.1.9	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053
4a.1.1	Totals	146	14,237	15,324	3,250	2,845	26,293	556	22,154	84,804	84,804	-	-	21,210	28,505	-	742	1,773	3,348,078	63,151	5,187
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
4a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
4a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
4a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
4a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
4a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
4a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
4a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
4a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
4a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
4a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
4a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
4a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
4a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
4a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
4a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
4a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
4a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
4a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
4a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
4a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
4a.1.5.21	Steam Generator Blowdown	-	434	22	29	340	234	-	224	1,282	1,282	-	-	2,031	686	-	-	-	126,640	5,974	-

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet					
Disposal of Plant Systems (continued)																						
4a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-	
4a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-	
4a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-	
4a.1.5	Totals	-	3,401	44	108	2,144	234	-	1,037	6,967	4,510	-	2,458	12,815	686	-	-	-	564,572	48,101	-	
4a.1.6	Scaffolding in support of decommissioning	-	909	3	1	26	4	-	233	1,176	1,176	-	-	138	12	-	-	-	6,985	6,020	-	
4a.1	Subtotal Period 4a Activity Costs	146	22,144	15,566	3,426	6,311	26,530	556	24,467	99,147	96,689	-	2,458	40,406	29,203	-	742	1,773	4,234,235	163,954	5,187	
Period 4a Additional Costs																						
4a.2.1	Retired RPV upper internals package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67	
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67	
Period 4a Collateral Costs																						
4a.3.1	Process decommissioning water waste	2	-	4	8	-	17	-	7	38	38	-	-	-	39	-	-	-	2,337	8	-	
4a.3.3	Small tool allowance	-	213	-	-	-	-	-	32	245	220	-	24	-	-	-	-	-	-	-	-	
4a.3	Subtotal Period 4a Collateral Costs	2	213	4	8	-	17	-	39	283	258	-	24	-	39	-	-	-	2,337	8	-	
Period 4a Period-Dependent Costs																						
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-	
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-	
4a.4.3	Property taxes	-	-	-	-	-	-	2,715	272	2,987	2,987	-	-	-	-	-	-	-	-	-	-	
4a.4.4	Health physics supplies	-	1,743	-	-	-	-	-	436	2,179	2,179	-	-	-	-	-	-	-	-	-	-	
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-	
4a.4.6	Disposal of DAW generated	-	-	59	24	-	245	-	71	398	398	-	-	-	2,971	-	-	-	59,418	97	-	
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-	
4a.4.8	NRC Fees	-	-	-	-	-	-	643	64	707	707	-	-	-	-	-	-	-	-	-	-	
4a.4.9	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-	
4a.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-	
4a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	96	-	-	-	-	-	-	-	-	-	-	
4a.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-	
4a.4.13	Security Staff Cost	-	-	-	-	-	-	5,167	775	5,943	5,943	-	-	-	-	-	-	-	-	-	76,832	
4a.4.14	DOC Staff Cost	-	-	-	-	-	-	17,190	2,579	19,769	19,769	-	-	-	-	-	-	-	-	-	189,964	
4a.4.15	Utility Staff Cost	-	-	-	-	-	-	21,633	3,245	24,877	24,877	-	-	-	-	-	-	-	-	-	340,664	
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,068	59	24	-	245	53,755	8,894	68,145	68,145	-	-	-	2,971	-	-	-	59,418	97	607,460	
4a.0	TOTAL PERIOD 4a COST	248	27,553	15,796	3,516	6,311	28,375	54,311	34,343	170,454	167,972	-	2,482	40,406	32,785	125	742	1,773	4,345,791	165,725	612,713	
PERIOD 4b - Site Decontamination																						
Period 4b Direct Decommissioning Activities																						
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-	
Disposal of Plant Systems																						
4b.1.2.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	26	-	
4b.1.2.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-	
4b.1.2.4	Chemical & Volume Control	-	1,263	89	90	753	973	-	694	3,861	3,861	-	-	4,498	2,846	-	-	-	366,565	17,235	-	
4b.1.2.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-	
4b.1.2.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-	
4b.1.2.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-	
4b.1.2.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-	
4b.1.2.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-	
4b.1.2.10	Containment Ventilation	-	229	24	51	828	248	-	254	1,635	1,635	-	-	4,951	737	-	-	-	247,952	3,278	-	
4b.1.2.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-	
4b.1.2.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-	
4b.1.2.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-	
4b.1.2.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-	
4b.1.2.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-	
4b.1.2.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-	
4b.1.2.17	Electrical - Contaminated	-	553	7	20	423	32	-	213	1,248	1,248	-	-	2,527	95	-	-	-	108,690	7,488	-	
4b.1.2.18	Electrical - Contaminated - Fuel Pool	-	137	2	5	103	8	-	53	307	307	-	-	615	23	-	-	-	26,449	1,857	-	
4b.1.2.19	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-	
4b.1.2.20	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-	
4b.1.2.21	Fuel Handling	-	108	6	11	152	73	-	70	421	421	-	-	908	218	-	-	-	50,723	1,595	-	
4b.1.2.22	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-	
4b.1.2.23	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-	
4b.1.2.24	HVAC - Contaminated	-	337	9	26	546	41	-	181	1,141	1,141	-	-	3,261	123	-	-	-	140,257	4,335	-	

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***Prairie Island Nuclear Generating Plant
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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours
Disposal of Plant Systems (continued)																					
4b.1.2.25	HVAC - Contaminated - Fuel Pool	-	145	4	11	234	18	-	78	489	489	-	-	1,398	53	-	-	-	60,110	1,858	-
4b.1.2.26	Incore Instrumentation	-	25	1	2	10	19	-	13	70	70	-	-	60	57	-	-	-	6,058	382	-
4b.1.2.27	Misc Drains & Vents	-	212	15	13	65	176	-	110	592	592	-	-	390	514	-	-	-	49,062	2,764	-
4b.1.2.28	Reactor Coolant	-	283	21	18	58	265	-	150	796	796	-	-	344	777	-	-	-	64,085	3,865	-
4b.1.2.29	Reactor Hot Sampling	-	125	12	7	11	118	-	65	339	339	-	-	66	342	-	-	-	25,063	1,611	-
4b.1.2.30	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-
4b.1.2.31	Reactor Vessel	-	19	1	0	4	5	-	7	36	36	-	-	26	14	-	-	-	2,000	260	-
4b.1.2.32	Residual Heat Removal	-	378	85	86	484	1,105	-	465	2,603	2,603	-	-	2,895	3,252	-	-	-	326,425	5,374	-
4b.1.2.33	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-
4b.1.2.34	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
4b.1.2.35	Safety Injection	-	809	42	73	1,136	393	-	486	2,939	2,939	-	-	6,788	1,156	-	-	-	349,908	11,276	-
4b.1.2.36	Sampling	-	54	4	3	10	37	-	25	133	133	-	-	59	107	-	-	-	9,420	731	-
4b.1.2.37	Shield Bldg Ventilation	-	125	14	26	360	165	-	132	821	821	-	-	2,152	491	-	-	-	118,583	1,811	-
4b.1.2.38	Spent Fuel Pool Cooling	-	324	34	32	135	450	-	222	1,198	1,198	-	-	806	1,325	-	-	-	117,816	4,400	-
4b.1.2.39	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-
4b.1.2.40	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-
4b.1.2.41	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-
4b.1.2.42	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-
4b.1.2.43	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-
4b.1.2.44	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-
4b.1.2	Totals	-	14,735	481	883	14,533	4,126	-	6,807	41,565	38,474	-	3,091	86,861	12,129	-	-	-	4,307,475	198,796	-
4b.1.3	Scaffolding in support of decommissioning	-	1,363	4	2	38	6	-	349	1,763	1,763	-	-	207	18	-	-	-	10,477	9,030	-
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	1,096	2,527	240	1,236	373	7,080	-	3,215	15,766	15,766	-	-	2,230	67,325	-	-	-	3,286,372	45,729	-
4b.1.4.2	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-
4b.1.4	Totals	1,096	2,552	243	1,253	373	7,177	-	3,248	15,941	15,941	-	-	2,230	68,254	-	-	-	3,330,268	45,995	-
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096
4b.1.6	Receive NRC approval of termination plan	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
4b.1	Subtotal Period 4b Activity Costs	1,410	18,685	814	2,179	14,945	12,012	526	10,839	61,410	58,319	-	3,091	89,298	82,494	-	-	-	7,781,139	254,398	4,096
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
4b.2.4	License Termination ISFSI	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460
4b.2	Subtotal Period 4b Additional Costs	-	1,199	93	471	606	2,532	2,638	1,848	9,387	9,387	-	-	5,880	9,355	-	-	-	1,270,457	11,189	11,700
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	5	-	9	16	-	37	-	15	83	83	-	-	-	85	-	-	-	5,092	17	-
4b.3.3	Small tool allowance	-	307	-	-	-	-	-	46	353	353	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
4b.3.5	On-site survey and release of 0.0 tons clean metallic waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	5	307	139	84	1,112	215	-	296	2,158	2,158	-	-	6,000	614	-	-	-	308,700	163	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	564	-	-	-	-	-	-	141	705	705	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	3,505	351	3,856	3,856	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	2,456	-	-	-	-	-	614	3,070	3,070	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	77	31	-	322	-	93	523	523	-	-	-	3,905	-	-	-	78,097	127	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	862	86	948	948	-	-	-	-	-	-	-	-	-	-
4b.4.9	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	-
4b.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	-
4b.4.11	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	-
4b.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	-
4b.4.13	Security Staff Cost	-	-	-	-	-	-	1,202	180	1,383	1,383	-	-	-	-	-	-	-	-	-	20,373
4b.4.14	DOC Staff Cost	-	-	-	-	-	-	15,039	2,256	17,294	17,294	-	-	-	-	-	-	-	-	-	174,093
4b.4.15	Utility Staff Cost	-	-	-	-	-	-	18,793	2,819	21,612	21,612	-	-	-	-	-	-	-	-	-	311,145
4b.4	Subtotal Period 4b Period-Dependent Costs	564	7,033	77	31	-	322	47,410	8,384	63,822	63,822	-	-	-	3,905	-	-	-	78,097	127	505,611
4b.0	TOTAL PERIOD 4b COST	1,979	27,224	1,123	2,765	16,663	15,081	50,574	21,367	136,776	133,686	-	3,091	101,178	96,368	-	-	-	9,438,392	265,878	521,407

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 4e - Delay before License Termination																					
Period 4e Direct Decommissioning Activities																					
Period 4e Period-Dependent Costs																					
4e.4.2	Property taxes	-	-	-	-	-	-	1,476	148	1,623	1,623	-	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	87	-	-	-	-	-	22	109	109	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	2	1	-	6	-	2	11	11	-	-	-	79	-	-	-	1,573	3	-
4e.4.6	NRC Fees	-	-	-	-	-	-	162	16	178	178	-	-	-	-	-	-	-	-	-	-
4e.4.7	Fixed Overhead	-	-	-	-	-	-	939	141	1,079	1,079	-	-	-	-	-	-	-	-	-	-
4e.4.8	Railroad Track Maintenance	-	-	-	-	-	-	49	7	57	57	-	-	-	-	-	-	-	-	-	-
4e.4.9	Utility Staff Cost	-	-	-	-	-	-	696	104	801	801	-	-	-	-	-	-	-	-	-	11,488
4e.4	Subtotal Period 4e Period-Dependent Costs	-	87	2	1	-	6	3,322	440	3,858	3,858	-	-	-	79	-	-	-	1,573	3	11,488
4e.0	TOTAL PERIOD 4e COST	-	87	2	1	-	6	3,322	440	3,858	3,858	-	-	-	79	-	-	-	1,573	3	11,488
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.2	Property taxes	-	-	-	-	-	-	1,335	133	1,468	1,468	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	499	-	-	-	-	-	125	624	624	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	7	3	-	27	-	8	45	45	-	-	-	332	-	-	-	6,649	11	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
4f.4.7	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
4f.4.8	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
4f.4.9	Security Staff Cost	-	-	-	-	-	-	805	121	926	926	-	-	-	-	-	-	-	-	-	11,668
4f.4.10	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
4f.4.11	Utility Staff Cost	-	-	-	-	-	-	3,772	566	4,338	4,338	-	-	-	-	-	-	-	-	-	56,395
4f.4	Subtotal Period 4f Period-Dependent Costs	-	499	7	3	-	27	11,752	1,808	14,096	14,096	-	-	-	332	-	-	-	6,649	11	114,346
4f.0	TOTAL PERIOD 4f COST	-	499	7	3	-	27	16,381	3,007	19,924	19,924	-	-	-	332	-	-	-	6,649	40,542	117,466
PERIOD 4 TOTALS		2,227	55,364	16,927	6,284	22,974	43,490	124,588	59,158	331,012	325,439	-	5,573	141,584	129,564	125	742	1,773	13,792,410	472,147	1,263,075
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
5b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
5b.1.1.3	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
5b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
5b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
5b.1.1	Totals	-	8,936	-	-	-	-	-	1,340	10,276	-	-	10,276	-	-	-	-	-	-	77,765	-
Site Closeout Activities																					
5b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
5b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	9,384	-	-	-	-	200	1,438	11,022	231	-	10,792	-	-	-	-	-	-	78,686	1,560
Period 5b Additional Costs																					
5b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
5b.2.2	Intake Structure Cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-

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**Table G-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5b Additional Costs (continued)																					
5b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-
5b.2.5	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
5b.2	Subtotal Period 5b Additional Costs	-	6,390	-	-	-	-	82	971	7,443	-	-	7,443	-	-	-	-	-	-	18,677	80
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	125	-	-	-	-	-	19	143	-	-	143	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	125	-	-	-	-	-	19	143	-	-	143	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.2	Property taxes	-	-	-	-	-	-	3,481	348	3,829	-	-	3,829	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	-	395	-	-	-	-	-	-	-	-
5b.4.5	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	-	1,178	-	-	-	-	-	-	-	-
5b.4.6	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	-	-	152	-	-	-	-	-	-	-	-
5b.4.7	Security Staff Cost	-	-	-	-	-	-	2,055	308	2,363	-	-	2,363	-	-	-	-	-	-	-	29,221
5b.4.8	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.9	Utility Staff Cost	-	-	-	-	-	-	3,831	575	4,406	-	-	4,406	-	-	-	-	-	-	-	57,340
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	21,789	4,166	33,099	-	-	33,099	-	-	-	-	-	-	-	203,445
5b.0	TOTAL PERIOD 5b COST	-	23,042	-	-	-	-	22,072	6,593	51,707	231	-	51,476	-	-	-	-	-	-	97,363	205,085
PERIOD 5 TOTALS		-	23,042	-	-	-	-	22,072	6,593	51,707	231	-	51,476	-	-	-	-	-	-	97,363	205,085
TOTAL COST TO DECOMMISSION		6,192	93,417	17,547	6,792	23,152	45,943	944,911	172,676	1,310,629	970,442	281,510	58,677	147,716	151,067	125	742	1,773	14,526,470	647,741	6,194,735
TOTAL COST TO DECOMMISSION WITH 15.17% CONTINGENCY:					\$1,310,629 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 74.04% OR:					\$970,442 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 21.48% OR:					\$281,510 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 4.48% OR:					\$58,677 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					151,935 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					33,003 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					647,741 Man-hours																

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	82	12	95	95	-	-	-	-	-	-	-	-	-	641
1a.1.13	Define major work sequence	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.14	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	270	41	311	311	-	-	-	-	-	-	-	-	-	2,104
1a.1.16.2	Plant systems	-	-	-	-	-	-	229	34	263	263	-	-	-	-	-	-	-	-	-	1,782
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.16.4	Waste management	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.16	Total	-	-	-	-	-	-	891	134	1,024	1,024	-	-	-	-	-	-	-	-	-	6,930
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	65	10	75	75	-	-	-	-	-	-	-	-	-	506
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
1a.1.17	Total	-	-	-	-	-	-	131	20	151	151	-	-	-	-	-	-	-	-	-	1,019
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	5	1	6	6	-	-	-	-	-	-	-	-	-	43
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,387	420	2,807	2,807	-	-	-	-	-	-	-	-	-	15,347
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	604	-	-	-	-	-	151	755	755	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	49	-	14	80	80	-	-	-	597	-	-	-	11,944	19	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	516	52	567	567	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	25,478	3,822	29,300	29,300	-	-	-	-	-	-	-	-	-	400,944
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,357	12	5	-	49	45,381	6,687	53,491	50,549	2,942	-	-	597	-	-	-	11,944	19	523,664
1a.0	TOTAL PERIOD 1a COST	-	1,357	12	5	-	49	58,742	8,566	68,730	63,010	5,720	-	-	597	-	-	-	11,944	19	539,011

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1.2	Auxiliary	1,244	-	-	-	-	-	-	622	1,866	1,866	-	-	-	-	-	-	-	-	17,950	-
1b.1.1.3	Drum Transfer & Truck Loading Enclosure	17	-	-	-	-	-	-	8	25	25	-	-	-	-	-	-	-	-	244	-
1b.1.1.4	LLRW Storage Enclosure	116	-	-	-	-	-	-	58	175	175	-	-	-	-	-	-	-	-	1,673	-
1b.1.1.5	Radwaste	52	-	-	-	-	-	-	26	78	78	-	-	-	-	-	-	-	-	749	-
1b.1.1.6	Resin Disposal	15	-	-	-	-	-	-	8	23	23	-	-	-	-	-	-	-	-	221	-
1b.1.1.7	Fuel Handling of Aux Building	1,014	-	-	-	-	-	-	507	1,521	1,521	-	-	-	-	-	-	-	-	13,854	-
1b.1.1	Totals	3,658	-	-	-	-	-	-	1,829	5,486	5,486	-	-	-	-	-	-	-	-	51,694	-
1b.1	Subtotal Period 1b Activity Costs	3,658	-	-	-	-	-	-	1,829	5,486	5,486	-	-	-	-	-	-	-	-	51,694	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	107	-	71	128	-	288	-	152	747	747	-	-	-	661	-	-	-	39,679	129	-
1b.3.4	Small tool allowance	-	61	-	-	-	-	-	9	70	70	-	-	-	-	-	-	-	-	-	-
1b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	309	46	356	-	356	-	-	-	-	-	-	-	-	-
1b.3.6	Retention and Severance	-	-	-	-	-	-	2,296	344	2,640	2,640	-	-	-	-	-	-	-	-	-	-
1b.3.7	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,162	61	71	128	-	288	2,917	710	5,337	4,670	667	-	-	661	-	-	-	39,679	129	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	1,334	-	-	-	-	-	-	333	1,667	1,667	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	902	90	993	993	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	448	-	-	-	-	-	112	560	560	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	13	5	-	53	-	15	86	86	-	-	-	641	-	-	-	12,830	21	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	1,334	635	13	5	-	53	11,645	2,138	15,823	15,089	733	-	-	641	-	-	-	12,830	21	135,867
1b.0	TOTAL PERIOD 1b COST	6,153	696	84	133	-	341	23,012	5,944	36,364	34,963	1,401	-	-	1,303	-	-	-	52,509	51,844	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	32	5	37	37	-	-	-	-	-	-	-	-	-	249
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	765	312	1,658	1,658	-	-	-	-	-	-	-	-	16,501	249
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.2	Process decommissioning chemical flush waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	90	13	103	-	103	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,722	258	1,980	1,980	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1c	Period-Dependent Costs																				
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	2,123	401	3,034	2,619	415	-	-	561	-	-	-	33,685	109	-
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	901	90	991	991	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,643	1,742	13,838	13,104	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,531	2,456	18,530	17,382	1,148	-	-	713	-	-	-	36,724	16,615	136,116
PERIOD 1 TOTALS		6,244	3,074	159	248	-	647	96,285	16,965	123,623	115,354	8,269	-	-	2,613	-	-	-	101,177	68,478	810,994
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a	Direct Decommissioning Activities																				
2a.1.1	Quarterly Inspection										a										
2a.1.2	Semi-annual environmental survey										a										
2a.1.3	Prepare reports										a										
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	223	33	256	256	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	349	87	437	437	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	572	121	693	693	-	-	-	-	-	-	-	-	-	-
Period 2a	Additional Costs																				
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
Period 2a	Collateral Costs																				
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	59,354	8,903	68,257	-	68,257	-	-	-	-	-	-	-	-	-
2a.3.2	Retention and Severance	-	-	-	-	-	-	11,054	1,658	12,712	12,712	-	-	-	-	-	-	-	-	-	-
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	3,128	-	3,128	-	3,128	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	73,536	10,561	84,097	12,712	71,385	-	-	-	-	-	-	-	-	-
Period 2a	Period-Dependent Costs																				
2a.4.1	Insurance	-	-	-	-	-	-	1,213	121	1,334	1,334	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	9,065	907	9,972	9,972	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	617	-	-	-	-	-	154	771	771	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	11	5	-	47	-	14	77	77	-	-	-	576	-	-	-	11,523	19	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	812	122	934	934	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	536	54	590	590	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	4,653	465	5,119	-	5,119	-	-	-	-	-	-	-	-	-
2a.4.8	Fixed Overhead	-	-	-	-	-	-	2,979	447	3,426	3,426	-	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,057	159	1,216	-	1,216	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	140	21	161	-	161	-	-	-	-	-	-	-	-	-
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	385	58	443	443	-	-	-	-	-	-	-	-	-	-
2a.4.12	Security Staff Cost	-	-	-	-	-	-	19,158	2,874	22,032	15,863	6,169	-	-	-	-	-	-	-	-	281,262
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	13,370	2,006	15,376	12,900	2,476	-	-	-	-	-	-	-	-	205,738
2a.4	Subtotal Period 2a Period-Dependent Costs	-	617	11	5	-	47	53,370	7,400	61,450	46,309	15,140	-	-	576	-	-	-	11,523	19	486,999
2a.0	TOTAL PERIOD 2a COST	-	617	11	5	-	47	131,825	18,734	151,240	64,714	86,525	-	-	576	-	-	-	11,523	19	486,999
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b	Direct Decommissioning Activities																				
2b.1.1	Quarterly Inspection										a										
2b.1.2	Semi-annual environmental survey										a										
2b.1.3	Prepare reports										a										
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	3,222	483	3,705	3,705	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	5,052	1,263	6,315	6,315	-	-	-	-	-	-	-	-	-	-

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	8,274	1,746	10,020	10,020	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	15,884	2,383	18,267	-	18,267	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	45,219	-	45,219	-	45,219	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	61,103	2,383	63,486	-	63,486	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	17,530	1,753	19,283	19,283	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	131,056	13,106	144,162	144,162	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	4,112	-	-	-	-	-	1,028	5,140	5,140	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	74	30	-	308	-	89	501	501	-	-	3,739	-	-	-	-	74,786	122	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	5,869	880	6,749	6,749	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	7,459	746	8,205	8,205	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,684	268	2,952	-	2,952	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	5,898	885	6,783	6,783	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,026	304	2,330	2,330	-	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	2,263	339	2,603	2,603	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	101,034	15,155	116,189	25,562	90,627	-	-	-	-	-	-	-	-	1,355,328
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	49,438	7,416	56,854	35,704	21,150	-	-	-	-	-	-	-	-	752,960
2b.4	Subtotal Period 2b Period-Dependent Costs	-	4,112	74	30	-	308	325,257	41,969	371,750	254,691	117,059	-	3,739	-	-	-	-	74,786	122	2,108,288
2b.0	TOTAL PERIOD 2b COST	-	4,112	74	30	-	308	394,634	46,098	445,256	264,712	180,544	-	-	3,739	-	-	-	74,786	122	2,108,288
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	1,180	177	1,357	1,357	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	1,851	463	2,313	2,313	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	3,031	640	3,671	3,671	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	3,705	370	4,075	4,075	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	30,788	3,079	33,867	33,867	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	1,428	-	-	-	-	-	357	1,785	1,785	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	25	10	-	105	-	30	171	171	-	-	1,274	-	-	-	-	25,478	42	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	2,150	322	2,472	2,472	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	2,606	261	2,866	2,866	-	-	-	-	-	-	-	-	-	-
2c.4.7	Fixed Overhead	-	-	-	-	-	-	2,161	324	2,485	2,485	-	-	-	-	-	-	-	-	-	-
2c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	829	124	953	953	-	-	-	-	-	-	-	-	-	-
2c.4.9	Utility Staff Cost	-	-	-	-	-	-	6,584	988	7,572	7,572	-	-	-	-	-	-	-	-	-	110,326
2c.4	Subtotal Period 2c Period-Dependent Costs	-	1,428	25	10	-	105	48,823	5,856	56,247	56,247	-	-	-	1,274	-	-	-	25,478	42	110,326
2c.0	TOTAL PERIOD 2c COST	-	1,428	25	10	-	105	51,854	6,496	59,918	59,918	-	-	-	1,274	-	-	-	25,478	42	110,326
PERIOD 2 TOTALS		-	6,157	111	45	-	461	578,313	71,327	656,413	389,344	267,069	-	-	5,589	-	-	-	111,786	182	2,705,613
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.6	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
3a.1.7	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
3a.1.8	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
3a.1.9	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
3a.1.10	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	405	61	466	419	-	47	-	-	-	-	-	-	-	3,151
3a.1.11.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
3a.1.11.3	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,033

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(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
3a.1.11.5	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
3a.1.11.6	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
Activity Specifications (continued)																					
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
3a.1.11.8	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.11.9	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
3a.1.11.11	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
3a.1.11	Total	-	-	-	-	-	-	2,186	328	2,514	2,213	-	301	-	-	-	-	-	-	-	17,009
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	10,137	1,521	11,658	11,357	-	301	-	-	-	-	-	-	-	32,971
Period 3a Additional Costs																					
3a.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563
Period 3a Collateral Costs																					
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	279	28	307	307	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	2,249	225	2,474	2,474	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	641	-	-	-	-	-	160	802	802	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	10	4	-	40	-	11	64	64	-	-	-	481	-	-	-	9,613	16	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	260	26	286	286	-	-	-	-	-	-	-	-	-	-
3a.4.8	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
3a.4.9	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
3a.4.10	Security Staff Cost	-	-	-	-	-	-	368	55	424	424	-	-	-	-	-	-	-	-	-	6,240
3a.4.11	Utility Staff Cost	-	-	-	-	-	-	12,056	1,808	13,864	13,864	-	-	-	-	-	-	-	-	-	199,680
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,394	10	4	-	40	18,336	2,896	22,679	22,679	-	-	-	481	-	-	-	9,613	16	205,920
3a.0	TOTAL PERIOD 3a COST	-	3,954	366	248	178	1,409	29,979	5,946	42,079	41,778	-	301	6,132	13,324	-	-	-	528,549	32,259	242,454
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024
3b.1.1.2	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552
3b.1.1.8	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513
3b.1.1.9	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192
3b.1.1.10	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
3b.1.1.11	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428
3b.1.1.13	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.14	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1.16	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1	Total	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	1,264	528	4,047	4,047	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1,019	102	1,121	1,121	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	274	-	-	-	-	-	68	342	342	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	5	2	-	22	-	6	35	35	-	-	-	264	-	-	-	5,286	9	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	129	13	142	142	-	-	-	-	-	-	-	-	-	-
3b.4.9	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
3b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
3b.4.11	Security Staff Cost	-	-	-	-	-	-	184	28	211	211	-	-	-	-	-	-	-	-	-	3,111
3b.4.12	DOC Staff Cost	-	-	-	-	-	-	3,727	559	4,287	4,287	-	-	-	-	-	-	-	-	-	42,523
3b.4.13	Utility Staff Cost	-	-	-	-	-	-	6,011	902	6,913	6,913	-	-	-	-	-	-	-	-	-	99,566
3b.4	Subtotal Period 3b Period-Dependent Costs	38	649	5	2	-	22	12,870	2,002	15,588	15,588	-	-	-	264	-	-	-	5,286	9	145,201
3b.0	TOTAL PERIOD 3b COST	1,092	1,849	5	2	-	22	15,906	2,795	21,672	21,277	-	395	-	264	-	-	-	5,286	9	158,988
PERIOD 3 TOTALS		1,092	5,803	371	250	178	1,430	45,885	8,741	63,751	63,054	-	696	6,132	13,588	-	-	-	533,835	32,267	401,442
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-
4a.1.1.7	Reactor Vessel Internals	51	4,650	11,350	862	-	7,848	278	10,531	35,570	35,570	-	-	-	1,174	-	673	-	167,337	22,373	1,053
4a.1.1.8	Vessel & Internals GTCC Disposal	-	-	-	-	-	8,680	-	1,302	9,982	9,982	-	-	-	-	-	-	1,773	344,823	-	-
4a.1.1.9	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053
4a.1.1	Totals	144	14,237	15,343	3,284	2,845	25,531	556	21,785	83,725	83,725	-	-	21,210	28,505	-	673	1,773	3,347,810	63,151	5,187
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
4a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	1,309	-
4a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	65	-
4a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	8,963	-
Disposal of Plant Systems																					
4a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	90	-
4a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	422	-
4a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	676	-
4a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	7,214	486	-
4a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	1,331	-
4a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	9,761	468	-
4a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	261	-
4a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	634	31	-
4a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	401	-
4a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	7,537	-
4a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	2,987	-
4a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	19,616	493	-
4a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	143	-

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(Thousands of 2020 Dollars)**

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															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	385	-
4a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	29,284	938	-
4a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	1,840	-
4a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	168,414	3,377	-
4a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	504	-
4a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	5,638	-
4a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	86	-
4a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	100	12	-
4a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	366	-
4a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	1,482	-
4a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	209,799	5,146	-
4a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	490	82	-
4a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	32	-
4a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	966	47	-
4a.1.5.29	Steam Generator Blowdown	-	378	21	27	319	215	-	202	1,162	1,162	-	-	1,906	631	-	-	-	118,130	5,179	-
4a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	5,472	-
4a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	757	-
4a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	6,677	-
4a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	4,652	252	-
4a.1.5	Totals	-	3,779	43	108	2,177	215	-	1,091	7,413	4,480	-	2,933	13,010	631	-	-	-	569,060	53,681	-
4a.1.6	Scaffolding in support of decommissioning	-	2,865	22	10	188	30	-	755	3,870	3,870	-	-	1,012	89	-	-	-	51,216	23,719	-
4a.1	Subtotal Period 4a Activity Costs	144	24,706	15,603	3,470	6,506	25,776	556	24,709	101,471	98,537	-	2,933	41,476	29,226	-	673	1,773	4,282,686	188,606	5,187
Period 4a Additional Costs																					
4a.2.1	Retired RPV Upper Internals Package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	3	-	4	8	-	17	-	7	39	39	-	-	-	40	-	-	-	2,408	8	-
4a.3.3	Small tool allowance	-	241	-	-	-	-	-	36	277	249	-	28	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	3	241	4	8	-	17	-	43	316	288	-	28	-	40	-	-	-	2,408	8	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	2,668	267	2,935	2,935	-	-	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,881	-	-	-	-	-	470	2,351	2,351	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	70	29	-	293	-	85	477	477	-	-	-	3,554	-	-	-	71,089	116	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	420	42	461	461	-	-	-	-	-	-	-	-	-	-
4a.4.9	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-
4a.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-
4a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	96	-	-	-	-	-	-	-	-	-	-
4a.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-
4a.4.13	Security Staff Cost	-	-	-	-	-	-	4,486	673	5,159	5,159	-	-	-	-	-	-	-	-	-	67,000
4a.4.14	DOC Staff Cost	-	-	-	-	-	-	17,103	2,565	19,668	19,668	-	-	-	-	-	-	-	-	-	189,200
4a.4.15	Utility Staff Cost	-	-	-	-	-	-	21,194	3,179	24,374	24,374	-	-	-	-	-	-	-	-	-	335,701
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,206	70	29	-	293	52,278	8,734	66,709	66,709	-	-	-	3,554	-	-	-	71,089	116	591,901
4a.0	TOTAL PERIOD 4a COST	246	30,281	15,844	3,564	6,506	27,669	52,834	34,430	171,375	168,414	-	2,961	41,476	33,393	125	673	1,773	4,405,984	190,397	597,154
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
4b.1.2.1	ADT & Misc Ventilation	-	22	1	1	26	3	-	10	63	63	-	-	153	9	-	-	-	6,803	325	-
4b.1.2.2	Aux Bldg Normal Ventilation	-	62	2	6	116	13	-	37	237	237	-	-	692	39	-	-	-	30,595	906	-
4b.1.2.3	Aux Bldg Special Ventilation	-	12	0	1	12	2	-	5	32	32	-	-	70	6	-	-	-	3,234	176	-
4b.1.2.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	24	-
4b.1.2.5	Boron Recycle	-	3	0	0	0	3	-	2	9	9	-	-	3	9	-	-	-	700	45	-

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Disposal of Plant Systems (continued)																					
4b.1.2.6	Chemical & Volume Control	-	858	62	57	394	677	-	458	2,507	2,507	-	-	2,356	1,977	-	-	-	223,753	11,575	-
4b.1.2.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
4b.1.2.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	487,169	8,583	-
4b.1.2.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	502	-
4b.1.2.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	111,390	3,949	-
4b.1.2.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	5,742	494	-
4b.1.2.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	59,019	2,617	-
4b.1.2.13	Containment Ventilation	-	211	23	49	790	243	-	242	1,558	1,558	-	-	4,721	722	-	-	-	237,643	3,016	-
4b.1.2.14	Control/Relay/Cmptr Rm Vent	-	28	1	2	44	7	-	16	98	98	-	-	260	20	-	-	-	11,878	406	-
4b.1.2.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	2,344	-
4b.1.2.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	342,822	6,311	-
4b.1.2.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	4,184	48	-
4b.1.2.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
4b.1.2.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
4b.1.2.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4b.1.2.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
4b.1.2.22	Electrical - Contaminated	-	430	5	16	334	25	-	167	978	978	-	-	1,997	75	-	-	-	85,887	5,813	-
4b.1.2.23	Electrical - Contaminated - Fuel Pool	-	184	2	7	145	11	-	72	421	421	-	-	864	33	-	-	-	37,167	2,488	-
4b.1.2.24	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
4b.1.2.25	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-
4b.1.2.26	Filter Rm Ventilation	-	4	0	0	4	0	-	2	10	10	-	-	24	1	-	-	-	1,017	61	-
4b.1.2.27	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
4b.1.2.28	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
4b.1.2.29	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-
4b.1.2.30	Fuel Handling	-	66	1	2	34	17	-	26	146	146	-	-	200	49	-	-	-	11,273	983	-
4b.1.2.31	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
4b.1.2.32	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
4b.1.2.33	HVAC - Contaminated	-	1,112	29	87	1,798	136	-	598	3,759	3,759	-	-	10,745	405	-	-	-	462,103	14,282	-
4b.1.2.34	HVAC - Contaminated - Fuel Pool	-	499	13	39	808	61	-	268	1,689	1,689	-	-	4,828	182	-	-	-	207,612	6,417	-
4b.1.2.35	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
4b.1.2.36	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
4b.1.2.37	Hot Lab & Sample Rm Ventilation	-	17	0	1	18	1	-	8	46	46	-	-	107	4	-	-	-	4,622	255	-
4b.1.2.38	Incore Instrumentation	-	27	1	2	10	20	-	13	73	73	-	-	60	58	-	-	-	6,143	412	-
4b.1.2.39	Misc Drains & Vents	-	213	12	12	77	145	-	104	563	563	-	-	458	426	-	-	-	46,079	2,841	-
4b.1.2.40	Misc Lab & Service Areas Vent	-	118	8	8	62	84	-	62	342	342	-	-	370	244	-	-	-	30,899	1,537	-
4b.1.2.41	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
4b.1.2.42	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
4b.1.2.43	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
4b.1.2.44	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
4b.1.2.45	Reactor Coolant	-	216	20	16	38	249	-	126	666	666	-	-	229	730	-	-	-	56,440	2,891	-
4b.1.2.46	Reactor Hot Sampling	-	116	11	7	9	108	-	60	311	311	-	-	54	312	-	-	-	22,678	1,499	-
4b.1.2.47	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
4b.1.2.48	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
4b.1.2.49	Reactor Vessel	-	16	1	0	4	5	-	6	32	32	-	-	22	14	-	-	-	1,816	225	-
4b.1.2.50	Residual Heat Removal	-	354	84	86	477	1,102	-	457	2,562	2,562	-	-	2,853	3,244	-	-	-	324,232	5,039	-
4b.1.2.51	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4b.1.2.52	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-
4b.1.2.53	Safety Injection	-	793	42	72	1,117	395	-	479	2,898	2,898	-	-	6,676	1,161	-	-	-	345,708	11,029	-
4b.1.2.54	Sampling	-	48	3	2	6	32	-	22	113	113	-	-	37	93	-	-	-	7,628	645	-
4b.1.2.55	Service Bldg & New Cmptr Vent	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
4b.1.2.56	Shield Bldg Ventilation	-	108	13	25	339	163	-	124	771	771	-	-	2,028	484	-	-	-	113,139	1,555	-
4b.1.2.57	Spent Fuel Pool Cooling	-	33	3	2	6	37	-	19	101	101	-	-	39	107	-	-	-	8,481	427	-
4b.1.2.58	Spent Fuel Pool Normal Ventilation	-	24	1	2	44	4	-	14	90	90	-	-	265	12	-	-	-	11,505	352	-
4b.1.2.59	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
4b.1.2.60	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
4b.1.2.61	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
4b.1.2.62	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
4b.1.2.63	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
4b.1.2.64	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
4b.1.2.65	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
4b.1.2.66	Waste Gas Disposal	-	438	43	45	410	464	-	298	1,699	1,699	-	-	2,453	1,358	-	-	-	187,339	5,879	-
4b.1.2.67	Waste Liquid Disposal	-	1,642	116	100	612	1,234	-	837	4,541	4,541	-	-	3,655	3,594	-	-	-	381,754	22,011	-
4b.1.2.68	Waste Solid Disposal	-	132	12	11	65	134	-	79	433	433	-	-	389	393	-	-	-	41,177	1,781	-
4b.1.2	Totals	-	17,877	633	1,092	17,625	5,377	-	8,385	50,989	47,545	-	3,444	105,339	15,761	-	-	-	5,294,310	240,033	-
4b.1.3	Scaffolding in support of decommissioning	-	4,297	33	15	281	45	-	1,133	5,804	5,804	-	-	1,518	134	-	-	-	76,824	35,578	-

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Craft	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.	Manhours	Manhours
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	1,096	2,528	240	1,236	373	7,080	-	3,215	15,768	15,768	-	-	2,230	67,331	-	-	-	3,286,725	45,740	-
4b.1.4.2	Auxiliary	1,168	375	23	117	177	648	-	886	3,395	3,395	-	-	1,060	6,118	-	-	-	332,495	21,235	-
4b.1.4.3	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-
4b.1.4.4	Drum Transfer & Truck Loading Enclosure	16	8	1	3	3	14	-	15	59	59	-	-	19	135	-	-	-	7,118	328	-
4b.1.4.5	LLRW Storage Enclosure	111	48	3	17	6	96	-	95	377	377	-	-	38	920	-	-	-	44,971	2,151	-
4b.1.4.6	Radwaste	50	21	1	8	7	43	-	43	174	174	-	-	42	412	-	-	-	21,136	964	-
4b.1.4.7	Resin Disposal	15	11	1	3	14	14	-	16	72	72	-	-	83	124	-	-	-	9,271	340	-
4b.1.4.8	Fuel Handling of Aux Building	924	1,015	13	45	404	195	-	833	3,430	3,430	-	-	2,417	1,652	-	-	-	177,755	27,145	-
4b.1.4	Totals	3,380	4,031	285	1,445	985	8,187	-	5,137	23,450	23,450	-	-	5,889	77,619	-	-	-	3,923,368	98,170	-
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
4b.1.6	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4b.1	Subtotal Period 4b Activity Costs	3,693	26,240	1,036	2,594	18,892	14,312	225	15,045	82,037	78,593	-	3,444	112,746	95,607	-	-	-	9,427,420	374,358	1,751
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
4b.2.4	License Termination ISFSI	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460
4b.2	Subtotal Period 4b Additional Costs	-	1,199	93	471	606	2,532	2,638	1,848	9,387	9,387	-	-	5,880	9,355	-	-	-	1,270,457	11,189	11,700
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	7	-	12	21	-	48	-	20	107	107	-	-	-	109	-	-	-	6,547	21	-
4b.3.3	Small tool allowance	-	443	-	-	-	-	-	66	509	509	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
4b.3	Subtotal Period 4b Collateral Costs	7	443	142	88	1,112	225	1	320	2,338	2,338	-	-	6,000	638	-	-	-	310,155	168	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	1,449	-	-	-	-	-	-	362	1,811	1,811	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	3,404	340	3,745	3,745	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	3,232	-	-	-	-	-	808	4,041	4,041	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	116	47	-	482	-	139	784	784	-	-	-	5,849	-	-	-	116,984	191	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	562	56	618	618	-	-	-	-	-	-	-	-	-	-
4b.4.9	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	-
4b.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	-
4b.4.11	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	-
4b.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	-
4b.4.13	Security Staff Cost	-	-	-	-	-	-	7,811	1,172	8,983	8,983	-	-	-	-	-	-	-	-	-	115,753
4b.4.14	DOC Staff Cost	-	-	-	-	-	-	22,641	3,396	26,038	26,038	-	-	-	-	-	-	-	-	-	248,175
4b.4.15	Utility Staff Cost	-	-	-	-	-	-	27,954	4,193	32,147	32,147	-	-	-	-	-	-	-	-	-	437,085
4b.4	Subtotal Period 4b Period-Dependent Costs	1,449	7,809	116	47	-	482	70,383	12,312	92,598	92,598	-	-	-	5,849	-	-	-	116,984	191	801,014
4b.0	TOTAL PERIOD 4b COST	5,149	35,691	1,386	3,201	20,610	17,552	73,246	29,526	186,361	182,916	-	3,444	124,626	111,449	-	-	-	11,125,020	385,906	814,465
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-

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**Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 4f Period-Dependent Costs																					
4f.4.2	Property taxes	-	-	-	-	-	-	1,335	133	1,468	1,468	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	709	-	-	-	-	-	177	886	886	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	7	3	-	27	-	8	45	45	-	-	-	332	-	-	-	6,649	11	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	-
4f.4.7	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
4f.4.8	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
4f.4.9	Security Staff Cost	-	-	-	-	-	-	805	121	926	926	-	-	-	-	-	-	-	-	-	11,668
4f.4.10	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
4f.4.11	Utility Staff Cost	-	-	-	-	-	-	3,772	566	4,338	4,338	-	-	-	-	-	-	-	-	-	56,395
4f.4	Subtotal Period 4f Period-Dependent Costs	-	709	7	3	-	27	11,593	1,844	14,182	14,182	-	-	-	332	-	-	-	6,649	11	114,346
4f.0	TOTAL PERIOD 4f COST	-	709	7	3	-	27	20,064	4,196	25,006	25,006	-	-	-	332	-	-	-	6,649	100,906	117,466
PERIOD 4 TOTALS		5,395	66,681	17,237	6,768	27,115	45,248	146,144	68,152	382,741	376,336	-	6,405	166,102	145,174	125	673	1,773	15,537,650	677,209	1,529,086
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	44,679	-
5b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	11,902	-
5b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	33	-
5b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	1,405	-
5b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	84	-
5b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	221	-
5b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	47	-
5b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	853	-
5b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	22,582	-
5b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	1,400	-
5b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	120	-
5b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
5b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	35	-
5b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	21,997	-
5b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
5b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	213	-
5b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	56	-
5b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	70	-
5b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	2,690	-
5b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	8,240	-
5b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	127,723	-
Site Closeout Activities																					
5b.1.2	Remove Rubble	-	1,517	-	-	-	-	-	228	1,745	-	-	1,745	-	-	-	-	-	-	7,408	-
5b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	667
5b.1	Subtotal Period 5b Activity Costs	-	17,466	-	-	-	-	86	2,633	20,185	99	-	20,086	-	-	-	-	-	-	136,051	667
Period 5b Additional Costs																					
5b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	18,372	-
5b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	3,552	-
5b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	9,327	-
5b.2.5	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
5b.2	Subtotal Period 5b Additional Costs	-	15,125	-	-	-	-	2,227	2,603	19,955	-	-	19,955	-	-	-	-	-	-	33,470	80
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	216	-	-	-	-	-	32	249	-	-	249	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	216	-	-	-	-	-	32	249	-	-	249	-	-	-	-	-	-	-	-

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Table G-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with DOE Pickup of Industry Spent Fuel Starting in 2035
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5b Period-Dependent Costs																					
5b.4.2	Property taxes	-	-	-	-	-	-	3,481	348	3,829	-	-	3,829	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	-	395	-	-	-	-	-	-	-	-
5b.4.5	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	-	1,178	-	-	-	-	-	-	-	-
5b.4.6	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	-	-	152	-	-	-	-	-	-	-	-
5b.4.7	Security Staff Cost	-	-	-	-	-	-	2,055	308	2,363	-	-	2,363	-	-	-	-	-	-	-	29,221
5b.4.8	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.9	Utility Staff Cost	-	-	-	-	-	-	3,831	575	4,406	-	-	4,406	-	-	-	-	-	-	-	57,340
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	21,789	4,166	33,099	-	-	33,099	-	-	-	-	-	-	-	203,445
5b.0	TOTAL PERIOD 5b COST	-	39,951	-	-	-	-	24,102	9,434	73,487	99	-	73,389	-	-	-	-	-	-	169,521	204,192
PERIOD 5 TOTALS		-	39,951	-	-	-	-	24,102	9,434	73,487	99	-	73,389	-	-	-	-	-	-	169,521	204,192
TOTAL COST TO DECOMMISSION		12,732	121,667	17,878	7,311	27,293	47,786	890,729	174,619	1,300,016	944,187	275,338	80,490	172,234	166,965	125	673	1,773	16,284,450	947,658	5,651,326
TOTAL COST TO DECOMMISSION WITH 15.52% CONTINGENCY:					\$1,300,016 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 72.63% OR:					\$944,187 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 21.18% OR:					\$275,338 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 6.19% OR:					\$80,490 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					167,763 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					42,406 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					947,658 Man-hours																

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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APPENDIX H

DETAILED COST ANALYSIS

SCENARIO 6: SAFSTOR with 60 Year DFS

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Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	193	29	222	222	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	632	95	727	727	-	-	-	-	-	-	-	-	-	4,920
1a.1.16.2	Plant systems	-	-	-	-	-	-	536	80	616	616	-	-	-	-	-	-	-	-	-	4,167
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
1a.1.16.4	Waste management	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.16	Total	-	-	-	-	-	-	2,083	312	2,395	2,395	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	152	23	175	175	-	-	-	-	-	-	-	-	-	1,183
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
1a.1.17	Total	-	-	-	-	-	-	306	46	352	352	-	-	-	-	-	-	-	-	-	2,383
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	13	2	15	15	-	-	-	-	-	-	-	-	-	100
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	5,027	816	5,844	5,844	-	-	-	-	-	-	-	-	-	35,890
Period 1a Collateral Costs																					
1a.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	614	-	-	-	-	-	153	767	767	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	50	-	14	82	82	-	-	-	610	-	-	-	12,190	20	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	892	89	981	981	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,931	4,040	30,971	30,971	-	-	-	-	-	-	-	-	-	422,240
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,367	12	5	-	50	47,211	6,945	55,590	52,648	2,942	-	-	610	-	-	-	12,190	20	544,960
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	53,487	7,761	62,683	58,492	4,191	-	-	610	-	-	-	12,190	20	580,850

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1	Totals	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1	Subtotal Period 1b Activity Costs	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	79	-	52	94	-	212	-	112	549	549	-	-	-	487	-	-	-	29,193	95	-
1b.3.4	Small tool allowance	-	20	-	-	-	-	-	3	23	23	-	-	-	-	-	-	-	-	-	-
1b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,134	20	52	94	-	212	311	273	2,097	1,785	311	-	-	487	-	-	-	29,193	95	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	449	-	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	250	-	-	-	-	-	63	313	313	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,486	11	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	449	438	6	3	-	27	11,709	1,866	14,498	13,764	733	-	-	324	-	-	-	6,486	11	135,867
1b.0	TOTAL PERIOD 1b COST	2,781	458	59	97	-	239	24,696	4,640	32,969	31,924	1,045	-	-	811	-	-	-	35,678	17,108	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	808	318	1,707	1,707	-	-	-	-	-	-	-	-	16,501	583
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	1,507	309	2,325	1,826	499	-	-	561	-	-	-	33,685	109	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-

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Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1c Period-Dependent Costs (continued)																					
1c.4.7	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,709	1,749	13,910	13,177	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,024	2,376	17,943	16,710	1,233	-	-	713	-	-	-	36,724	16,615	136,450
PERIOD 1 TOTALS		2,873	2,846	134	212	-	546	92,207	14,777	113,594	107,126	6,468	-	-	2,134	-	-	-	84,593	33,743	853,167
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	54	8	62	62	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	520	130	650	650	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	574	138	712	712	-	-	-	-	-	-	-	-	-	-
Period 2a Additional Costs																					
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	59,836	8,975	68,812	-	68,812	-	-	-	-	-	-	-	-	-
2a.3.2	Retention and Severance	-	-	-	-	-	-	22,434	3,365	25,799	25,799	-	-	-	-	-	-	-	-	-	-
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	4,654	-	4,654	-	4,654	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	86,924	12,341	99,265	25,799	73,466	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	1,804	180	1,985	1,985	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	13,489	1,349	14,838	14,838	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	801	-	-	-	-	-	200	1,001	1,001	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	14	6	-	59	-	17	96	96	-	-	-	714	-	-	-	14,273	23	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,208	181	1,389	1,389	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	908	91	999	999	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	6,924	692	7,616	-	7,616	-	-	-	-	-	-	-	-	-
2a.4.8	Fixed Overhead	-	-	-	-	-	-	4,432	665	5,097	5,097	-	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,573	236	1,809	-	1,809	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	209	31	240	-	240	-	-	-	-	-	-	-	-	-
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	462	69	531	531	-	-	-	-	-	-	-	-	-	-
2a.4.12	Security Staff Cost	-	-	-	-	-	-	29,334	4,400	33,734	24,289	9,446	-	-	-	-	-	-	-	-	431,215
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	3,645	547	4,192	3,517	675	-	-	-	-	-	-	-	-	58,126
2a.4	Subtotal Period 2a Period-Dependent Costs	-	801	14	6	-	59	63,988	8,659	73,527	53,741	19,786	-	-	714	-	-	-	14,273	23	489,341
2a.0	TOTAL PERIOD 2a COST	-	801	14	6	-	59	155,834	21,790	178,504	85,251	93,252	-	-	714	-	-	-	14,273	23	489,341
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	567	85	652	652	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	5,471	1,368	6,839	6,839	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	6,038	1,453	7,491	7,491	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	18,218	2,733	20,951	-	20,951	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48,970	-	48,970	-	48,970	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	67,188	2,733	69,921	-	69,921	-	-	-	-	-	-	-	-	-

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**Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	18,984	1,898	20,882	20,882	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	141,925	14,192	156,117	156,117	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	4,453	-	-	-	-	-	1,113	5,566	5,566	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	80	33	-	334	-	96	543	543	-	-	4,049	-	-	-	-	80,989	132	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	6,356	953	7,309	7,309	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	8,917	892	9,809	9,809	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,906	291	3,197	-	3,197	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	6,388	958	7,346	7,346	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,194	329	2,523	-	2,523	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	2,451	368	2,819	2,819	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	109,414	16,412	125,826	27,682	98,145	-	-	-	-	-	-	-	-	1,467,751
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	53,539	8,031	61,570	38,666	22,904	-	-	-	-	-	-	-	-	815,417
2b.4	Subtotal Period 2b Period-Dependent Costs	-	4,453	80	33	-	334	353,073	45,534	403,506	276,738	126,768	-	-	4,049	-	-	-	80,989	132	2,283,168
2b.0	TOTAL PERIOD 2b COST	-	4,453	80	33	-	334	426,299	49,719	480,918	284,229	196,689	-	-	4,049	-	-	-	80,989	132	2,283,168
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	137	21	157	157	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	1,321	330	1,652	1,652	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	1,458	351	1,809	1,809	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	2,645	265	2,910	2,910	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	21,986	2,199	24,185	24,185	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	1,064	-	-	-	-	-	266	1,330	1,330	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	19	8	-	79	-	23	129	129	-	-	964	-	-	-	-	19,276	31	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	1,535	230	1,765	1,765	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	1,943	194	2,137	2,137	-	-	-	-	-	-	-	-	-	-
2c.4.7	Fixed Overhead	-	-	-	-	-	-	1,543	231	1,774	1,774	-	-	-	-	-	-	-	-	-	-
2c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	592	89	681	681	-	-	-	-	-	-	-	-	-	-
2c.4.9	Security Staff Cost	-	-	-	-	-	-	22,641	3,396	26,037	26,037	-	-	-	-	-	-	-	-	-	295,417
2c.4.10	Utility Staff Cost	-	-	-	-	-	-	10,979	1,647	12,626	12,626	-	-	-	-	-	-	-	-	-	172,327
2c.4	Subtotal Period 2c Period-Dependent Costs	-	1,064	19	8	-	79	63,865	8,540	73,575	73,575	-	-	964	-	-	-	-	19,276	31	467,744
2c.0	TOTAL PERIOD 2c COST	-	1,064	19	8	-	79	65,323	8,891	75,384	75,384	-	-	964	-	-	-	-	19,276	31	467,744
PERIOD 2 TOTALS		-	6,318	114	46	-	472	647,456	80,400	734,806	444,864	289,942	-	-	5,727	-	-	-	114,538	187	3,240,253
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.6	Define major work sequence	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
3a.1.9	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
3a.1.10	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	947	142	1,089	980	-	109	-	-	-	-	-	-	-	7,370
3a.1.11.2	Plant systems	-	-	-	-	-	-	536	80	616	554	-	62	-	-	-	-	-	-	-	4,167
3a.1.11.3	Reactor internals	-	-	-	-	-	-	912	137	1,049	1,049	-	-	-	-	-	-	-	-	-	7,100
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	835	125	961	961	-	-	-	-	-	-	-	-	-	6,500
3a.1.11.5	Biological shield	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
3a.1.11.6	Steam generators	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	206	31	236	118	-	118	-	-	-	-	-	-	-	1,600
3a.1.11.8	Main Turbine	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
3a.1.11.9	Main Condensers	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400

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***Prairie Island Nuclear Generating Plant
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**Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet					
Activity Specifications (continued)																						
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	401	60	461	231	-	231	-	-	-	-	-	-	-	3,120	
3a.1.11.11	Waste management	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600	
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	116	17	133	67	-	67	-	-	-	-	-	-	-	900	
3a.1.11	Total	-	-	-	-	-	-	5,112	767	5,879	5,175	-	704	-	-	-	-	-	-	-	39,777	
Planning & Site Preparations																						
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	308	46	355	355	-	-	-	-	-	-	-	-	-	2,400	
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-	
3a.1.14	Design water clean-up system	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,400	
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-	
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	158	24	182	182	-	-	-	-	-	-	-	-	-	1,230	
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	15,810	2,371	18,181	17,477	-	704	-	-	-	-	-	-	-	77,107	
Period 3a Additional Costs																						
3a.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	21,020	8,332	
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-	
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-	
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	518,936	44,275	8,332	
Period 3a Collateral Costs																						
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-	
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-	
Period 3a Period-Dependent Costs																						
3a.4.1	Insurance	-	-	-	-	-	-	279	28	307	307	-	-	-	-	-	-	-	-	-	-	
3a.4.2	Property taxes	-	-	-	-	-	-	2,320	232	2,553	2,553	-	-	-	-	-	-	-	-	-	-	
3a.4.3	Health physics supplies	-	669	-	-	-	-	-	167	836	836	-	-	-	-	-	-	-	-	-	-	
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-	
3a.4.5	Disposal of DAW generated	-	-	10	4	-	42	-	12	69	69	-	-	-	514	-	-	-	10,287	17	-	
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-	
3a.4.7	NRC Fees	-	-	-	-	-	-	335	33	368	368	-	-	-	-	-	-	-	-	-	-	
3a.4.8	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-	
3a.4.9	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-	
3a.4.10	Security Staff Cost	-	-	-	-	-	-	4,386	658	5,044	5,044	-	-	-	-	-	-	-	-	-	65,000	
3a.4.11	Utility Staff Cost	-	-	-	-	-	-	16,379	2,457	18,835	18,835	-	-	-	-	-	-	-	-	-	257,920	
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,422	10	4	-	42	26,823	4,169	32,471	32,471	-	-	-	514	-	-	-	10,287	17	322,920	
3a.0	TOTAL PERIOD 3a COST	-	3,982	366	248	178	1,411	46,153	8,674	61,013	60,308	-	704	6,132	13,357	-	-	-	529,223	44,292	408,359	
PERIOD 3b - Decommissioning Preparations																						
Period 3b Direct Decommissioning Activities																						
Detailed Work Procedures																						
3b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	-	4,733	
3b.1.1.2	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	2,500	
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	-	1,350	
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000	
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000	
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000	
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	-	3,630	
3b.1.1.8	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	-	1,200	
3b.1.1.9	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	-	450	
3b.1.1.10	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200	
3b.1.1.11	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600	
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	-	1,000	
3b.1.1.13	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560	
3b.1.1.14	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560	
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730	
3b.1.1.16	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730	
3b.1.1	Total	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	-	32,243	
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	-	32,243	
Period 3b Collateral Costs																						
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-	
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-	
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-	

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**Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	1,264	528	4,047	4,047	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1,155	116	1,271	1,271	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	295	-	-	-	-	-	74	369	369	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	6	2	-	24	-	7	39	39	-	-	-	290	-	-	-	5,802	9	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	167	17	183	183	-	-	-	-	-	-	-	-	-	-
3b.4.9	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
3b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
3b.4.11	Security Staff Cost	-	-	-	-	-	-	2,187	328	2,515	2,515	-	-	-	-	-	-	-	-	-	32,411
3b.4.12	DOC Staff Cost	-	-	-	-	-	-	5,344	802	6,146	6,146	-	-	-	-	-	-	-	-	-	58,080
3b.4.13	Utility Staff Cost	-	-	-	-	-	-	8,167	1,225	9,392	9,392	-	-	-	-	-	-	-	-	-	128,607
3b.4	Subtotal Period 3b Period-Dependent Costs	38	670	6	2	-	24	18,820	2,891	22,450	22,450	-	-	-	290	-	-	-	5,802	9	219,098
3b.0	TOTAL PERIOD 3b COST	1,092	1,870	6	2	-	24	24,227	4,040	31,262	30,338	-	924	-	290	-	-	-	5,802	9	251,341
PERIOD 3 TOTALS		1,092	5,852	372	251	178	1,435	70,380	12,715	92,275	90,647	-	1,628	6,132	13,647	-	-	-	535,025	44,301	659,700
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250
4a.1.1.6	CRDMs/CIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-
4a.1.1.7	Reactor Vessel Internals	53	4,650	11,331	828	-	8,610	278	10,900	36,649	36,649	-	-	-	1,174	-	742	-	167,605	22,373	1,053
4a.1.1.8	Vessel & Internals GTCC Disposal	-	-	-	-	-	8,680	-	1,302	9,982	9,982	-	-	-	-	-	-	1,773	344,823	-	-
4a.1.1.9	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053
4a.1.1	Totals	146	14,237	15,324	3,250	2,845	26,293	556	22,154	84,804	84,804	-	-	21,210	28,505	-	742	1,773	3,348,078	63,151	5,187
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
4a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
4a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
4a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
4a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
4a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
4a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
4a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
4a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
4a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
4a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
4a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
4a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
4a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
4a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
4a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
4a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
4a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
4a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
4a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
4a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
4a.1.5.21	Steam Generator Blowdown	-	434	22	29	340	234	-	224	1,282	1,282	-	-	2,031	686	-	-	-	126,640	5,974	-

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and			
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor			
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours			
Disposal of Plant Systems (continued)																								
4a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-			
4a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-			
4a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-			
4a.1.5	Totals	-	3,401	44	108	2,144	234	-	1,037	6,967	4,510	-	2,458	12,815	686	-	-	-	564,572	48,101	-			
4a.1.6	Scaffolding in support of decommissioning	-	909	3	1	26	4	-	233	1,176	1,176	-	-	138	12	-	-	-	6,985	6,020	-			
4a.1	Subtotal Period 4a Activity Costs	146	22,144	15,566	3,426	6,311	26,530	556	24,467	99,147	96,689	-	2,458	40,406	29,203	-	742	1,773	4,234,235	163,954	5,187			
Period 4a Additional Costs																								
4a.2.1	Retired RPV upper internals package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67			
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67			
Period 4a Collateral Costs																								
4a.3.1	Process decommissioning water waste	2	-	4	8	-	17	-	7	38	38	-	-	-	39	-	-	-	2,337	8	-			
4a.3.3	Small tool allowance	-	213	-	-	-	-	-	32	245	220	-	24	-	-	-	-	-	-	-	-			
4a.3	Subtotal Period 4a Collateral Costs	2	213	4	8	-	17	-	39	283	258	-	24	-	39	-	-	-	2,337	8	-			
Period 4a Period-Dependent Costs																								
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-			
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-			
4a.4.3	Property taxes	-	-	-	-	-	-	2,715	272	2,987	2,987	-	-	-	-	-	-	-	-	-	-			
4a.4.4	Health physics supplies	-	1,743	-	-	-	-	-	436	2,179	2,179	-	-	-	-	-	-	-	-	-	-			
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-			
4a.4.6	Disposal of DAW generated	-	-	59	24	-	245	-	71	398	398	-	-	-	2,971	-	-	-	59,418	97	-			
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-			
4a.4.8	NRC Fees	-	-	-	-	-	-	643	64	707	707	-	-	-	-	-	-	-	-	-	-			
4a.4.9	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-			
4a.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-			
4a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	96	-	-	-	-	-	-	-	-	-	-			
4a.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-			
4a.4.13	Security Staff Cost	-	-	-	-	-	-	5,167	775	5,943	5,943	-	-	-	-	-	-	-	-	-	76,832			
4a.4.14	DOC Staff Cost	-	-	-	-	-	-	17,190	2,579	19,769	19,769	-	-	-	-	-	-	-	-	-	189,964			
4a.4.15	Utility Staff Cost	-	-	-	-	-	-	21,633	3,245	24,877	24,877	-	-	-	-	-	-	-	-	-	340,664			
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,068	59	24	-	245	53,755	8,894	68,145	68,145	-	-	-	2,971	-	-	-	59,418	97	607,460			
4a.0	TOTAL PERIOD 4a COST	248	27,553	15,796	3,516	6,311	28,375	54,311	34,343	170,454	167,972	-	2,482	40,406	32,785	125	742	1,773	4,345,791	165,725	612,713			
PERIOD 4b - Site Decontamination																								
Period 4b Direct Decommissioning Activities																								
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-			
Disposal of Plant Systems																								
4b.1.2.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	26	-			
4b.1.2.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-			
4b.1.2.4	Chemical & Volume Control	-	1,263	89	90	753	973	-	694	3,861	3,861	-	-	4,498	2,846	-	-	-	366,565	17,235	-			
4b.1.2.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-			
4b.1.2.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-			
4b.1.2.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-			
4b.1.2.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-			
4b.1.2.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-			
4b.1.2.10	Containment Ventilation	-	229	24	51	828	248	-	254	1,635	1,635	-	-	4,951	737	-	-	-	247,952	3,278	-			
4b.1.2.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-			
4b.1.2.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-			
4b.1.2.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-			
4b.1.2.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-			
4b.1.2.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-			
4b.1.2.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-			
4b.1.2.17	Electrical - Contaminated	-	553	7	20	423	32	-	213	1,248	1,248	-	-	2,527	95	-	-	-	108,690	7,488	-			
4b.1.2.18	Electrical - Contaminated - Fuel Pool	-	137	2	5	103	8	-	53	307	307	-	-	615	23	-	-	-	26,449	1,857	-			
4b.1.2.19	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-			
4b.1.2.20	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-			
4b.1.2.21	Fuel Handling	-	108	6	11	152	73	-	70	421	421	-	-	908	218	-	-	-	50,723	1,595	-			
4b.1.2.22	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-			
4b.1.2.23	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-			
4b.1.2.24	HVAC - Contaminated	-	337	9	26	546	41	-	181	1,141	1,141	-	-	3,261	123	-	-	-	140,257	4,335	-			

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4b.1.2.25	HVAC - Contaminated - Fuel Pool	-	145	4	11	234	18	-	78	489	489	-	-	1,398	53	-	-	-	60,110	1,858	-
4b.1.2.26	Incore Instrumentation	-	25	1	2	10	19	-	13	70	70	-	-	60	57	-	-	-	6,058	382	-
4b.1.2.27	Misc Drains & Vents	-	212	15	13	65	176	-	110	592	592	-	-	390	514	-	-	-	49,062	2,764	-
4b.1.2.28	Reactor Coolant	-	283	21	18	58	265	-	150	796	796	-	-	344	777	-	-	-	64,085	3,865	-
4b.1.2.29	Reactor Hot Sampling	-	125	12	7	11	118	-	65	339	339	-	-	66	342	-	-	-	25,063	1,611	-
4b.1.2.30	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-
4b.1.2.31	Reactor Vessel	-	19	1	0	4	5	-	7	36	36	-	-	26	14	-	-	-	2,000	260	-
4b.1.2.32	Residual Heat Removal	-	378	85	86	484	1,105	-	465	2,603	2,603	-	-	2,895	3,252	-	-	-	326,425	5,374	-
4b.1.2.33	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-
4b.1.2.34	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
4b.1.2.35	Safety Injection	-	809	42	73	1,136	393	-	486	2,939	2,939	-	-	6,788	1,156	-	-	-	349,908	11,276	-
4b.1.2.36	Sampling	-	54	4	3	10	37	-	25	133	133	-	-	59	107	-	-	-	9,420	731	-
4b.1.2.37	Shield Bldg Ventilation	-	125	14	26	360	165	-	132	821	821	-	-	2,152	491	-	-	-	118,583	1,811	-
4b.1.2.38	Spent Fuel Pool Cooling	-	324	34	32	135	450	-	222	1,198	1,198	-	-	806	1,325	-	-	-	117,816	4,400	-
4b.1.2.39	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-
4b.1.2.40	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-
4b.1.2.41	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-
4b.1.2.42	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-
4b.1.2.43	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-
4b.1.2.44	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-
4b.1.2	Totals	-	14,735	481	883	14,533	4,126	-	6,807	41,565	38,474	-	3,091	86,861	12,129	-	-	-	4,307,475	198,796	-
4b.1.3	Scaffolding in support of decommissioning	-	1,363	4	2	38	6	-	349	1,763	1,763	-	-	207	18	-	-	-	10,477	9,030	-
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	1,096	2,527	240	1,236	373	7,080	-	3,215	15,766	15,766	-	-	2,230	67,325	-	-	-	3,286,372	45,729	-
4b.1.4.2	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-
4b.1.4	Totals	1,096	2,552	243	1,253	373	7,177	-	3,248	15,941	15,941	-	-	2,230	68,254	-	-	-	3,330,268	45,995	-
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096
4b.1.6	Receive NRC approval of termination plan	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
4b.1	Subtotal Period 4b Activity Costs	1,410	18,685	814	2,179	14,945	12,012	526	10,839	61,410	58,319	-	3,091	89,298	82,494	-	-	-	7,781,139	254,398	4,096
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
4b.2.4	License Termination ISFSI	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460
4b.2	Subtotal Period 4b Additional Costs	-	1,199	93	471	606	2,532	2,638	1,848	9,387	9,387	-	-	5,880	9,355	-	-	-	1,270,457	11,189	11,700
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	5	-	9	16	-	37	-	15	83	83	-	-	-	85	-	-	-	5,092	17	-
4b.3.2	Process decommissioning chemical flush waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4b.3.3	Small tool allowance	-	307	-	-	-	-	-	46	353	353	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
4b.3	Subtotal Period 4b Collateral Costs	5	307	139	84	1,112	215	-	296	2,158	2,158	-	-	6,000	614	-	-	-	308,700	163	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	564	-	-	-	-	-	-	141	705	705	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	3,505	351	3,856	3,856	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	2,456	-	-	-	-	-	614	3,070	3,070	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	77	31	-	322	-	93	523	523	-	-	-	3,905	-	-	-	78,097	127	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	862	86	948	948	-	-	-	-	-	-	-	-	-	-
4b.4.9	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	-
4b.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	-
4b.4.11	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	-
4b.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	-
4b.4.13	Security Staff Cost	-	-	-	-	-	-	1,202	180	1,383	1,383	-	-	-	-	-	-	-	-	-	20,373
4b.4.14	DOC Staff Cost	-	-	-	-	-	-	15,039	2,256	17,294	17,294	-	-	-	-	-	-	-	-	-	174,093
4b.4.15	Utility Staff Cost	-	-	-	-	-	-	18,793	2,819	21,612	21,612	-	-	-	-	-	-	-	-	-	311,145
4b.4	Subtotal Period 4b Period-Dependent Costs	564	7,033	77	31	-	322	47,410	8,384	63,822	63,822	-	-	-	3,905	-	-	-	78,097	127	505,611
4b.0	TOTAL PERIOD 4b COST	1,979	27,224	1,123	2,765	16,663	15,081	50,574	21,367	136,776	133,686	-	3,091	101,178	96,368	-	-	-	9,438,392	265,878	521,407

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**Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 4e - Delay before License Termination																					
Period 4e Direct Decommissioning Activities																					
Period 4e Period-Dependent Costs																					
4e.4.2	Property taxes	-	-	-	-	-	-	1,476	148	1,623	1,623	-	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	87	-	-	-	-	-	22	109	109	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	2	1	-	6	-	2	11	11	-	-	-	79	-	-	-	1,573	3	-
4e.4.6	NRC Fees	-	-	-	-	-	-	162	16	178	178	-	-	-	-	-	-	-	-	-	-
4e.4.7	Fixed Overhead	-	-	-	-	-	-	939	141	1,079	1,079	-	-	-	-	-	-	-	-	-	-
4e.4.8	Railroad Track Maintenance	-	-	-	-	-	-	49	7	57	57	-	-	-	-	-	-	-	-	-	-
4e.4.9	Utility Staff Cost	-	-	-	-	-	-	696	104	801	801	-	-	-	-	-	-	-	-	-	11,488
4e.4	Subtotal Period 4e Period-Dependent Costs	-	87	2	1	-	6	3,322	440	3,858	3,858	-	-	-	79	-	-	-	1,573	3	11,488
4e.0	TOTAL PERIOD 4e COST	-	87	2	1	-	6	3,322	440	3,858	3,858	-	-	-	79	-	-	-	1,573	3	11,488
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.2	Property taxes	-	-	-	-	-	-	1,335	133	1,468	1,468	-	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	499	-	-	-	-	-	125	624	624	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	7	3	-	27	-	8	45	45	-	-	-	332	-	-	-	6,649	11	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
4f.4.7	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
4f.4.8	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
4f.4.9	Security Staff Cost	-	-	-	-	-	-	805	121	926	926	-	-	-	-	-	-	-	-	-	11,668
4f.4.10	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
4f.4.11	Utility Staff Cost	-	-	-	-	-	-	3,772	566	4,338	4,338	-	-	-	-	-	-	-	-	-	56,395
4f.4	Subtotal Period 4f Period-Dependent Costs	-	499	7	3	-	27	11,752	1,808	14,096	14,096	-	-	-	332	-	-	-	6,649	11	114,346
4f.0	TOTAL PERIOD 4f COST	-	499	7	3	-	27	16,381	3,007	19,924	19,924	-	-	-	332	-	-	-	6,649	40,542	117,466
PERIOD 4 TOTALS		2,227	55,364	16,927	6,284	22,974	43,490	124,588	59,158	331,012	325,439	-	5,573	141,584	129,564	125	742	1,773	13,792,410	472,147	1,263,075
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
5b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
5b.1.1.3	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
5b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
5b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
5b.1.1	Totals	-	8,936	-	-	-	-	-	1,340	10,276	-	-	10,276	-	-	-	-	-	-	77,765	-
Site Closeout Activities																					
5b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
5b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	9,384	-	-	-	-	200	1,438	11,022	231	-	10,792	-	-	-	-	-	-	78,686	1,560

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Table H-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5b Additional Costs																					
5b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
5b.2.2	Intake Structure Cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-
5b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-
5b.2.5	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	2,219	80
5b.2	Subtotal Period 5b Additional Costs	-	6,390	-	-	-	-	82	971	7,443	-	-	7,443	-	-	-	-	-	-	18,677	80
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	125	-	-	-	-	-	19	143	-	-	143	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	125	-	-	-	-	-	19	143	-	-	143	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.2	Property taxes	-	-	-	-	-	-	3,481	348	3,829	-	-	3,829	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	-	395	-	-	-	-	-	-	-	-
5b.4.5	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	-	1,178	-	-	-	-	-	-	-	-
5b.4.6	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	-	-	152	-	-	-	-	-	-	-	-
5b.4.7	Security Staff Cost	-	-	-	-	-	-	2,055	308	2,363	-	-	2,363	-	-	-	-	-	-	-	29,221
5b.4.8	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.9	Utility Staff Cost	-	-	-	-	-	-	3,831	575	4,406	-	-	4,406	-	-	-	-	-	-	-	57,340
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	21,789	4,166	33,099	-	-	33,099	-	-	-	-	-	-	-	203,445
5b.0	TOTAL PERIOD 5b COST	-	23,042	-	-	-	-	22,072	6,593	51,707	231	-	51,476	-	-	-	-	-	-	97,363	205,085
PERIOD 5 TOTALS		-	23,042	-	-	-	-	22,072	6,593	51,707	231	-	51,476	-	-	-	-	-	-	97,363	205,085
TOTAL COST TO DECOMMISSION		6,192	93,421	17,547	6,792	23,152	45,943	956,703	173,643	1,323,393	968,306	296,410	58,677	147,716	151,072	125	742	1,773	14,526,560	647,742	6,221,279

TOTAL COST TO DECOMMISSION WITH 15.1% CONTINGENCY:	\$1,323,393	thousands of 2020 dollars
TOTAL NRC LICENSE TERMINATION COST IS 73.17% OR:	\$968,306	thousands of 2020 dollars
SPENT FUEL MANAGEMENT COST IS 22.4% OR:	\$296,410	thousands of 2020 dollars
NON-NUCLEAR DEMOLITION COST IS 4.43% OR:	\$58,677	thousands of 2020 dollars
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):	151,940	Cubic Feet
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:	1,773	Cubic Feet
TOTAL SCRAP METAL REMOVED:	33,003	Tons
TOTAL CRAFT LABOR REQUIREMENTS:	647,742	Man-hours

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	82	12	95	95	-	-	-	-	-	-	-	-	-	641
1a.1.13	Define major work sequence	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.14	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.15	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
Activity Specifications																					
1a.1.16.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	270	41	311	311	-	-	-	-	-	-	-	-	-	2,104
1a.1.16.2	Plant systems	-	-	-	-	-	-	229	34	263	263	-	-	-	-	-	-	-	-	-	1,782
1a.1.16.3	Plant structures and buildings	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.16.4	Waste management	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.16.5	Facility and site dormancy	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.16	Total	-	-	-	-	-	-	891	134	1,024	1,024	-	-	-	-	-	-	-	-	-	6,930
Detailed Work Procedures																					
1a.1.17.1	Plant systems	-	-	-	-	-	-	65	10	75	75	-	-	-	-	-	-	-	-	-	506
1a.1.17.2	Facility closeout & dormancy	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
1a.1.17	Total	-	-	-	-	-	-	131	20	151	151	-	-	-	-	-	-	-	-	-	1,019
1a.1.18	Procure vacuum drying system	-	-	-	-	-	-	5	1	6	6	-	-	-	-	-	-	-	-	-	43
1a.1.19	Drain/de-energize non-cont. systems									a											
1a.1.20	Drain & dry NSSS									a											
1a.1.21	Drain/de-energize contaminated systems									a											
1a.1.22	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,387	420	2,807	2,807	-	-	-	-	-	-	-	-	-	15,347
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	604	-	-	-	-	-	151	755	755	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	49	-	14	80	80	-	-	597	-	-	-	-	11,944	19	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	516	52	567	567	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	25,478	3,822	29,300	29,300	-	-	-	-	-	-	-	-	-	400,944
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,357	12	5	-	49	45,381	6,687	53,491	50,549	2,942	-	-	597	-	-	-	11,944	19	523,664
1a.0	TOTAL PERIOD 1a COST	-	1,357	12	5	-	49	58,742	8,566	68,730	63,010	5,720	-	-	597	-	-	-	11,944	19	539,011

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1.2	Auxiliary	1,244	-	-	-	-	-	-	622	1,866	1,866	-	-	-	-	-	-	-	-	17,950	-
1b.1.1.3	Drum Transfer & Truck Loading Enclosure	17	-	-	-	-	-	-	8	25	25	-	-	-	-	-	-	-	-	244	-
1b.1.1.4	LLRW Storage Enclosure	116	-	-	-	-	-	-	58	175	175	-	-	-	-	-	-	-	-	1,673	-
1b.1.1.5	Radwaste	52	-	-	-	-	-	-	26	78	78	-	-	-	-	-	-	-	-	749	-
1b.1.1.6	Resin Disposal	15	-	-	-	-	-	-	8	23	23	-	-	-	-	-	-	-	-	221	-
1b.1.1.7	Fuel Handling of Aux Building	1,014	-	-	-	-	-	-	507	1,521	1,521	-	-	-	-	-	-	-	-	13,854	-
1b.1.1	Totals	3,658	-	-	-	-	-	-	1,829	5,486	5,486	-	-	-	-	-	-	-	-	51,694	-
1b.1	Subtotal Period 1b Activity Costs	3,658	-	-	-	-	-	-	1,829	5,486	5,486	-	-	-	-	-	-	-	-	51,694	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	107	-	71	128	-	288	-	152	747	747	-	-	-	661	-	-	-	39,679	129	-
1b.3.4	Small tool allowance	-	61	-	-	-	-	-	9	70	70	-	-	-	-	-	-	-	-	-	-
1b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	309	46	356	-	356	-	-	-	-	-	-	-	-	-
1b.3.6	Retention and Severance	-	-	-	-	-	-	2,296	344	2,640	2,640	-	-	-	-	-	-	-	-	-	-
1b.3.7	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,162	61	71	128	-	288	2,917	710	5,337	4,670	667	-	-	661	-	-	-	39,679	129	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	1,334	-	-	-	-	-	-	333	1,667	1,667	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	902	90	993	993	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	448	-	-	-	-	-	112	560	560	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	13	5	-	53	-	15	86	86	-	-	-	641	-	-	-	12,830	21	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	1,334	635	13	5	-	53	11,645	2,138	15,823	15,089	733	-	-	641	-	-	-	12,830	21	135,867
1b.0	TOTAL PERIOD 1b COST	6,153	696	84	133	-	341	23,012	5,944	36,364	34,963	1,401	-	-	1,303	-	-	-	52,509	51,844	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	32	5	37	37	-	-	-	-	-	-	-	-	-	249
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	765	312	1,658	1,658	-	-	-	-	-	-	-	-	16,501	249
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	90	13	103	-	103	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,722	258	1,980	1,980	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	2,123	401	3,034	2,619	415	-	-	561	-	-	-	33,685	109	-

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Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	901	90	991	991	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,643	1,742	13,838	13,104	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,531	2,456	18,530	17,382	1,148	-	-	713	-	-	-	36,724	16,615	136,116
PERIOD 1 TOTALS		6,244	3,074	159	248	-	647	96,285	16,965	123,623	115,354	8,269	-	-	2,613	-	-	-	101,177	68,478	810,994
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	223	33	256	256	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	349	87	437	437	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	572	121	693	693	-	-	-	-	-	-	-	-	-	-
Period 2a Additional Costs																					
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	58,271	8,741	67,011	-	67,011	-	-	-	-	-	-	-	-	-
2a.3.2	Retention and Severance	-	-	-	-	-	-	11,054	1,658	12,712	12,712	-	-	-	-	-	-	-	-	-	-
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	3,128	-	3,128	-	3,128	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	72,453	10,399	82,851	12,712	70,139	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	1,213	121	1,334	1,334	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	9,065	907	9,972	9,972	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	617	-	-	-	-	-	154	771	771	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	11	5	-	47	-	14	77	77	-	-	-	576	-	-	-	11,523	19	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	812	122	934	934	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	536	54	590	590	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	4,653	465	5,119	-	5,119	-	-	-	-	-	-	-	-	-
2a.4.8	Fixed Overhead	-	-	-	-	-	-	2,979	447	3,426	3,426	-	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,057	159	1,216	-	1,216	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	140	21	161	-	161	-	-	-	-	-	-	-	-	-
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	385	58	443	443	-	-	-	-	-	-	-	-	-	-
2a.4.12	Security Staff Cost	-	-	-	-	-	-	19,158	2,874	22,032	15,863	6,169	-	-	-	-	-	-	-	-	281,262
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	13,370	2,006	15,376	12,900	2,476	-	-	-	-	-	-	-	-	205,738
2a.4	Subtotal Period 2a Period-Dependent Costs	-	617	11	5	-	47	53,370	7,400	61,450	46,309	15,140	-	-	576	-	-	-	11,523	19	486,999
2a.0	TOTAL PERIOD 2a COST	-	617	11	5	-	47	130,742	18,572	149,994	64,714	85,280	-	-	576	-	-	-	11,523	19	486,999
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection									a											
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	3,489	523	4,013	4,013	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	5,471	1,368	6,839	6,839	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	8,960	1,891	10,851	10,851	-	-	-	-	-	-	-	-	-	-

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**Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	18,218	2,733	20,951	-	20,951	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48,970	-	48,970	-	48,970	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	67,188	2,733	69,921	-	69,921	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	18,984	1,898	20,882	20,882	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	141,925	14,192	156,117	156,117	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	4,453	-	-	-	-	-	1,113	5,566	5,566	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	80	33	-	334	-	96	543	543	-	-	-	4,049	-	-	-	80,989	132	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	6,356	953	7,309	7,309	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	8,078	808	8,886	8,886	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	2,906	291	3,197	-	3,197	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	6,388	958	7,346	7,346	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,194	329	2,523	-	2,523	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	2,451	368	2,819	2,819	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	109,414	16,412	125,826	27,682	98,145	-	-	-	-	-	-	-	-	1,467,751
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	53,539	8,031	61,570	38,666	22,904	-	-	-	-	-	-	-	-	815,417
2b.4	Subtotal Period 2b Period-Dependent Costs	-	4,453	80	33	-	334	352,234	45,450	402,583	275,815	126,768	-	-	4,049	-	-	-	80,989	132	2,283,168
2b.0	TOTAL PERIOD 2b COST	-	4,453	80	33	-	334	428,382	50,074	483,356	286,666	196,689	-	-	4,049	-	-	-	80,989	132	2,283,168
PERIOD 2c - SAFSTOR Dormancy without Spent Fuel Storage																					
Period 2c Direct Decommissioning Activities																					
2c.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2c.1.4	Bituminous roof replacement	-	-	-	-	-	-	913	137	1,050	1,050	-	-	-	-	-	-	-	-	-	-
2c.1.5	Maintenance supplies	-	-	-	-	-	-	1,431	358	1,789	1,789	-	-	-	-	-	-	-	-	-	-
2c.1	Subtotal Period 2c Activity Costs	-	-	-	-	-	-	2,345	495	2,839	2,839	-	-	-	-	-	-	-	-	-	-
Period 2c Period-Dependent Costs																					
2c.4.1	Insurance	-	-	-	-	-	-	2,866	287	3,152	3,152	-	-	-	-	-	-	-	-	-	-
2c.4.2	Property taxes	-	-	-	-	-	-	23,818	2,382	26,200	26,200	-	-	-	-	-	-	-	-	-	-
2c.4.3	Health physics supplies	-	1,105	-	-	-	-	-	276	1,381	1,381	-	-	-	-	-	-	-	-	-	-
2c.4.4	Disposal of DAW generated	-	-	20	8	-	81	-	23	132	132	-	-	-	985	-	-	-	19,708	32	-
2c.4.5	Plant energy budget	-	-	-	-	-	-	1,663	249	1,913	1,913	-	-	-	-	-	-	-	-	-	-
2c.4.6	NRC Fees	-	-	-	-	-	-	2,016	202	2,217	2,217	-	-	-	-	-	-	-	-	-	-
2c.4.7	Fixed Overhead	-	-	-	-	-	-	1,671	251	1,922	1,922	-	-	-	-	-	-	-	-	-	-
2c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	641	96	738	738	-	-	-	-	-	-	-	-	-	-
2c.4.9	Utility Staff Cost	-	-	-	-	-	-	5,093	764	5,857	5,857	-	-	-	-	-	-	-	-	-	85,343
2c.4	Subtotal Period 2c Period-Dependent Costs	-	1,105	20	8	-	81	37,769	4,530	43,512	43,512	-	-	-	985	-	-	-	19,708	32	85,343
2c.0	TOTAL PERIOD 2c COST	-	1,105	20	8	-	81	40,113	5,025	46,351	46,351	-	-	-	985	-	-	-	19,708	32	85,343
PERIOD 2 TOTALS		-	6,174	111	45	-	462	599,238	73,670	679,701	397,732	281,969	-	-	5,611	-	-	-	112,220	183	2,855,510
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.6	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
3a.1.7	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
3a.1.8	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
3a.1.9	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
3a.1.10	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
3a.1.11.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	405	61	466	419	-	47	-	-	-	-	-	-	-	3,151
3a.1.11.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
3a.1.11.3	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,036
3a.1.11.4	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
3a.1.11.5	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214

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Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Activity Specifications (continued)																					
3a.1.11.6	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
3a.1.11.7	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
3a.1.11.8	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.11.9	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.11.10	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
3a.1.11.11	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.11.12	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
3a.1.11	Total	-	-	-	-	-	-	2,186	328	2,514	2,213	-	301	-	-	-	-	-	-	-	17,009
Planning & Site Preparations																					
3a.1.12	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
3a.1.13	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
3a.1.14	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
3a.1.15	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
3a.1.16	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	10,137	1,521	11,658	11,357	-	301	-	-	-	-	-	-	-	32,971
Period 3a Additional Costs																					
3a.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563
Period 3a Collateral Costs																					
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	279	28	307	307	-	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	2,249	225	2,474	2,474	-	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	641	-	-	-	-	-	160	802	802	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	10	4	-	40	-	11	64	64	-	-	-	481	-	-	-	9,613	16	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC Fees	-	-	-	-	-	-	260	26	286	286	-	-	-	-	-	-	-	-	-	-
3a.4.8	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
3a.4.9	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
3a.4.10	Security Staff Cost	-	-	-	-	-	-	368	55	424	424	-	-	-	-	-	-	-	-	-	6,240
3a.4.11	Utility Staff Cost	-	-	-	-	-	-	12,056	1,808	13,864	13,864	-	-	-	-	-	-	-	-	-	199,680
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,394	10	4	-	40	18,336	2,896	22,679	22,679	-	-	-	481	-	-	-	9,613	16	205,920
3a.0	TOTAL PERIOD 3a COST	-	3,954	366	248	178	1,409	29,979	5,946	42,079	41,778	-	301	6,132	13,324	-	-	-	528,549	32,259	242,454
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024
3b.1.1.2	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552
3b.1.1.8	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513
3b.1.1.9	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192
3b.1.1.10	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
3b.1.1.11	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428
3b.1.1.13	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.14	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1.16	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1	Total	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787

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**Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	1,264	528	4,047	4,047	-	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1,019	102	1,121	1,121	-	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	274	-	-	-	-	-	68	342	342	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	5	2	-	22	-	6	35	35	-	-	-	264	-	-	-	5,286	9	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC Fees	-	-	-	-	-	-	129	13	142	142	-	-	-	-	-	-	-	-	-	-
3b.4.9	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
3b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
3b.4.11	Security Staff Cost	-	-	-	-	-	-	184	28	211	211	-	-	-	-	-	-	-	-	-	3,111
3b.4.12	DOC Staff Cost	-	-	-	-	-	-	3,727	559	4,287	4,287	-	-	-	-	-	-	-	-	-	42,523
3b.4.13	Utility Staff Cost	-	-	-	-	-	-	6,011	902	6,913	6,913	-	-	-	-	-	-	-	-	-	99,566
3b.4	Subtotal Period 3b Period-Dependent Costs	38	649	5	2	-	22	12,870	2,002	15,588	15,588	-	-	-	264	-	-	-	5,286	9	145,201
3b.0	TOTAL PERIOD 3b COST	1,092	1,849	5	2	-	22	15,906	2,795	21,672	21,277	-	395	-	264	-	-	-	5,286	9	158,988
PERIOD 3 TOTALS		1,092	5,803	371	250	178	1,430	45,885	8,741	63,751	63,054	-	696	6,132	13,588	-	-	-	533,835	32,267	401,442
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-
4a.1.1.7	Reactor Vessel Internals	51	4,650	11,350	862	-	7,848	278	10,531	35,570	35,570	-	-	-	1,174	-	673	-	167,337	22,373	1,053
4a.1.1.8	Vessel & Internals GTCC Disposal	-	-	-	-	-	8,680	-	1,302	9,982	9,982	-	-	-	-	-	-	1,773	344,823	-	-
4a.1.1.9	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053
4a.1.1	Totals	144	14,237	15,343	3,284	2,845	25,531	556	21,785	83,725	83,725	-	-	21,210	28,505	-	673	1,773	3,347,810	63,151	5,187
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
4a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	1,309	-
4a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	65	-
4a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	8,963	-
Disposal of Plant Systems																					
4a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	90	-
4a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	422	-
4a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	676	-
4a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	7,214	486	-
4a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	1,331	-
4a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	9,761	468	-
4a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	261	-
4a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	634	31	-
4a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	401	-
4a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	7,537	-
4a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	2,987	-
4a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	19,616	493	-
4a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	143	-
4a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	385	-
4a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	29,284	938	-

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Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	1,840	-
4a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	168,414	3,377	-
4a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	504	-
4a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	5,638	-
4a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	86	-
4a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	100	12	-
4a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	366	-
4a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	1,482	-
4a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	209,799	5,146	-
4a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	490	82	-
4a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	32	-
4a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	966	47	-
4a.1.5.29	Steam Generator Blowdown	-	378	21	27	319	215	-	202	1,162	1,162	-	-	1,906	631	-	-	-	118,130	5,179	-
4a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	5,472	-
4a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	757	-
4a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	6,677	-
4a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	4,652	252	-
4a.1.5	Totals	-	3,779	43	108	2,177	215	-	1,091	7,413	4,480	-	2,933	13,010	631	-	-	-	569,060	53,681	-
4a.1.6	Scaffolding in support of decommissioning	-	2,865	22	10	188	30	-	755	3,870	3,870	-	-	1,012	89	-	-	-	51,216	23,719	-
4a.1	Subtotal Period 4a Activity Costs	144	24,706	15,603	3,470	6,506	25,776	556	24,709	101,471	98,537	-	2,933	41,476	29,226	-	673	1,773	4,282,686	188,606	5,187
Period 4a Additional Costs																					
4a.2.1	Retired RPV Upper Internals Package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	3	-	4	8	-	17	-	7	39	39	-	-	-	40	-	-	-	2,408	8	-
4a.3.3	Small tool allowance	-	241	-	-	-	-	-	36	277	249	-	28	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	3	241	4	8	-	17	-	43	316	288	-	28	-	40	-	-	-	2,408	8	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	2,668	267	2,935	2,935	-	-	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,881	-	-	-	-	-	470	2,351	2,351	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	70	29	-	293	-	85	477	477	-	-	-	3,554	-	-	-	71,089	116	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC Fees	-	-	-	-	-	-	420	42	461	461	-	-	-	-	-	-	-	-	-	-
4a.4.9	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-
4a.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-
4a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	96	-	-	-	-	-	-	-	-	-	-
4a.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-
4a.4.13	Security Staff Cost	-	-	-	-	-	-	4,486	673	5,159	5,159	-	-	-	-	-	-	-	-	-	67,000
4a.4.14	DOC Staff Cost	-	-	-	-	-	-	17,103	2,565	19,668	19,668	-	-	-	-	-	-	-	-	-	189,200
4a.4.15	Utility Staff Cost	-	-	-	-	-	-	21,194	3,179	24,374	24,374	-	-	-	-	-	-	-	-	-	335,701
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,206	70	29	-	293	52,278	8,734	66,709	66,709	-	-	-	3,554	-	-	-	71,089	116	591,901
4a.0	TOTAL PERIOD 4a COST	246	30,281	15,844	3,564	6,506	27,669	52,834	34,430	171,375	168,414	-	2,961	41,476	33,393	125	673	1,773	4,405,984	190,397	597,154
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
4b.1.2.1	ADT & Misc Ventilation	-	22	1	1	26	3	-	10	63	63	-	-	153	9	-	-	-	6,803	325	-
4b.1.2.2	Aux Bldg Normal Ventilation	-	62	2	6	116	13	-	37	237	237	-	-	692	39	-	-	-	30,595	906	-
4b.1.2.3	Aux Bldg Special Ventilation	-	12	0	1	12	2	-	5	32	32	-	-	70	6	-	-	-	3,234	176	-
4b.1.2.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	24	-
4b.1.2.5	Boron Recycle	-	3	0	0	0	3	-	2	9	9	-	-	3	9	-	-	-	700	45	-
4b.1.2.6	Chemical & Volume Control	-	858	62	57	394	677	-	458	2,507	2,507	-	-	2,356	1,977	-	-	-	223,753	11,575	-
4b.1.2.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-

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Decommissioning Cost Analysis**

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Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4b.1.2.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	487,169	8,583	-
4b.1.2.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	502	-
4b.1.2.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	111,390	3,949	-
4b.1.2.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	5,742	494	-
4b.1.2.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	59,019	2,617	-
4b.1.2.13	Containment Ventilation	-	211	23	49	790	243	-	242	1,558	1,558	-	-	4,721	722	-	-	-	237,643	3,016	-
4b.1.2.14	Control/Relay/Cmptr Rm Vent	-	28	1	2	44	7	-	16	98	98	-	-	260	20	-	-	-	11,878	406	-
4b.1.2.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	2,344	-
4b.1.2.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	342,822	6,311	-
4b.1.2.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	4,184	48	-
4b.1.2.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
4b.1.2.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
4b.1.2.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4b.1.2.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
4b.1.2.22	Electrical - Contaminated	-	430	5	16	334	25	-	167	978	978	-	-	1,997	75	-	-	-	85,887	5,813	-
4b.1.2.23	Electrical - Contaminated - Fuel Pool	-	184	2	7	145	11	-	72	421	421	-	-	864	33	-	-	-	37,167	2,488	-
4b.1.2.24	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
4b.1.2.25	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-
4b.1.2.26	Filter Rm Ventilation	-	4	0	0	4	0	-	2	10	10	-	-	24	1	-	-	-	1,017	61	-
4b.1.2.27	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
4b.1.2.28	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
4b.1.2.29	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-
4b.1.2.30	Fuel Handling	-	66	1	2	34	17	-	26	146	146	-	-	200	49	-	-	-	11,273	983	-
4b.1.2.31	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
4b.1.2.32	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
4b.1.2.33	HVAC - Contaminated	-	1,112	29	87	1,798	136	-	598	3,759	3,759	-	-	10,745	405	-	-	-	462,103	14,282	-
4b.1.2.34	HVAC - Contaminated - Fuel Pool	-	499	13	39	808	61	-	268	1,689	1,689	-	-	4,828	182	-	-	-	207,612	6,417	-
4b.1.2.35	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
4b.1.2.36	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
4b.1.2.37	Hot Lab & Sample Rm Ventilation	-	17	0	1	18	1	-	8	46	46	-	-	107	4	-	-	-	4,622	255	-
4b.1.2.38	Incore Instrumentation	-	27	1	2	10	20	-	13	73	73	-	-	60	58	-	-	-	6,143	412	-
4b.1.2.39	Misc Drains & Vents	-	213	12	12	77	145	-	104	563	563	-	-	458	426	-	-	-	46,079	2,841	-
4b.1.2.40	Misc Lab & Service Areas Vent	-	118	8	8	62	84	-	62	342	342	-	-	370	244	-	-	-	30,899	1,537	-
4b.1.2.41	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
4b.1.2.42	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
4b.1.2.43	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
4b.1.2.44	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
4b.1.2.45	Reactor Coolant	-	216	20	16	38	249	-	126	666	666	-	-	229	730	-	-	-	56,440	2,891	-
4b.1.2.46	Reactor Hot Sampling	-	116	11	7	9	108	-	60	311	311	-	-	54	312	-	-	-	22,678	1,499	-
4b.1.2.47	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
4b.1.2.48	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
4b.1.2.49	Reactor Vessel	-	16	1	0	4	5	-	6	32	32	-	-	22	14	-	-	-	1,816	225	-
4b.1.2.50	Residual Heat Removal	-	354	84	86	477	1,102	-	457	2,562	2,562	-	-	2,853	3,244	-	-	-	324,232	5,039	-
4b.1.2.51	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4b.1.2.52	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-
4b.1.2.53	Safety Injection	-	793	42	72	1,117	395	-	479	2,898	2,898	-	-	6,676	1,161	-	-	-	345,708	11,029	-
4b.1.2.54	Sampling	-	48	3	2	6	32	-	22	113	113	-	-	37	93	-	-	-	7,628	645	-
4b.1.2.55	Service Bldg & New Cmptr Vent	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
4b.1.2.56	Shield Bldg Ventilation	-	108	13	25	339	163	-	124	771	771	-	-	2,028	484	-	-	-	113,139	1,555	-
4b.1.2.57	Spent Fuel Pool Cooling	-	33	3	2	6	37	-	19	101	101	-	-	39	107	-	-	-	8,481	427	-
4b.1.2.58	Spent Fuel Pool Normal Ventilation	-	24	1	2	44	4	-	14	90	90	-	-	265	12	-	-	-	11,505	352	-
4b.1.2.59	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
4b.1.2.60	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
4b.1.2.61	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
4b.1.2.62	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
4b.1.2.63	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
4b.1.2.64	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
4b.1.2.65	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
4b.1.2.66	Waste Gas Disposal	-	438	43	45	410	464	-	298	1,699	1,699	-	-	2,453	1,358	-	-	-	187,339	5,879	-
4b.1.2.67	Waste Liquid Disposal	-	1,642	116	100	612	1,234	-	837	4,541	4,541	-	-	3,655	3,594	-	-	-	381,754	22,011	-
4b.1.2.68	Waste Solid Disposal	-	132	12	11	65	134	-	79	433	433	-	-	389	393	-	-	-	41,177	1,781	-
4b.1.2	Totals	-	17,877	633	1,092	17,625	5,377	-	8,385	50,989	47,545	-	3,444	105,339	15,761	-	-	-	5,294,310	240,033	-
4b.1.3	Scaffolding in support of decommissioning	-	4,297	33	15	281	45	-	1,133	5,804	5,804	-	-	1,518	134	-	-	-	76,824	35,578	-

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**Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	1,096	2,528	240	1,236	373	7,080	-	3,215	15,768	15,768	-	-	2,230	67,331	-	-	-	3,286,725	45,740	-
4b.1.4.2	Auxiliary	1,168	375	23	117	177	648	-	886	3,395	3,395	-	-	1,060	6,118	-	-	-	332,495	21,235	-
4b.1.4.3	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-
4b.1.4.4	Drum Transfer & Truck Loading Enclosure	16	8	1	3	3	14	-	15	59	59	-	-	19	135	-	-	-	7,118	328	-
4b.1.4.5	LLRW Storage Enclosure	111	48	3	17	6	96	-	95	377	377	-	-	38	920	-	-	-	44,971	2,151	-
4b.1.4.6	Radwaste	50	21	1	8	7	43	-	43	174	174	-	-	42	412	-	-	-	21,136	964	-
4b.1.4.7	Resin Disposal	15	11	1	3	14	14	-	16	72	72	-	-	83	124	-	-	-	9,271	340	-
4b.1.4.8	Fuel Handling of Aux Building	924	1,015	13	45	404	195	-	833	3,430	3,430	-	-	2,417	1,652	-	-	-	177,755	27,145	-
4b.1.4	Totals	3,380	4,031	285	1,445	985	8,187	-	5,137	23,450	23,450	-	-	5,889	77,619	-	-	-	3,923,368	98,170	-
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
4b.1.6	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4b.1	Subtotal Period 4b Activity Costs	3,693	26,240	1,036	2,594	18,892	14,312	225	15,045	82,037	78,593	-	3,444	112,746	95,607	-	-	-	9,427,420	374,358	1,751
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
4b.2.4	License Termination ISFSI	-	24	81	435	-	2,532	1,375	1,112	5,560	5,560	-	-	-	9,355	-	-	-	1,123,457	3,762	5,460
4b.2	Subtotal Period 4b Additional Costs	-	1,199	93	471	606	2,532	2,638	1,848	9,387	9,387	-	-	5,880	9,355	-	-	-	1,270,457	11,189	11,700
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	7	-	12	21	-	48	-	20	107	107	-	-	-	109	-	-	-	6,547	21	-
4b.3.3	Small tool allowance	-	443	-	-	-	-	-	66	509	509	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
4b.3	Subtotal Period 4b Collateral Costs	7	443	142	88	1,112	225	1	320	2,338	2,338	-	-	6,000	638	-	-	-	310,155	168	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	1,449	-	-	-	-	-	-	362	1,811	1,811	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	3,404	340	3,745	3,745	-	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	3,232	-	-	-	-	-	808	4,041	4,041	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	116	47	-	482	-	139	784	784	-	-	-	5,849	-	-	-	116,984	191	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC Fees	-	-	-	-	-	-	562	56	618	618	-	-	-	-	-	-	-	-	-	-
4b.4.9	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	-
4b.4.10	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	-
4b.4.11	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	-
4b.4.12	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	-
4b.4.13	Security Staff Cost	-	-	-	-	-	-	7,811	1,172	8,983	8,983	-	-	-	-	-	-	-	-	-	115,753
4b.4.14	DOC Staff Cost	-	-	-	-	-	-	22,641	3,396	26,038	26,038	-	-	-	-	-	-	-	-	-	248,175
4b.4.15	Utility Staff Cost	-	-	-	-	-	-	27,954	4,193	32,147	32,147	-	-	-	-	-	-	-	-	-	437,085
4b.4	Subtotal Period 4b Period-Dependent Costs	1,449	7,809	116	47	-	482	70,383	12,312	92,598	92,598	-	-	-	5,849	-	-	-	116,984	191	801,014
4b.0	TOTAL PERIOD 4b COST	5,149	35,691	1,386	3,201	20,610	17,552	73,246	29,526	186,361	182,916	-	3,444	124,626	111,449	-	-	-	11,125,020	385,906	814,465
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-

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Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	Cu. Feet				
Period 4f Period-Dependent Costs																						
4f.4.2	Property taxes	-	-	-	-	-	-	1,335	133	1,468	1,468	-	-	-	-	-	-	-	-	-	-	
4f.4.3	Health physics supplies	-	709	-	-	-	-	-	177	886	886	-	-	-	-	-	-	-	-	-	-	
4f.4.4	Disposal of DAW generated	-	-	7	3	-	27	-	8	45	45	-	-	-	332	-	-	-	-	6,649	11	
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-	
4f.4.6	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	-	
4f.4.7	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-	
4f.4.8	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-	
4f.4.9	Security Staff Cost	-	-	-	-	-	-	805	121	926	926	-	-	-	-	-	-	-	-	-	11,668	
4f.4.10	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283	
4f.4.11	Utility Staff Cost	-	-	-	-	-	-	3,772	566	4,338	4,338	-	-	-	-	-	-	-	-	-	56,395	
4f.4	Subtotal Period 4f Period-Dependent Costs	-	709	7	3	-	27	11,593	1,844	14,182	14,182	-	-	-	332	-	-	-	-	6,649	11	114,346
4f.0	TOTAL PERIOD 4f COST	-	709	7	3	-	27	20,064	4,196	25,006	25,006	-	-	-	332	-	-	-	-	6,649	100,906	117,466
PERIOD 4 TOTALS		5,395	66,681	17,237	6,768	27,115	45,248	146,144	68,152	382,741	376,336	-	6,405	166,102	145,174	125	673	1,773	15,537,650	677,209	1,529,086	
PERIOD 5b - Site Restoration																						
Period 5b Direct Decommissioning Activities																						
Demolition of Remaining Site Buildings																						
5b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	-	44,679	-
5b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	-	11,902	-
5b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	33	-
5b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	-	1,405	-
5b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	-	84	-
5b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	-	221	-
5b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	-	47	-
5b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	-	853	-
5b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	-	22,582	-
5b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	-	1,400	-
5b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	-	120	-
5b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	-	9,238	-
5b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	35	-
5b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	-	21,997	-
5b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	-	1,857	-
5b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	-	213	-
5b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	56	-
5b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	-	70	-
5b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	-	2,690	-
5b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	-	8,240	-
5b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	-	127,723	-
Site Closeout Activities																						
5b.1.2	Remove Rubble	-	1,517	-	-	-	-	-	228	1,745	-	-	1,745	-	-	-	-	-	-	-	7,408	-
5b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	-	921	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	-	667
5b.1	Subtotal Period 5b Activity Costs	-	17,466	-	-	-	-	86	2,633	20,185	99	-	20,086	-	-	-	-	-	-	-	136,051	667
Period 5b Additional Costs																						
5b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	-	18,372	-
5b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	-	3,552	-
5b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	-	9,327	-
5b.2.5	Demolition and Site Restoration of ISFSI	-	515	-	-	-	-	68	87	670	-	-	670	-	-	-	-	-	-	-	2,219	80
5b.2	Subtotal Period 5b Additional Costs	-	15,125	-	-	-	-	2,227	2,603	19,955	-	-	19,955	-	-	-	-	-	-	-	33,470	80
Period 5b Collateral Costs																						
5b.3.1	Small tool allowance	-	216	-	-	-	-	-	32	249	-	-	249	-	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	216	-	-	-	-	-	32	249	-	-	249	-	-	-	-	-	-	-	-	-

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**Table H-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 60 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5b Period-Dependent Costs																					
5b.4.2	Property taxes	-	-	-	-	-	-	3,481	348	3,829	-	-	3,829	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	-	395	-	-	-	-	-	-	-	-
5b.4.5	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	-	1,178	-	-	-	-	-	-	-	-
5b.4.6	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	-	-	152	-	-	-	-	-	-	-	-
5b.4.7	Security Staff Cost	-	-	-	-	-	-	2,055	308	2,363	-	-	2,363	-	-	-	-	-	-	-	29,221
5b.4.8	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.9	Utility Staff Cost	-	-	-	-	-	-	3,831	575	4,406	-	-	4,406	-	-	-	-	-	-	-	57,340
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	21,789	4,166	33,099	-	-	33,099	-	-	-	-	-	-	-	203,445
5b.0	TOTAL PERIOD 5b COST	-	39,951	-	-	-	-	24,102	9,434	73,487	99	-	73,389	-	-	-	-	-	-	169,521	204,192
PERIOD 5 TOTALS		-	39,951	-	-	-	-	24,102	9,434	73,487	99	-	73,389	-	-	-	-	-	-	169,521	204,192
TOTAL COST TO DECOMMISSION		12,732	121,684	17,878	7,311	27,293	47,788	911,654	176,962	1,323,304	952,576	290,238	80,490	172,234	166,987	125	673	1,773	16,284,880	947,658	5,801,223
TOTAL COST TO DECOMMISSION WITH 15.44% CONTINGENCY:					\$1,323,304		thousands of 2020 dollars														
TOTAL NRC LICENSE TERMINATION COST IS 71.98% OR:					\$952,576		thousands of 2020 dollars														
SPENT FUEL MANAGEMENT COST IS 21.93% OR:					\$290,238		thousands of 2020 dollars														
NON-NUCLEAR DEMOLITION COST IS 6.08% OR:					\$80,490		thousands of 2020 dollars														
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					167,785		Cubic Feet														
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773		Cubic Feet														
TOTAL SCRAP METAL REMOVED:					42,406		Tons														
TOTAL CRAFT LABOR REQUIREMENTS:					947,658		Man-hours														

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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DETAILED COST ANALYSIS

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	193	29	222	222	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.16	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
1a.1.17	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
Activity Specifications																					
1a.1.18.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	632	95	727	727	-	-	-	-	-	-	-	-	-	4,920
1a.1.18.2	Plant systems	-	-	-	-	-	-	536	80	616	616	-	-	-	-	-	-	-	-	-	4,167
1a.1.18.3	Plant structures and buildings	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
1a.1.18.4	Waste management	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.18.5	Facility and site dormancy	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.18	Total	-	-	-	-	-	-	2,083	312	2,395	2,395	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.19.1	Plant systems	-	-	-	-	-	-	152	23	175	175	-	-	-	-	-	-	-	-	-	1,183
1a.1.19.2	Facility closeout & dormancy	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
1a.1.19	Total	-	-	-	-	-	-	306	46	352	352	-	-	-	-	-	-	-	-	-	2,383
1a.1.20	Procure vacuum drying system																				
1a.1.21	Drain/de-energize non-cont. systems							13	2	15	15	-	-	-	-	-	-	-	-	-	100
1a.1.22	Drain & dry NSSS									a											
1a.1.23	Drain/de-energize contaminated systems									a											
1a.1.24	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	6,120	980	7,100	7,100	-	-	-	-	-	-	-	-	-	44,390
Period 1a Collateral Costs																					
1a.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	614	-	-	-	-	-	153	767	767	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	50	-	14	82	82	-	-	-	610	-	-	-	12,190	20	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	892	89	981	981	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,931	4,040	30,971	30,971	-	-	-	-	-	-	-	-	-	422,240
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,367	12	5	-	50	47,211	6,945	55,590	52,648	2,942	-	-	610	-	-	-	12,190	20	544,960
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	54,580	7,925	63,939	59,748	4,191	-	-	610	-	-	-	12,190	20	589,350

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1	Totals	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1	Subtotal Period 1b Activity Costs	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	79	-	52	94	-	212	-	112	549	549	-	-	-	487	-	-	-	29,193	95	-
1b.3.4	Small tool allowance	-	20	-	-	-	-	-	3	23	23	-	-	-	-	-	-	-	-	-	-
1b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,134	20	52	94	-	212	311	273	2,097	1,785	311	-	-	487	-	-	-	29,193	95	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	449	-	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	250	-	-	-	-	-	63	313	313	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,486	11	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	449	438	6	3	-	27	11,709	1,866	14,498	13,764	733	-	-	324	-	-	-	6,486	11	135,867
1b.0	TOTAL PERIOD 1b COST	2,781	458	59	97	-	239	24,696	4,640	32,969	31,924	1,045	-	-	811	-	-	-	35,678	17,108	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	808	318	1,707	1,707	-	-	-	-	-	-	-	-	16,501	583
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	1,507	309	2,325	1,826	499	-	-	561	-	-	-	33,685	109	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-

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(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1c Period-Dependent Costs (continued)																					
1c.4.7	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,709	1,749	13,910	13,177	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,024	2,376	17,943	16,710	1,233	-	-	713	-	-	-	36,724	16,615	136,450
PERIOD 1 TOTALS		2,873	2,846	134	212	-	546	93,299	14,941	114,851	108,382	6,468	-	-	2,134	-	-	-	84,593	33,743	861,667
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	520	130	650	650	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	574	138	712	712	-	-	-	-	-	-	-	-	-	-
Period 2a Additional Costs																					
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	66,237	9,936	76,173	-	76,173	-	-	-	-	-	-	-	-	-
2a.3.2	Retention and Severance	-	-	-	-	-	-	22,434	3,365	25,799	25,799	-	-	-	-	-	-	-	-	-	-
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	4,654	-	4,654	-	4,654	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	93,325	13,301	106,626	25,799	80,827	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	1,804	180	1,985	1,985	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	13,489	1,349	14,838	14,838	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	801	-	-	-	-	-	200	1,001	1,001	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	14	6	-	59	-	17	96	96	-	-	714	-	-	-	-	14,273	23	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,208	181	1,389	1,389	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	908	91	999	999	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	6,924	692	7,616	-	7,616	-	-	-	-	-	-	-	-	-
2a.4.8	Fixed Overhead	-	-	-	-	-	-	4,432	665	5,097	5,097	-	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,573	236	1,809	-	1,809	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	209	31	240	-	240	-	-	-	-	-	-	-	-	-
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	462	69	531	531	-	-	-	-	-	-	-	-	-	-
2a.4.12	Security Staff Cost	-	-	-	-	-	-	29,334	4,400	33,734	24,289	9,446	-	-	-	-	-	-	-	-	431,215
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	3,645	547	4,192	3,517	675	-	-	-	-	-	-	-	-	58,126
2a.4	Subtotal Period 2a Period-Dependent Costs	-	801	14	6	-	59	63,988	8,659	73,527	53,741	19,786	-	-	714	-	-	-	14,273	23	489,341
2a.0	TOTAL PERIOD 2a COST	-	801	14	6	-	59	162,235	22,750	185,865	85,251	100,614	-	-	714	-	-	-	14,273	23	489,341
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	704	106	810	810	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	6,792	1,698	8,490	8,490	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	7,496	1,804	9,300	9,300	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	122,995	18,449	141,444	-	141,444	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	60,797	-	60,797	-	60,797	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	183,792	18,449	202,241	-	202,241	-	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	23,569	2,357	25,926	25,926	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	176,207	17,621	193,828	193,828	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	5,528	-	-	-	-	-	1,382	6,910	6,910	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	100	40	-	414	-	120	674	674	-	-	5,027	-	-	-	-	100,550	164	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	7,891	1,184	9,075	9,075	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	11,071	1,107	12,178	12,178	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	3,608	361	3,969	-	3,969	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	7,930	1,190	9,120	9,120	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,724	409	3,132	-	3,132	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	3,043	456	3,499	3,499	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	135,841	20,376	156,217	34,368	121,849	-	-	-	-	-	-	-	-	1,822,251
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	66,470	9,970	76,440	48,005	28,436	-	-	-	-	-	-	-	-	1,012,362
2b.4	Subtotal Period 2b Period-Dependent Costs	-	5,528	100	40	-	414	438,354	56,532	500,968	343,582	157,386	-	5,027	-	-	-	-	100,550	164	2,834,613
2b.0	TOTAL PERIOD 2b COST	-	5,528	100	40	-	414	629,642	76,785	712,510	352,882	359,628	-	-	5,027	-	-	-	100,550	164	2,834,613
PERIOD 2 TOTALS		-	6,329	114	46	-	473	791,877	99,535	898,374	438,133	460,241	-	-	5,741	-	-	-	114,823	187	3,323,954
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.6	Define major work sequence	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
3a.1.9.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	947	142	1,089	980	-	109	-	-	-	-	-	-	-	7,370
3a.1.9.2	Plant systems	-	-	-	-	-	-	536	80	616	554	-	62	-	-	-	-	-	-	-	4,167
3a.1.9.3	Reactor internals	-	-	-	-	-	-	912	137	1,049	1,049	-	-	-	-	-	-	-	-	-	7,100
3a.1.9.4	Reactor vessel	-	-	-	-	-	-	835	125	961	961	-	-	-	-	-	-	-	-	-	6,500
3a.1.9.5	Biological shield	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
3a.1.9.6	Steam generators	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
3a.1.9.7	Reinforced concrete	-	-	-	-	-	-	206	31	236	118	-	118	-	-	-	-	-	-	-	1,600
3a.1.9.8	Main Turbine	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
3a.1.9.9	Main Condensers	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
3a.1.9.10	Plant structures & buildings	-	-	-	-	-	-	401	60	461	231	-	231	-	-	-	-	-	-	-	3,120
3a.1.9.11	Waste management	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
3a.1.9.12	Facility & site closeout	-	-	-	-	-	-	116	17	133	67	-	67	-	-	-	-	-	-	-	900
3a.1.9	Total	-	-	-	-	-	-	5,112	767	5,879	5,175	-	704	-	-	-	-	-	-	-	39,777
Planning & Site Preparations																					
3a.1.10	Prepare dismantling sequence	-	-	-	-	-	-	308	46	355	355	-	-	-	-	-	-	-	-	-	2,400
3a.1.11	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
3a.1.12	Design water clean-up system	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,400
3a.1.13	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
3a.1.14	Procure casks/liners & containers	-	-	-	-	-	-	158	24	182	182	-	-	-	-	-	-	-	-	-	1,230
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	14,717	2,208	16,925	16,221	-	704	-	-	-	-	-	-	-	68,607
Period 3a Additional Costs																					
3a.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	21,020	8,332
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	518,936	44,275	8,332
Period 3a Collateral Costs																					
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
3a.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	24,367	3,655	28,022	-	28,022	-	-	-	-	-	-	-	-	-
3a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	25,616	3,660	29,310	39	29,271	-	-	-	-	-	-	-	-	-

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	484	48	533	307	225	-	-	-	-	-	-	-	-	
3a.4.2	Property taxes	-	-	-	-	-	-	3,618	362	3,980	2,551	1,429	-	-	-	-	-	-	-	-	
3a.4.3	Health physics supplies	-	670	-	-	-	-	-	167	837	837	-	-	-	-	-	-	-	-	-	
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	
3a.4.5	Disposal of DAW generated	-	-	10	4	-	42	-	12	69	69	-	-	-	516	-	-	-	10,311	17	
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	
3a.4.7	NRC ISFSI Fees	-	-	-	-	-	-	120	12	132	-	132	-	-	-	-	-	-	-	-	
3a.4.8	NRC Fees	-	-	-	-	-	-	335	33	368	368	-	-	-	-	-	-	-	-	-	
3a.4.9	Emergency Planning Fees	-	-	-	-	-	-	74	7	82	-	82	-	-	-	-	-	-	-	-	
3a.4.10	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	
3a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	
3a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	
3a.4.13	Security Staff Cost	-	-	-	-	-	-	4,632	695	5,327	5,044	282	-	-	-	-	-	-	-	69,160	
3a.4.14	Utility Staff Cost	-	-	-	-	-	-	16,599	2,490	19,089	18,421	668	-	-	-	-	-	-	-	260,000	
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,423	10	4	-	42	29,042	4,417	34,939	32,057	2,882	-	-	516	-	-	-	10,311	17	329,160
3a.0	TOTAL PERIOD 3a COST	-	3,983	366	248	178	1,412	72,895	12,414	91,495	58,638	32,153	704	6,132	13,359	-	-	-	529,247	44,292	406,099
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	4,733	
3b.1.1.2	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	2,500	
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	1,350	
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	1,000	
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	1,000	
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	1,000	
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	3,630	
3b.1.1.8	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	1,200	
3b.1.1.9	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	450	
3b.1.1.10	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	1,200	
3b.1.1.11	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	4,600	
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	1,000	
3b.1.1.13	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	1,560	
3b.1.1.14	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	1,560	
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	2,730	
3b.1.1.16	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	2,730	
3b.1.1	Total	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	32,243	
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	32,243	
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	
3b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	26,241	3,936	30,177	-	30,177	-	-	-	-	-	-	-	-	
3b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	28,128	4,464	34,846	4,047	30,800	-	-	-	-	-	-	-	-	
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	
3b.4.3	Property taxes	-	-	-	-	-	-	1,802	180	1,982	1,270	711	-	-	-	-	-	-	-	-	
3b.4.4	Health physics supplies	-	295	-	-	-	-	-	74	369	369	-	-	-	-	-	-	-	-	-	
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	
3b.4.6	Disposal of DAW generated	-	-	6	2	-	24	-	7	39	39	-	-	-	291	-	-	-	5,814	9	
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	
3b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	60	6	66	-	66	-	-	-	-	-	-	-	-	
3b.4.9	NRC Fees	-	-	-	-	-	-	167	17	183	183	-	-	-	-	-	-	-	-	-	
3b.4.10	Emergency Planning Fees	-	-	-	-	-	-	37	4	41	-	41	-	-	-	-	-	-	-	-	
3b.4.11	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	
3b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	
3b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	
3b.4.14	Security Staff Cost	-	-	-	-	-	-	2,310	346	2,656	2,515	141	-	-	-	-	-	-	-	34,485	
3b.4.15	DOC Staff Cost	-	-	-	-	-	-	5,344	802	6,146	6,146	-	-	-	-	-	-	-	-	58,080	
3b.4.16	Utility Staff Cost	-	-	-	-	-	-	8,277	1,242	9,518	9,185	333	-	-	-	-	-	-	-	129,644	

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Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3b.4	Subtotal Period 3b Period-Dependent Costs	38	671	6	2	-	24	19,823	3,005	23,568	22,244	1,324	-	-	291	-	-	-	5,814	9	222,210
3b.0	TOTAL PERIOD 3b COST	1,092	1,871	6	2	-	24	52,094	8,090	63,180	30,132	32,124	924	-	291	-	-	-	5,814	9	254,453
PERIOD 3 TOTALS		1,092	5,853	372	251	178	1,436	124,989	20,504	154,675	88,770	64,276	1,628	6,132	13,649	-	-	-	535,061	44,301	660,551
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-
4a.1.1.7	Reactor Vessel Internals	53	4,650	13,334	828	-	8,610	278	11,401	39,153	39,153	-	-	-	1,174	-	742	-	167,605	22,373	1,053
4a.1.1.8	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053
4a.1.1	Totals	146	14,237	17,327	3,250	2,845	17,613	556	21,352	77,327	77,327	-	-	21,210	28,505	-	742	-	3,003,254	63,151	5,187
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
4a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
4a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
4a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
4a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
4a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
4a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
4a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
4a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
4a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
4a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
4a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
4a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
4a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
4a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
4a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
4a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
4a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
4a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
4a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
4a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
4a.1.5.21	Steam Generator Blowdown	-	434	22	29	340	234	-	224	1,282	1,282	-	-	2,031	686	-	-	-	126,640	5,974	-
4a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-
4a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-
4a.1.5	Totals	-	3,401	44	108	2,144	234	-	1,037	6,967	4,510	-	2,458	12,815	686	-	-	-	564,572	48,101	-
4a.1.6	Scaffolding in support of decommissioning	-	909	3	1	26	4	-	233	1,176	1,176	-	-	138	12	-	-	-	6,985	6,020	-
4a.1	Subtotal Period 4a Activity Costs	146	22,144	17,570	3,426	6,311	17,850	556	23,666	91,669	89,211	-	2,458	40,406	29,203	-	742	-	3,889,412	163,954	5,187
Period 4a Additional Costs																					
4a.2.1	Retired RPV upper internals package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	2	-	4	8	-	17	-	7	38	38	-	-	-	39	-	-	-	2,337	8	-
4a.3.2	Process decommissioning chemical flush waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4a.3.3	Small tool allowance	-	213	-	-	-	-	-	32	245	220	-	24	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours
Period 4a Collateral Costs (continued)																					
4a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	2,163	324	2,487	-	2,487	-	-	-	-	-	-	-	-	-
4a.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,660	-	1,660	-	1,660	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	2	213	4	8	-	17	3,823	363	4,430	258	4,147	24	-	39	-	-	-	2,337	8	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	4,441	444	4,886	2,985	1,901	-	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,744	-	-	-	-	-	436	2,181	2,181	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	59	24	-	245	-	71	398	398	-	-	-	2,972	-	-	-	59,446	97	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC ISFSI Fees	-	-	-	-	-	-	159	16	175	-	175	-	-	-	-	-	-	-	-	-
4a.4.9	NRC Fees	-	-	-	-	-	-	643	64	707	707	-	-	-	-	-	-	-	-	-	-
4a.4.10	Emergency Planning Fees	-	-	-	-	-	-	99	10	108	-	108	-	-	-	-	-	-	-	-	-
4a.4.11	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-
4a.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-
4a.4.13	ISFSI Operating Costs	-	-	-	-	-	-	74	11	86	-	86	-	-	-	-	-	-	-	-	-
4a.4.14	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	96	-	-	-	-	-	-	-	-	-	-
4a.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-
4a.4.16	Security Staff Cost	-	-	-	-	-	-	6,863	1,029	7,892	5,943	1,949	-	-	-	-	-	-	-	-	105,553
4a.4.17	DOC Staff Cost	-	-	-	-	-	-	17,190	2,579	19,769	19,769	-	-	-	-	-	-	-	-	-	189,964
4a.4.18	Utility Staff Cost	-	-	-	-	-	-	21,887	3,283	25,170	24,389	780	-	-	-	-	-	-	-	-	343,058
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,069	59	24	-	245	57,763	9,396	72,656	67,657	4,999	-	-	2,972	-	-	-	59,446	97	638,574
4a.0	TOTAL PERIOD 4a COST	248	27,554	17,799	3,516	6,311	19,695	62,142	34,369	171,634	160,006	9,146	2,482	40,406	32,786	125	742	-	4,000,995	165,725	643,828
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
4b.1.2.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	26	-
4b.1.2.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-
4b.1.2.4	Chemical & Volume Control	-	1,263	89	90	753	973	-	694	3,861	3,861	-	-	4,498	2,846	-	-	-	366,565	17,235	-
4b.1.2.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-
4b.1.2.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-
4b.1.2.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-
4b.1.2.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-
4b.1.2.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-
4b.1.2.10	Containment Ventilation	-	229	24	51	828	248	-	254	1,635	1,635	-	-	4,951	737	-	-	-	247,952	3,278	-
4b.1.2.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-
4b.1.2.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-
4b.1.2.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-
4b.1.2.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-
4b.1.2.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-
4b.1.2.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-
4b.1.2.17	Electrical - Contaminated	-	553	7	20	423	32	-	213	1,248	1,248	-	-	2,527	95	-	-	-	108,690	7,488	-
4b.1.2.18	Electrical - Contaminated - Fuel Pool	-	137	2	5	103	8	-	53	307	307	-	-	615	23	-	-	-	26,449	1,857	-
4b.1.2.19	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-
4b.1.2.20	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-
4b.1.2.21	Fuel Handling	-	108	6	11	152	73	-	70	421	421	-	-	908	218	-	-	-	50,723	1,595	-
4b.1.2.22	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-
4b.1.2.23	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-
4b.1.2.24	HVAC - Contaminated	-	337	9	26	546	41	-	181	1,141	1,141	-	-	3,261	123	-	-	-	140,257	4,335	-
4b.1.2.25	HVAC - Contaminated - Fuel Pool	-	145	4	11	234	18	-	78	489	489	-	-	1,398	53	-	-	-	60,110	1,858	-
4b.1.2.26	Incore Instrumentation	-	25	1	2	10	19	-	13	70	70	-	-	60	57	-	-	-	6,058	382	-
4b.1.2.27	Misc Drains & Vents	-	212	15	13	65	176	-	110	592	592	-	-	390	514	-	-	-	49,062	2,764	-
4b.1.2.28	Reactor Coolant	-	283	21	18	58	265	-	150	796	796	-	-	344	777	-	-	-	64,085	3,865	-
4b.1.2.29	Reactor Hot Sampling	-	125	12	7	11	118	-	65	339	339	-	-	66	342	-	-	-	25,063	1,611	-
4b.1.2.30	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-
4b.1.2.31	Reactor Vessel	-	19	1	0	4	5	-	7	36	36	-	-	26	14	-	-	-	2,000	260	-
4b.1.2.32	Residual Heat Removal	-	378	85	86	484	1,105	-	465	2,603	2,603	-	-	2,895	3,252	-	-	-	326,425	5,374	-
4b.1.2.33	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-
4b.1.2.34	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
4b.1.2.35	Safety Injection	-	809	42	73	1,136	393	-	486	2,939	2,939	-	-	6,788	1,156	-	-	-	349,908	11,276	-

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and																			
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor																			
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours																			
Disposal of Plant Systems (continued)																																								
4b.1.2.36	Sampling	-	54	4	3	10	37	-	25	133	133	-	-	59	107	-	-	-	9,420	731	-																			
4b.1.2.37	Shield Bldg Ventilation	-	125	14	26	360	165	-	132	821	821	-	-	2,152	491	-	-	-	118,583	1,811	-																			
4b.1.2.38	Spent Fuel Pool Cooling	-	324	34	32	135	450	-	222	1,198	1,198	-	-	806	1,325	-	-	-	117,816	4,400	-																			
4b.1.2.39	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-																			
4b.1.2.40	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-																			
4b.1.2.41	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-																			
4b.1.2.42	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-																			
4b.1.2.43	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-																			
4b.1.2.44	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-																			
4b.1.2	Totals	-	14,735	481	883	14,533	4,126	-	6,807	41,565	38,474	-	3,091	86,861	12,129	-	-	-	4,307,475	198,796	-																			
4b.1.3	Scaffolding in support of decommissioning	-	1,363	4	2	38	6	-	349	1,763	1,763	-	-	207	18	-	-	-	10,477	9,030	-																			
Decontamination of Site Buildings																																								
4b.1.4.1	Reactor	1,096	2,527	240	1,236	373	7,080	-	3,215	15,766	15,766	-	-	2,230	67,325	-	-	-	3,286,372	45,729	-																			
4b.1.4.2	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-																			
4b.1.4	Totals	1,096	2,552	243	1,253	373	7,177	-	3,248	15,941	15,941	-	-	2,230	68,254	-	-	-	3,330,268	45,995	-																			
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096																			
4b.1.6	Receive NRC approval of termination plan									a																														
4b.1	Subtotal Period 4b Activity Costs	1,410	18,685	814	2,179	14,945	12,012	526	10,839	61,410	58,319	-	3,091	89,298	82,494	-	-	-	7,781,139	254,398	4,096																			
Period 4b Additional Costs																																								
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240																			
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-																			
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-																			
4b.2	Subtotal Period 4b Additional Costs	-	1,175	11	36	606	-	1,262	736	3,827	3,827	-	-	5,880	-	-	-	-	147,000	7,427	6,240																			
Period 4b Collateral Costs																																								
4b.3.1	Process decommissioning water waste	5	-	9	16	-	37	-	15	83	83	-	-	-	85	-	-	-	5,092	17	-																			
4b.3.3	Small tool allowance	-	307	-	-	-	-	-	46	353	353	-	-	-	-	-	-	-	-	-	-																			
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-																			
4b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,225	-	2,225	-	2,225	-	-	-	-	-	-	-	-	-																			
4b.3	Subtotal Period 4b Collateral Costs	5	307	139	84	1,112	215	2,225	296	4,382	2,158	2,225	-	6,000	614	-	-	-	308,700	163	-																			
Period 4b Period-Dependent Costs																																								
4b.4.1	Decon supplies	564	-	-	-	-	-	-	141	705	705	-	-	-	-	-	-	-	-	-	-																			
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	-																			
4b.4.3	Property taxes	-	-	-	-	-	-	5,819	582	6,401	3,853	2,548	-	-	-	-	-	-	-	-	-																			
4b.4.4	Health physics supplies	-	2,435	-	-	-	-	-	609	3,043	3,043	-	-	-	-	-	-	-	-	-	-																			
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	-																			
4b.4.6	Disposal of DAW generated	-	-	77	31	-	322	-	93	523	523	-	-	-	3,905	-	-	-	78,097	127	-																			
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	-																			
4b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	213	21	234	-	234	-	-	-	-	-	-	-	-	-																			
4b.4.9	NRC Fees	-	-	-	-	-	-	862	86	948	948	-	-	-	-	-	-	-	-	-	-																			
4b.4.10	Emergency Planning Fees	-	-	-	-	-	-	132	13	145	-	145	-	-	-	-	-	-	-	-	-																			
4b.4.11	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	-																			
4b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	-																			
4b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	100	15	115	-	115	-	-	-	-	-	-	-	-	-																			
4b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	-																			
4b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	-																			
4b.4.16	Security Staff Cost	-	-	-	-	-	-	1,202	180	1,383	462	921	-	-	-	-	-	-	-	-	20,373																			
4b.4.17	DOC Staff Cost	-	-	-	-	-	-	15,039	2,256	17,294	17,294	-	-	-	-	-	-	-	-	-	174,093																			
4b.4.18	Utility Staff Cost	-	-	-	-	-	-	18,793	2,819	21,612	20,790	821	-	-	-	-	-	-	-	-	311,145																			
4b.4	Subtotal Period 4b Period-Dependent Costs	564	7,011	77	31	-	322	50,169	8,660	66,835	62,051	4,784	-	-	3,905	-	-	-	78,097	127	505,611																			
4b.0	TOTAL PERIOD 4b COST	1,979	27,178	1,042	2,330	16,663	12,549	54,182	20,531	136,453	126,354	7,009	3,091	101,178	87,013	-	-	-	8,314,936	262,116	515,947																			
PERIOD 4e - Delay before License Termination																																								
Period 4e Direct Decommissioning Activities																																								
Period 4e Collateral Costs																																								
4e.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	986	-	986	-	986	-	-	-	-	-	-	-	-	-																			
4e.3	Subtotal Period 4e Collateral Costs	-	-	-	-	-	-	986	-	986	-	986	-	-	-	-	-	-	-	-	-																			

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**Prairie Island Nuclear Generating Plant
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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 4e Period-Dependent Costs																					
4e.4.1	Insurance	-	-	-	-	-	-	382	38	420	-	420	-	-	-	-	-	-	-	-	-
4e.4.2	Property taxes	-	-	-	-	-	-	2,498	250	2,748	1,624	1,124	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	87	-	-	-	-	-	22	109	109	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	2	1	-	6	-	2	11	11	-	-	-	79	-	-	-	1,573	3	-
4e.4.6	NRC ISFSI Fees	-	-	-	-	-	-	94	9	104	-	104	-	-	-	-	-	-	-	-	-
4e.4.7	NRC Fees	-	-	-	-	-	-	162	16	178	178	-	-	-	-	-	-	-	-	-	-
4e.4.8	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
4e.4.9	Fixed Overhead	-	-	-	-	-	-	939	141	1,079	1,079	-	-	-	-	-	-	-	-	-	-
4e.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
4e.4.11	Railroad Track Maintenance	-	-	-	-	-	-	49	7	57	57	-	-	-	-	-	-	-	-	-	-
4e.4.12	Utility Staff Cost	-	-	-	-	-	-	696	104	801	742	58	-	-	-	-	-	-	-	-	11,488
4e.4	Subtotal Period 4e Period-Dependent Costs	-	87	2	1	-	6	4,923	602	5,622	3,800	1,822	-	-	79	-	-	-	1,573	3	11,488
4e.0	TOTAL PERIOD 4e COST	-	87	2	1	-	6	5,909	602	6,607	3,800	2,807	-	-	79	-	-	-	1,573	3	11,488
PERIOD 4f- License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
4f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	218	33	250	-	250	-	-	-	-	-	-	-	-	-
4f.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	2,416	222	2,638	1,454	1,185	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	362	36	398	-	398	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	2,306	231	2,537	1,469	1,068	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC ISFSI Fees	-	-	-	-	-	-	90	9	98	-	98	-	-	-	-	-	-	-	-	-
4f.4.7	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
4f.4.8	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
4f.4.9	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
4f.4.10	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
4f.4.11	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
4f.4.12	Security Staff Cost	-	-	-	-	-	-	1,835	275	2,111	927	1,184	-	-	-	-	-	-	-	-	27,614
4f.4.13	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
4f.4.14	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
4f.4	Subtotal Period 4f Period-Dependent Costs	-	501	7	3	-	28	14,541	2,153	17,232	13,936	3,296	-	-	334	-	-	-	6,685	11	133,404
4f.0	TOTAL PERIOD 4f COST	-	501	7	3	-	28	20,322	3,384	24,245	19,764	4,481	-	-	334	-	-	-	6,685	40,542	136,524
PERIOD 4 TOTALS		2,227	55,320	18,849	5,850	22,974	32,278	142,555	58,887	338,939	309,924	23,443	5,573	141,584	120,212	125	742	-	12,324,190	468,386	1,307,787
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
5b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
5b.1.1.3	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
5b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
5b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
5b.1.1	Totals	-	8,936	-	-	-	-	-	1,340	10,276	-	-	10,276	-	-	-	-	-	-	77,765	-

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Site Closeout Activities																					
5b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
5b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	9,384	-	-	-	-	200	1,438	11,022	231	-	10,792	-	-	-	-	-	-	78,686	1,560
Period 5b Additional Costs																					
5b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
5b.2.2	Intake Structure Cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-
5b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-
5b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	1,059,612	146	-
5b.2	Subtotal Period 5b Additional Costs	-	5,899	80	418	-	2,390	15	1,611	10,413	3,640	-	6,773	-	8,929	-	-	-	1,059,612	16,604	-
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	122	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	-	-
5b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	5,519	828	6,347	-	6,347	-	-	-	-	-	-	-	-	-
5b.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	122	-	-	-	-	8,168	846	9,136	-	8,996	140	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	513	51	565	-	565	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	5,904	590	6,494	-	2,663	3,831	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
5b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	326	33	359	-	359	-	-	-	-	-	-	-	-	-
5b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
5b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	781	397	-	-	-	-	-	-	-	-
5b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
5b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	(0)	97	56	-	-	-	-	-	-	-	-
5b.4.10	Security Staff Cost	-	-	-	-	-	-	4,976	746	5,722	0	5,310	412	-	-	-	-	-	-	-	74,431
5b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	29,587	5,165	41,895	0	11,757	30,139	-	-	-	-	-	-	-	267,952
5b.0	TOTAL PERIOD 5b COST	-	22,548	80	418	-	2,390	37,970	9,060	72,467	3,871	20,753	47,843	-	8,929	-	-	-	1,059,612	95,290	269,512
PERIOD 5c - Fuel Storage Operations/Shipping																					
Period 5c Direct Decommissioning Activities																					
Period 5c Collateral Costs																					
5c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	89,253	13,388	102,641	-	102,641	-	-	-	-	-	-	-	-	-
5c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	27,796	-	27,796	-	27,796	-	-	-	-	-	-	-	-	-
5c.3	Subtotal Period 5c Collateral Costs	-	-	-	-	-	-	117,049	13,388	130,437	-	130,437	-	-	-	-	-	-	-	-	-
Period 5c Period-Dependent Costs																					
5c.4.1	Insurance	-	-	-	-	-	-	5,388	539	5,927	-	5,927	-	-	-	-	-	-	-	-	-
5c.4.2	Property taxes	-	-	-	-	-	-	31,074	3,107	34,181	-	34,181	-	-	-	-	-	-	-	-	-
5c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	3,422	342	3,764	-	3,764	-	-	-	-	-	-	-	-	-
5c.4.5	Emergency Planning Fees	-	-	-	-	-	-	1,650	165	1,815	-	1,815	-	-	-	-	-	-	-	-	-
5c.4.6	Fixed Overhead	-	-	-	-	-	-	3,626	544	4,170	-	4,170	-	-	-	-	-	-	-	-	-
5c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	1,245	187	1,432	-	1,432	-	-	-	-	-	-	-	-	-
5c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	1,391	209	1,600	-	1,600	-	-	-	-	-	-	-	-	-
5c.4.9	Security Staff Cost	-	-	-	-	-	-	42,996	6,449	49,446	-	49,446	-	-	-	-	-	-	-	-	624,838
5c.4.10	DOC Staff Cost	-	-	-	-	-	-	3,411	512	3,922	-	3,922	-	-	-	-	-	-	-	-	23,142
5c.4.11	Utility Staff Cost	-	-	-	-	-	-	21,001	3,150	24,151	-	24,151	-	-	-	-	-	-	-	-	306,633
5c.4	Subtotal Period 5c Period-Dependent Costs	-	-	-	-	-	-	115,204	15,204	130,408	-	130,408	-	-	-	-	-	-	-	-	954,613
5c.0	TOTAL PERIOD 5c COST	-	-	-	-	-	-	232,252	28,592	260,844	-	260,844	-	-	-	-	-	-	-	-	954,613

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Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 5d - GTCC shipping																					
Period 5d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
5d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1	Subtotal Period 5d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 5d Collateral Costs																					
5d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
5d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
5d.3	Subtotal Period 5d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 5d Period-Dependent Costs																					
5d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
5d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
5d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
5d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
5d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
5d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
5d.4.8	Security Staff Cost	-	-	-	-	-	-	74	11	85	85	-	-	-	-	-	-	-	-	-	1,077
5d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
5d.4	Subtotal Period 5d Period-Dependent Costs	-	-	-	-	-	-	171	22	194	186	7	-	-	-	-	-	-	-	-	1,346
5d.0	TOTAL PERIOD 5d COST	-	-	1,444	-	-	8,680	247	1,689	12,060	11,973	87	-	-	-	-	-	1,773	344,823	-	1,346
PERIOD 5e - ISFSI Decontamination																					
Period 5e Direct Decommissioning Activities																					
Period 5e Additional Costs																					
5e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
5e.2	Subtotal Period 5e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
Period 5e Period-Dependent Costs																					
5e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
5e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
5e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
5e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
5e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
5e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
5e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
5e.4	Subtotal Period 5e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
5e.0	TOTAL PERIOD 5e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556
PERIOD 5f- ISFSI Site Restoration																					
Period 5f Direct Decommissioning Activities																					
Period 5f Additional Costs																					
5f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
5f.2	Subtotal Period 5f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
Period 5f Collateral Costs																					
5f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
5f.3	Subtotal Period 5f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-

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**Table I-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5f Period-Dependent Costs																					
5f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
5f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
5f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
5f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
5f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
5f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
5f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
5f.4	Subtotal Period 5f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
5f.0	TOTAL PERIOD 5f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 5 TOTALS		-	23,736	1,525	435	-	11,212	272,580	40,048	349,536	18,210	281,684	49,641	-	9,353	-	-	1,773	1,470,189	106,017	1,233,184
TOTAL COST TO DECOMMISSION		6,192	94,084	20,994	6,793	23,152	45,944	1,425,301	233,914	1,856,374	963,420	836,113	56,842	147,716	151,089	125	742	1,773	14,528,860	652,634	7,387,143
TOTAL COST TO DECOMMISSION WITH 14.42% CONTINGENCY:					\$1,856,374 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 51.9% OR:					\$963,420 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 45.04% OR:					\$836,113 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 3.06% OR:					\$56,842 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					151,957 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					33,003 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					652,634 Man-hours																

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	82	12	95	95	-	-	-	-	-	-	-	-	-	641
1a.1.13	Define major work sequence	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.14	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.15	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.16	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
1a.1.17	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
1a.1.18.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	270	41	311	311	-	-	-	-	-	-	-	-	-	2,104
1a.1.18.2	Plant systems	-	-	-	-	-	-	229	34	263	263	-	-	-	-	-	-	-	-	-	1,782
1a.1.18.3	Plant structures and buildings	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.18.4	Waste management	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.18.5	Facility and site dormancy	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.18	Total	-	-	-	-	-	-	891	134	1,024	1,024	-	-	-	-	-	-	-	-	-	6,930
Detailed Work Procedures																					
1a.1.19.1	Plant systems	-	-	-	-	-	-	65	10	75	75	-	-	-	-	-	-	-	-	-	506
1a.1.19.2	Facility closeout & dormancy	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
1a.1.19	Total	-	-	-	-	-	-	131	20	151	151	-	-	-	-	-	-	-	-	-	1,019
1a.1.20	Procure vacuum drying system	-	-	-	-	-	-	5	1	6	6	-	-	-	-	-	-	-	-	-	43
1a.1.21	Drain/de-energize non-cont. systems									a											
1a.1.22	Drain & dry NSSS									a											
1a.1.23	Drain/de-energize contaminated systems									a											
1a.1.24	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,854	490	3,345	3,345	-	-	-	-	-	-	-	-	-	18,981
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	604	-	-	-	-	-	151	755	755	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	49	-	14	80	80	-	-	-	597	-	-	-	11,944	19	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	516	52	567	567	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	25,478	3,822	29,300	29,300	-	-	-	-	-	-	-	-	-	400,944
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,357	12	5	-	49	45,381	6,687	53,491	50,549	2,942	-	-	597	-	-	-	11,944	19	523,664
1a.0	TOTAL PERIOD 1a COST	-	1,357	12	5	-	49	59,209	8,636	69,267	63,547	5,720	-	-	597	-	-	-	11,944	19	542,645

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Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1.2	Auxiliary	1,244	-	-	-	-	-	-	622	1,866	1,866	-	-	-	-	-	-	-	-	17,950	-
1b.1.1.3	Drum Transfer & Truck Loading Enclosure	17	-	-	-	-	-	-	8	25	25	-	-	-	-	-	-	-	-	244	-
1b.1.1.4	LLRW Storage Enclosure	105	-	-	-	-	-	-	52	157	157	-	-	-	-	-	-	-	-	1,487	-
1b.1.1.5	Radwaste	47	-	-	-	-	-	-	23	70	70	-	-	-	-	-	-	-	-	669	-
1b.1.1.6	Resin Disposal	14	-	-	-	-	-	-	7	21	21	-	-	-	-	-	-	-	-	198	-
1b.1.1.7	Fuel Handling of Aux Building	911	-	-	-	-	-	-	455	1,366	1,366	-	-	-	-	-	-	-	-	12,414	-
1b.1.1	Totals	3,536	-	-	-	-	-	-	1,768	5,304	5,304	-	-	-	-	-	-	-	-	49,966	-
1b.1	Subtotal Period 1b Activity Costs	3,536	-	-	-	-	-	-	1,768	5,304	5,304	-	-	-	-	-	-	-	-	49,966	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	107	-	71	128	-	288	-	152	746	746	-	-	-	661	-	-	-	39,639	129	-
1b.3.3	Process decommissioning chemical flush waste	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1b.3.4	Small tool allowance	-	59	-	-	-	-	-	9	68	68	-	-	-	-	-	-	-	-	-	-
1b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	309	46	356	-	356	-	-	-	-	-	-	-	-	-
1b.3.6	Retention and Severance	-	-	-	-	-	-	2,296	344	2,640	2,640	-	-	-	-	-	-	-	-	-	-
1b.3.7	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,162	59	71	128	-	288	2,917	710	5,334	4,667	667	-	-	661	-	-	-	39,639	129	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	1,334	-	-	-	-	-	-	333	1,667	1,667	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	902	90	993	993	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	438	-	-	-	-	-	109	547	547	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	13	5	-	52	-	15	85	85	-	-	-	634	-	-	-	12,677	21	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	1,334	626	13	5	-	52	11,645	2,135	15,809	15,076	733	-	-	634	-	-	-	12,677	21	135,867
1b.0	TOTAL PERIOD 1b COST	6,032	684	84	133	-	340	23,012	5,880	36,165	34,764	1,401	-	-	1,295	-	-	-	52,317	50,115	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	32	5	37	37	-	-	-	-	-	-	-	-	-	249
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	765	312	1,658	1,658	-	-	-	-	-	-	-	-	16,501	249
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	90	13	103	-	103	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,722	258	1,980	1,980	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-

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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	2,123	401	3,034	2,619	415	-	-	561	-	-	-	33,685	109	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	
1c.4.2	Property taxes	-	-	-	-	-	-	901	90	991	991	-	-	-	-	-	-	-	-	-	
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	
1c.4.7	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	30,596	
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	105,271	
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,643	1,742	13,838	13,104	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,531	2,456	18,530	17,382	1,148	-	-	713	-	-	-	36,724	16,615	136,116
PERIOD 1 TOTALS		6,123	3,062	159	248	-	646	96,752	16,972	123,961	115,692	8,269	-	-	2,605	-	-	-	100,985	66,750	814,628
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	
2a.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	
2a.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	223	33	256	256	-	-	-	-	-	-	-	-	-	
2a.1.5	Maintenance supplies	-	-	-	-	-	-	349	87	437	437	-	-	-	-	-	-	-	-	-	
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	572	121	693	693	-	-	-	-	-	-	-	-	-	
Period 2a Additional Costs																					
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	64,672	9,701	74,373	-	74,373	-	-	-	-	-	-	-	-	
2a.3.2	Retention and Severance	-	-	-	-	-	-	11,054	1,658	12,712	12,712	-	-	-	-	-	-	-	-	-	
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	3,128	-	3,128	-	3,128	-	-	-	-	-	-	-	-	
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	78,854	11,359	90,213	12,712	77,501	-	-	-	-	-	-	-	-	
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	1,213	121	1,334	1,334	-	-	-	-	-	-	-	-	-	
2a.4.2	Property taxes	-	-	-	-	-	-	9,065	907	9,972	9,972	-	-	-	-	-	-	-	-	-	
2a.4.3	Health physics supplies	-	617	-	-	-	-	-	154	771	771	-	-	-	-	-	-	-	-	-	
2a.4.4	Disposal of DAW generated	-	-	11	5	-	47	-	14	77	77	-	-	-	576	-	-	-	11,523	19	
2a.4.5	Plant energy budget	-	-	-	-	-	-	812	122	934	934	-	-	-	-	-	-	-	-	-	
2a.4.6	NRC Fees	-	-	-	-	-	-	536	54	590	590	-	-	-	-	-	-	-	-	-	
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	4,653	465	5,119	-	5,119	-	-	-	-	-	-	-	-	
2a.4.8	Fixed Overhead	-	-	-	-	-	-	2,979	447	3,426	3,426	-	-	-	-	-	-	-	-	-	
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,057	159	1,216	-	1,216	-	-	-	-	-	-	-	-	
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	140	21	161	-	161	-	-	-	-	-	-	-	-	
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	385	58	443	443	-	-	-	-	-	-	-	-	-	
2a.4.12	Security Staff Cost	-	-	-	-	-	-	19,158	2,874	22,032	15,863	6,169	-	-	-	-	-	-	-	281,262	
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	13,370	2,006	15,376	12,900	2,476	-	-	-	-	-	-	-	205,738	
2a.4	Subtotal Period 2a Period-Dependent Costs	-	617	11	5	-	47	53,370	7,400	61,450	46,309	15,140	-	-	576	-	-	-	11,523	19	486,999
2a.0	TOTAL PERIOD 2a COST	-	617	11	5	-	47	137,143	19,532	157,355	64,714	92,641	-	-	576	-	-	-	11,523	19	486,999
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	
2b.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	
2b.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	4,402	660	5,063	5,063	-	-	-	-	-	-	-	-	-	

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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Direct Decommissioning Activities (continued)																					
2b.1.5	Maintenance supplies	-	-	-	-	-	-	6,902	1,726	8,628	8,628	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	11,305	2,386	13,691	13,691	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	136,259	20,439	156,698	-	156,698	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	61,783	-	61,783	-	61,783	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	198,042	20,439	218,481	-	218,481	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	23,951	2,395	26,346	26,346	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	179,063	17,906	196,969	196,969	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	5,618	-	-	-	-	-	1,404	7,022	7,022	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	101	41	-	421	-	122	685	685	-	-	-	5,109	-	-	-	102,180	167	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	8,019	1,203	9,222	9,222	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	10,191	1,019	11,211	11,211	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	3,667	367	4,033	-	4,033	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	8,059	1,209	9,268	9,268	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,768	415	3,183	-	3,183	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	3,092	464	3,556	3,556	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	138,043	20,706	158,749	34,925	123,825	-	-	-	-	-	-	-	-	1,851,793
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	67,547	10,132	77,680	48,783	28,897	-	-	-	-	-	-	-	-	1,028,774
2b.4	Subtotal Period 2b Period-Dependent Costs	-	5,618	101	41	-	421	444,401	57,343	507,924	347,987	159,938	-	-	5,109	-	-	-	102,180	167	2,880,567
2b.0	TOTAL PERIOD 2b COST	-	5,618	101	41	-	421	653,748	80,167	740,096	361,678	378,419	-	-	5,109	-	-	-	102,180	167	2,880,567
PERIOD 2 TOTALS		-	6,235	113	46	-	468	790,891	99,699	897,452	426,392	471,060	-	-	5,685	-	-	-	113,703	185	3,367,566
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.6	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
3a.1.7	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
Activity Specifications																					
3a.1.9.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	405	61	466	419	-	47	-	-	-	-	-	-	-	3,151
3a.1.9.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
3a.1.9.3	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,036
3a.1.9.4	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
3a.1.9.5	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
3a.1.9.6	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
3a.1.9.7	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
3a.1.9.8	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.9.9	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.9.10	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
3a.1.9.11	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.9.12	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
3a.1.9	Total	-	-	-	-	-	-	2,186	328	2,514	2,213	-	301	-	-	-	-	-	-	-	17,009
Planning & Site Preparations																					
3a.1.10	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
3a.1.11	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
3a.1.12	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
3a.1.13	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
3a.1.14	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	9,670	1,451	11,121	10,820	-	301	-	-	-	-	-	-	-	29,336
Period 3a Additional Costs																					
3a.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563

**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3a Collateral Costs																					
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
3a.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	39,506	5,926	45,431	-	45,431	-	-	-	-	-	-	-	-	-
3a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	40,755	5,931	46,720	39	46,680	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	484	48	533	307	225	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	3,546	355	3,900	2,500	1,400	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	641	-	-	-	-	-	160	802	802	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	10	4	-	40	-	11	64	64	-	-	-	481	-	-	-	9,613	16	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC ISFSI Fees	-	-	-	-	-	-	120	12	132	-	132	-	-	-	-	-	-	-	-	-
3a.4.8	NRC Fees	-	-	-	-	-	-	260	26	286	286	-	-	-	-	-	-	-	-	-	-
3a.4.9	Emergency Planning Fees	-	-	-	-	-	-	74	7	82	-	82	-	-	-	-	-	-	-	-	-
3a.4.10	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
3a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
3a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
3a.4.13	Security Staff Cost	-	-	-	-	-	-	368	55	424	424	-	-	-	-	-	-	-	-	-	6,240
3a.4.14	Utility Staff Cost	-	-	-	-	-	-	12,056	1,808	13,864	13,379	485	-	-	-	-	-	-	-	-	199,680
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,394	10	4	-	40	20,088	3,074	24,609	22,220	2,388	-	-	481	-	-	-	9,613	16	205,920
3a.0	TOTAL PERIOD 3a COST	-	3,954	366	248	178	1,409	72,018	11,979	90,151	40,781	49,069	301	6,132	13,324	-	-	-	528,549	32,259	238,819
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024
3b.1.1.2	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552
3b.1.1.8	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513
3b.1.1.9	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192
3b.1.1.10	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
3b.1.1.11	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428
3b.1.1.13	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.14	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1.16	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1	Total	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
3b.3.4	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	1,887	528	4,669	4,047	623	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1,667	167	1,834	1,175	658	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	274	-	-	-	-	-	68	342	342	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	5	2	-	22	-	6	35	35	-	-	-	264	-	-	-	5,286	9	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	60	6	66	-	66	-	-	-	-	-	-	-	-	-
3b.4.9	NRC Fees	-	-	-	-	-	-	129	13	142	142	-	-	-	-	-	-	-	-	-	-
3b.4.10	Emergency Planning Fees	-	-	-	-	-	-	37	4	41	-	41	-	-	-	-	-	-	-	-	-
3b.4.11	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-

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***Prairie Island Nuclear Generating Plant
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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC	Burial / Processed	Craft	Utility and Contractor
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	Cu. Feet	Wt., Lbs.	Manhours	Manhours	
Period 3b Period-Dependent Costs (continued)																						
3b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-	
3b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-	
3b.4.14	Security Staff Cost	-	-	-	-	-	-	184	28	211	211	-	-	-	-	-	-	-	-	-	3,111	
3b.4.15	DOC Staff Cost	-	-	-	-	-	-	3,727	559	4,287	4,287	-	-	-	-	-	-	-	-	-	42,523	
3b.4.16	Utility Staff Cost	-	-	-	-	-	-	6,011	902	6,913	6,671	242	-	-	-	-	-	-	-	-	99,566	
3b.4	Subtotal Period 3b Period-Dependent Costs	38	649	5	2	-	22	13,643	2,080	16,439	15,400	1,039	-	-	264	-	-	-	5,286	9	145,201	
3b.0	TOTAL PERIOD 3b COST	1,092	1,849	5	2	-	22	17,301	2,874	23,146	21,089	1,661	395	-	264	-	-	-	5,286	9	158,988	
PERIOD 3 TOTALS		1,092	5,803	371	250	178	1,430	89,319	14,853	113,297	61,871	50,730	696	6,132	13,588	-	-	-	533,835	32,267	397,807	
PERIOD 4a - Large Component Removal																						
Period 4a Direct Decommissioning Activities																						
Nuclear Steam Supply System Removal																						
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-	
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-	
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80	
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750	
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250	
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-	
4a.1.1.7	Reactor Vessel Internals	51	4,650	13,353	862	-	7,848	278	11,032	38,074	38,074	-	-	-	1,174	-	673	-	167,337	22,373	1,053	
4a.1.1.8	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053	
4a.1.1	Totals	144	14,237	17,346	3,284	2,845	16,851	556	20,984	76,247	76,247	-	-	21,210	28,505	-	673	-	3,002,986	63,151	5,187	
Removal of Major Equipment																						
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-	
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-	
Cascading Costs from Clean Building Demolition																						
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-	
4a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	1,309	-	
4a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	65	-	
4a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	8,963	-	
Disposal of Plant Systems																						
4a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	90	-	
4a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	422	-	
4a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	676	-	
4a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	7,214	486	-	
4a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	1,331	-	
4a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	9,761	468	-	
4a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	261	-	
4a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	634	31	-	
4a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	401	-	
4a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	7,537	-	
4a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	2,987	-	
4a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	19,616	493	-	
4a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	143	-	
4a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	385	-	
4a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	29,284	938	-	
4a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	1,840	-	
4a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	168,414	3,377	-	
4a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	504	-	
4a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	5,638	-	
4a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	86	-	
4a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	100	12	-	
4a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	366	-	
4a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-	
4a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	1,482	-	
4a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	209,799	5,146	-	
4a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	490	82	-	
4a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	32	-	
4a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	966	47	-	
4a.1.5.29	Steam Generator Blowdown	-	378	21	27	319	215	-	202	1,162	1,162	-	-	1,906	631	-	-	-	118,130	5,179	-	
4a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-	

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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

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															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	5,472	-
4a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	757	-
4a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	6,677	-
4a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	4,652	252	-
4a.1.5	Totals	-	3,779	43	108	2,177	215	-	1,091	7,413	4,480	-	2,933	13,010	631	-	-	-	569,060	53,681	-
4a.1.6	Scaffolding in support of decommissioning	-	2,865	22	10	188	30	-	755	3,870	3,870	-	-	1,012	89	-	-	-	51,216	23,719	-
4a.1	Subtotal Period 4a Activity Costs	144	24,706	17,607	3,470	6,506	17,096	556	23,908	93,993	91,059	-	2,933	41,476	29,226	-	673	-	3,937,863	188,606	5,187
Period 4a Additional Costs																					
4a.2.1	Retired RPV Upper Internals Package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	3	-	4	8	-	17	-	7	39	39	-	-	-	40	-	-	-	2,408	8	-
4a.3.3	Small tool allowance	-	241	-	-	-	-	-	36	277	249	-	28	-	-	-	-	-	-	-	-
4a.3.4	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,660	-	1,660	-	1,660	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	3	241	4	8	-	17	1,660	43	1,976	288	1,660	28	-	40	-	-	-	2,408	8	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	4,395	439	4,834	2,954	1,881	-	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,882	-	-	-	-	-	470	2,352	2,352	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	70	29	-	293	-	85	477	477	-	-	-	3,556	-	-	-	71,113	116	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC ISFSI Fees	-	-	-	-	-	-	159	16	175	-	175	-	-	-	-	-	-	-	-	-
4a.4.9	NRC Fees	-	-	-	-	-	-	420	42	461	461	-	-	-	-	-	-	-	-	-	-
4a.4.10	Emergency Planning Fees	-	-	-	-	-	-	99	10	108	-	108	-	-	-	-	-	-	-	-	-
4a.4.11	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-
4a.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-
4a.4.13	ISFSI Operating Costs	-	-	-	-	-	-	74	11	86	-	86	-	-	-	-	-	-	-	-	-
4a.4.14	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	96	-	-	-	-	-	-	-	-	-	-
4a.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-
4a.4.16	Security Staff Cost	-	-	-	-	-	-	5,911	887	6,798	5,159	1,638	-	-	-	-	-	-	-	-	91,140
4a.4.17	DOC Staff Cost	-	-	-	-	-	-	17,103	2,565	19,668	19,668	-	-	-	-	-	-	-	-	-	189,200
4a.4.18	Utility Staff Cost	-	-	-	-	-	-	21,408	3,211	24,619	23,856	763	-	-	-	-	-	-	-	-	337,712
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,207	70	29	-	293	55,975	9,189	70,863	66,212	4,651	-	-	3,556	-	-	-	71,113	116	618,052
4a.0	TOTAL PERIOD 4a COST	246	30,282	17,847	3,564	6,506	18,989	58,190	34,084	169,711	160,439	6,311	2,961	41,476	33,394	125	673	-	4,061,184	190,397	623,305
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
4b.1.2.1	ADT & Misc Ventilation	-	22	1	1	26	3	-	10	63	63	-	-	153	9	-	-	-	6,803	325	-
4b.1.2.2	Aux Bldg Normal Ventilation	-	62	2	6	116	13	-	37	237	237	-	-	692	39	-	-	-	30,595	906	-
4b.1.2.3	Aux Bldg Special Ventilation	-	12	0	1	12	2	-	5	32	32	-	-	70	6	-	-	-	3,234	176	-
4b.1.2.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	24	-
4b.1.2.5	Boron Recycle	-	3	0	0	0	3	-	2	9	9	-	-	3	9	-	-	-	700	45	-
4b.1.2.6	Chemical & Volume Control	-	858	62	57	394	677	-	458	2,507	2,507	-	-	2,356	1,977	-	-	-	223,753	11,575	-
4b.1.2.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
4b.1.2.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	487,169	8,583	-
4b.1.2.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	502	-
4b.1.2.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	111,390	3,949	-
4b.1.2.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	5,742	494	-
4b.1.2.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	59,019	2,617	-
4b.1.2.13	Containment Ventilation	-	211	23	49	790	243	-	242	1,558	1,558	-	-	4,721	722	-	-	-	237,643	3,016	-
4b.1.2.14	Control/Relay/Cmptr Rm Vent	-	28	1	2	44	7	-	16	98	98	-	-	260	20	-	-	-	11,878	406	-
4b.1.2.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	2,344	-
4b.1.2.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	342,822	6,311	-
4b.1.2.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	4,184	48	-
4b.1.2.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
4b.1.2.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4b.1.2.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4b.1.2.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
4b.1.2.22	Electrical - Contaminated	-	430	5	16	334	25	-	167	978	978	-	-	1,997	75	-	-	-	85,887	5,813	-
4b.1.2.23	Electrical - Contaminated - Fuel Pool	-	184	2	7	145	11	-	72	421	421	-	-	864	33	-	-	-	37,167	2,488	-
4b.1.2.24	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
4b.1.2.25	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-
4b.1.2.26	Filter Rm Ventilation	-	4	0	0	4	0	-	2	10	10	-	-	24	1	-	-	-	1,017	61	-
4b.1.2.27	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
4b.1.2.28	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
4b.1.2.29	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-
4b.1.2.30	Fuel Handling	-	66	1	2	34	17	-	26	146	146	-	-	200	49	-	-	-	11,273	983	-
4b.1.2.31	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
4b.1.2.32	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
4b.1.2.33	HVAC - Contaminated	-	1,112	29	87	1,798	136	-	598	3,759	3,759	-	-	10,745	405	-	-	-	462,103	14,282	-
4b.1.2.34	HVAC - Contaminated - Fuel Pool	-	499	13	39	808	61	-	268	1,689	1,689	-	-	4,828	182	-	-	-	207,612	6,417	-
4b.1.2.35	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
4b.1.2.36	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
4b.1.2.37	Hot Lab & Sample Rm Ventilation	-	17	0	1	18	1	-	8	46	46	-	-	107	4	-	-	-	4,622	255	-
4b.1.2.38	Incore Instrumentation	-	27	1	2	10	20	-	13	73	73	-	-	60	58	-	-	-	6,143	412	-
4b.1.2.39	Misc Drains & Vents	-	213	12	12	77	145	-	104	563	563	-	-	458	426	-	-	-	46,079	2,841	-
4b.1.2.40	Misc Lab & Service Areas Vent	-	118	8	8	62	84	-	62	342	342	-	-	370	244	-	-	-	30,899	1,537	-
4b.1.2.41	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
4b.1.2.42	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
4b.1.2.43	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
4b.1.2.44	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
4b.1.2.45	Reactor Coolant	-	216	20	16	38	249	-	126	666	666	-	-	229	730	-	-	-	56,440	2,891	-
4b.1.2.46	Reactor Hot Sampling	-	116	11	7	9	108	-	60	311	311	-	-	54	312	-	-	-	22,678	1,499	-
4b.1.2.47	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
4b.1.2.48	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
4b.1.2.49	Reactor Vessel	-	16	1	0	4	5	-	6	32	32	-	-	22	14	-	-	-	1,816	225	-
4b.1.2.50	Residual Heat Removal	-	354	84	86	477	1,102	-	457	2,562	2,562	-	-	2,853	3,244	-	-	-	324,232	5,039	-
4b.1.2.51	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4b.1.2.52	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-
4b.1.2.53	Safety Injection	-	793	42	72	1,117	395	-	479	2,898	2,898	-	-	6,676	1,161	-	-	-	345,708	11,029	-
4b.1.2.54	Sampling	-	48	3	2	6	32	-	22	113	113	-	-	37	93	-	-	-	7,628	645	-
4b.1.2.55	Service Bldg & New Cmptr Vent	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	6	-
4b.1.2.56	Shield Bldg Ventilation	-	108	13	25	339	163	-	124	771	771	-	-	2,028	484	-	-	-	113,139	1,555	-
4b.1.2.57	Spent Fuel Pool Cooling	-	33	3	2	6	37	-	19	101	101	-	-	39	107	-	-	-	8,481	427	-
4b.1.2.58	Spent Fuel Pool Normal Ventilation	-	24	1	2	44	4	-	14	90	90	-	-	265	12	-	-	-	11,505	352	-
4b.1.2.59	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
4b.1.2.60	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
4b.1.2.61	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
4b.1.2.62	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
4b.1.2.63	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
4b.1.2.64	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
4b.1.2.65	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
4b.1.2.66	Waste Gas Disposal	-	438	43	45	410	464	-	298	1,699	1,699	-	-	2,453	1,358	-	-	-	187,339	5,879	-
4b.1.2.67	Waste Liquid Disposal	-	1,642	116	100	612	1,234	-	837	4,541	4,541	-	-	3,655	3,594	-	-	-	381,754	22,011	-
4b.1.2.68	Waste Solid Disposal	-	132	12	11	65	134	-	79	433	433	-	-	389	393	-	-	-	41,177	1,781	-
4b.1.2	Totals	-	17,877	633	1,092	17,625	5,377	-	8,385	50,989	47,545	-	3,444	105,339	15,761	-	-	-	5,294,310	240,033	-
4b.1.3	Scaffolding in support of decommissioning	-	4,297	33	15	281	45	-	1,133	5,804	5,804	-	-	1,518	134	-	-	-	76,824	35,578	-
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	1,096	2,528	240	1,236	373	7,080	-	3,215	15,768	15,768	-	-	2,230	67,331	-	-	-	3,286,725	45,740	-
4b.1.4.2	Auxiliary	1,168	375	23	117	177	648	-	886	3,395	3,395	-	-	1,060	6,118	-	-	-	332,495	21,235	-
4b.1.4.3	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-
4b.1.4.4	Drum Transfer & Truck Loading Enclosure	16	8	1	3	3	14	-	15	59	59	-	-	19	135	-	-	-	7,118	328	-
4b.1.4.5	LLRW Storage Enclosure	111	48	3	17	6	96	-	95	377	377	-	-	38	920	-	-	-	44,971	2,151	-
4b.1.4.6	Radwaste	50	21	1	8	7	43	-	43	174	174	-	-	42	412	-	-	-	21,136	964	-
4b.1.4.7	Resin Disposal	15	11	1	3	14	14	-	16	72	72	-	-	83	124	-	-	-	9,271	340	-
4b.1.4.8	Fuel Handling of Aux Building	924	1,015	13	45	404	195	-	833	3,430	3,430	-	-	2,417	1,652	-	-	-	177,755	27,145	-
4b.1.4	Totals	3,380	4,031	285	1,445	985	8,187	-	5,137	23,450	23,450	-	-	5,889	77,619	-	-	-	3,923,368	98,170	-
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
4b.1.6	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
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**Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
4b.1	Subtotal Period 4b Activity Costs	3,693	26,240	1,036	2,594	18,892	14,312	225	15,045	82,037	78,593	-	3,444	112,746	95,607	-	-	-	9,427,420	374,358	1,751
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	6,240	
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	7,411	-	
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	
4b.2	Subtotal Period 4b Additional Costs	-	1,175	11	36	606	-	1,262	736	3,827	3,827	-	-	5,880	-	-	-	-	147,000	7,427	
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	7	-	12	21	-	48	-	20	107	107	-	-	-	109	-	-	-	6,547	21	
4b.3.3	Small tool allowance	-	443	-	-	-	-	-	66	509	509	-	-	-	-	-	-	-	-	-	
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	
4b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,225	-	2,225	-	2,225	-	-	-	-	-	-	-	-	
4b.3	Subtotal Period 4b Collateral Costs	7	443	142	88	1,112	225	2,225	320	4,563	2,338	2,225	-	6,000	638	-	-	-	310,155	168	
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	1,449	-	-	-	-	-	-	362	1,811	1,811	-	-	-	-	-	-	-	-	-	
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	
4b.4.3	Property taxes	-	-	-	-	-	-	5,715	572	6,287	3,785	2,502	-	-	-	-	-	-	-	-	
4b.4.4	Health physics supplies	-	3,213	-	-	-	-	-	803	4,016	4,016	-	-	-	-	-	-	-	-	-	
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	
4b.4.6	Disposal of DAW generated	-	-	116	47	-	482	-	139	784	784	-	-	-	5,851	-	-	-	117,027	191	
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	
4b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	213	21	234	-	234	-	-	-	-	-	-	-	-	
4b.4.9	NRC Fees	-	-	-	-	-	-	562	56	618	618	-	-	-	-	-	-	-	-	-	
4b.4.10	Emergency Planning Fees	-	-	-	-	-	-	132	13	145	-	145	-	-	-	-	-	-	-	-	
4b.4.11	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	
4b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	
4b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	100	15	115	-	115	-	-	-	-	-	-	-	-	
4b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	
4b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	
4b.4.16	Security Staff Cost	-	-	-	-	-	-	10,435	1,565	12,000	8,988	3,012	-	-	-	-	-	-	-	160,203	
4b.4.17	DOC Staff Cost	-	-	-	-	-	-	22,641	3,396	26,038	26,038	-	-	-	-	-	-	-	-	248,175	
4b.4.18	Utility Staff Cost	-	-	-	-	-	-	28,347	4,252	32,600	31,361	1,239	-	-	-	-	-	-	-	440,789	
4b.4	Subtotal Period 4b Period-Dependent Costs	1,449	7,790	116	47	-	482	76,155	13,040	99,079	91,832	7,247	-	-	5,851	-	-	-	117,027	191	
4b.0	TOTAL PERIOD 4b COST	5,149	35,647	1,305	2,766	20,610	15,020	79,868	29,142	189,506	176,590	9,472	3,444	124,626	102,096	-	-	-	10,001,600	382,144	
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	
4f.1.2	Terminate license	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	
4f.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	218	33	250	-	250	-	-	-	-	-	-	-	-	
4f.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	2,416	222	2,638	1,454	1,185	-	-	-	-	-	-	-	-	
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	362	36	398	-	398	-	-	-	-	-	-	-	-	
4f.4.2	Property taxes	-	-	-	-	-	-	2,306	231	2,537	1,469	1,068	-	-	-	-	-	-	-	-	
4f.4.3	Health physics supplies	-	710	-	-	-	-	-	178	888	888	-	-	-	-	-	-	-	-	-	
4f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	
4f.4.6	NRC ISFSI Fees	-	-	-	-	-	-	90	9	98	-	98	-	-	-	-	-	-	-	-	
4f.4.7	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	
4f.4.8	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	
4f.4.9	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	
4f.4.10	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	

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Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	Cu. Feet				
Period 4f Period-Dependent Costs (continued)																						
4f.4.11	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-	
4f.4.12	Security Staff Cost	-	-	-	-	-	-	1,835	275	2,111	927	1,184	-	-	-	-	-	-	-	-	27,614	
4f.4.13	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283	
4f.4.14	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507	
4f.4	Subtotal Period 4f Period-Dependent Costs	-	710	7	3	-	28	14,382	2,189	17,319	14,022	3,296	-	-	334	-	-	-	-	6,685	11	133,404
4f.0	TOTAL PERIOD 4f COST	-	710	7	3	-	28	24,006	4,574	29,327	24,846	4,481	-	-	334	-	-	-	-	6,685	100,906	136,524
PERIOD 4 TOTALS		5,395	66,639	19,159	6,333	27,115	34,036	162,064	67,800	388,543	361,874	20,263	6,405	166,102	135,824	125	673	-	14,069,470	673,447	1,616,988	
PERIOD 5b - Site Restoration																						
Period 5b Direct Decommissioning Activities																						
Demolition of Remaining Site Buildings																						
5b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	-	44,679	-
5b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	-	11,902	-
5b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	33	-
5b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	-	1,405	-
5b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	-	84	-
5b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	-	221	-
5b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	-	47	-
5b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	-	853	-
5b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	-	22,582	-
5b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	-	1,400	-
5b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	-	120	-
5b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	-	9,238	-
5b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	-	35	-
5b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	-	21,997	-
5b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	-	1,857	-
5b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	-	213	-
5b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	56	-
5b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	-	70	-
5b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	-	2,690	-
5b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	-	8,240	-
5b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	-	127,723	-
Site Closeout Activities																						
5b.1.2	Remove Rubble	-	1,517	-	-	-	-	-	228	1,745	-	-	1,745	-	-	-	-	-	-	-	7,408	-
5b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	-	921	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	-	667
5b.1	Subtotal Period 5b Activity Costs	-	17,466	-	-	-	-	86	2,633	20,185	99	-	20,086	-	-	-	-	-	-	-	136,051	667
Period 5b Additional Costs																						
5b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	-	18,372	-
5b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	-	3,552	-
5b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	-	9,327	-
5b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	-	1,059,612	146	-
5b.2	Subtotal Period 5b Additional Costs	-	14,634	80	418	-	2,390	2,160	3,244	22,926	3,640	-	19,286	-	8,929	-	-	-	-	1,059,612	31,397	-
Period 5b Collateral Costs																						
5b.3.1	Small tool allowance	-	213	-	-	-	-	-	32	245	-	-	245	-	-	-	-	-	-	-	-	-
5b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	5,519	828	6,347	-	6,347	-	-	-	-	-	-	-	-	-	-
5b.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	213	-	-	-	-	8,168	860	9,241	-	8,996	245	-	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																						
5b.4.1	Insurance	-	-	-	-	-	-	513	51	565	-	565	-	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	5,904	590	6,494	-	2,663	3,831	-	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-	-
5b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	326	33	359	-	359	-	-	-	-	-	-	-	-	-	-
5b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-	-
5b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	781	397	-	-	-	-	-	-	-	-	-
5b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-	-

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Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet	Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Period 5b Period-Dependent Costs (continued)																					
5b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	(0)	97	56	-	-	-	-	-	-	-	-
5b.4.10	Security Staff Cost	-	-	-	-	-	-	4,976	746	5,722	0	5,310	412	-	-	-	-	-	-	-	74,431
5b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	29,587	5,165	41,895	0	11,757	30,139	-	-	-	-	-	-	-	267,952
5b.0	TOTAL PERIOD 5b COST	-	39,457	80	418	-	2,390	40,001	11,901	94,247	3,739	20,753	69,756	-	8,929	-	-	-	1,059,612	167,448	268,620
PERIOD 5c - Fuel Storage Operations/Shipping																					
Period 5c Direct Decommissioning Activities																					
Period 5c Collateral Costs																					
5c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	89,253	13,388	102,641	-	102,641	-	-	-	-	-	-	-	-	-
5c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	27,796	-	27,796	-	27,796	-	-	-	-	-	-	-	-	-
5c.3	Subtotal Period 5c Collateral Costs	-	-	-	-	-	-	117,049	13,388	130,437	-	130,437	-	-	-	-	-	-	-	-	-
Period 5c Period-Dependent Costs																					
5c.4.1	Insurance	-	-	-	-	-	-	5,388	539	5,927	-	5,927	-	-	-	-	-	-	-	-	-
5c.4.2	Property taxes	-	-	-	-	-	-	31,074	3,107	34,181	-	34,181	-	-	-	-	-	-	-	-	-
5c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	3,422	342	3,764	-	3,764	-	-	-	-	-	-	-	-	-
5c.4.5	Emergency Planning Fees	-	-	-	-	-	-	1,650	165	1,815	-	1,815	-	-	-	-	-	-	-	-	-
5c.4.6	Fixed Overhead	-	-	-	-	-	-	3,626	544	4,170	-	4,170	-	-	-	-	-	-	-	-	-
5c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	1,245	187	1,432	-	1,432	-	-	-	-	-	-	-	-	-
5c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	1,391	209	1,600	-	1,600	-	-	-	-	-	-	-	-	-
5c.4.9	Security Staff Cost	-	-	-	-	-	-	42,996	6,449	49,446	-	49,446	-	-	-	-	-	-	-	-	624,838
5c.4.10	DOC Staff Cost	-	-	-	-	-	-	3,411	512	3,922	-	3,922	-	-	-	-	-	-	-	-	23,142
5c.4.11	Utility Staff Cost	-	-	-	-	-	-	21,001	3,150	24,151	-	24,151	-	-	-	-	-	-	-	-	306,633
5c.4	Subtotal Period 5c Period-Dependent Costs	-	-	-	-	-	-	115,204	15,204	130,408	-	130,408	-	-	-	-	-	-	-	-	954,613
5c.0	TOTAL PERIOD 5c COST	-	-	-	-	-	-	232,252	28,592	260,844	-	260,844	-	-	-	-	-	-	-	-	954,613
PERIOD 5d - GTCC shipping																					
Period 5d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
5d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1	Subtotal Period 5d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 5d Collateral Costs																					
5d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
5d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
5d.3	Subtotal Period 5d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 5d Period-Dependent Costs																					
5d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
5d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
5d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
5d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
5d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
5d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
5d.4.8	Security Staff Cost	-	-	-	-	-	-	74	11	85	85	-	-	-	-	-	-	-	-	-	1,077
5d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
5d.4	Subtotal Period 5d Period-Dependent Costs	-	-	-	-	-	-	171	22	194	186	7	-	-	-	-	-	-	-	-	1,346
5d.0	TOTAL PERIOD 5d COST	-	-	1,444	-	-	8,680	247	1,689	12,060	11,973	87	-	-	-	-	-	1,773	344,823	-	1,346
PERIOD 5e - ISFSI Decontamination																					
Period 5e Direct Decommissioning Activities																					
Period 5e Additional Costs																					
5e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
5e.2	Subtotal Period 5e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161

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Table I-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 100 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index		Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
Activity Description															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5e Period-Dependent Costs																					
5e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
5e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
5e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
5e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
5e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
5e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
5e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
5e.4	Subtotal PERIOD 5e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
5e.0	TOTAL PERIOD 5e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556
PERIOD 5f - ISFSI Site Restoration																					
Period 5f Direct Decommissioning Activities																					
Period 5f Additional Costs																					
5f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
5f.2	Subtotal Period 5f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
Period 5f Collateral Costs																					
5f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
5f.3	Subtotal Period 5f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
Period 5f Period-Dependent Costs																					
5f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
5f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
5f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
5f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
5f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
5f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
5f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
5f.4	Subtotal Period 5f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
5f.0	TOTAL PERIOD 5f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 5 TOTALS		-	40,644	1,525	435	-	11,212	274,611	42,889	371,316	18,078	281,684	71,553	-	9,353	-	-	1,773	1,470,189	178,175	1,232,291
TOTAL COST TO DECOMMISSION		12,610	122,384	21,327	7,312	27,293	47,794	1,413,637	242,212	1,894,569	983,908	832,007	78,655	172,234	167,056	125	673	1,773	16,288,180	950,825	7,429,280
TOTAL COST TO DECOMMISSION WITH 14.66% CONTINGENCY:					\$1,894,569			thousands of 2020 dollars													
TOTAL NRC LICENSE TERMINATION COST IS 51.93% OR:					\$983,908			thousands of 2020 dollars													
SPENT FUEL MANAGEMENT COST IS 43.92% OR:					\$832,007			thousands of 2020 dollars													
NON-NUCLEAR DEMOLITION COST IS 4.15% OR:					\$78,655			thousands of 2020 dollars													
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					167,854			Cubic Feet													
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773			Cubic Feet													
TOTAL SCRAP METAL REMOVED:					42,406			Tons													
TOTAL CRAFT LABOR REQUIREMENTS:					950,825			Man-hours													

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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APPENDIX J

DETAILED COST ANALYSIS

SCENARIO 8: SAFSTOR with 200 Year DFS

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Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.11	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	193	29	222	222	-	-	-	-	-	-	-	-	-	1,500
1a.1.13	Define major work sequence	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
1a.1.14	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
1a.1.15	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
1a.1.16	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
1a.1.17	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
Activity Specifications																					
1a.1.18.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	632	95	727	727	-	-	-	-	-	-	-	-	-	4,920
1a.1.18.2	Plant systems	-	-	-	-	-	-	536	80	616	616	-	-	-	-	-	-	-	-	-	4,167
1a.1.18.3	Plant structures and buildings	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
1a.1.18.4	Waste management	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.18.5	Facility and site dormancy	-	-	-	-	-	-	257	39	296	296	-	-	-	-	-	-	-	-	-	2,000
1a.1.18	Total	-	-	-	-	-	-	2,083	312	2,395	2,395	-	-	-	-	-	-	-	-	-	16,207
Detailed Work Procedures																					
1a.1.19.1	Plant systems	-	-	-	-	-	-	152	23	175	175	-	-	-	-	-	-	-	-	-	1,183
1a.1.19.2	Facility closeout & dormancy	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
1a.1.19	Total	-	-	-	-	-	-	306	46	352	352	-	-	-	-	-	-	-	-	-	2,383
1a.1.20	Procure vacuum drying system	-	-	-	-	-	-	13	2	15	15	-	-	-	-	-	-	-	-	-	100
1a.1.21	Drain/de-energize non-cont. systems									a											
1a.1.22	Drain & dry NSSS									a											
1a.1.23	Drain/de-energize contaminated systems									a											
1a.1.24	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	6,120	980	7,100	7,100	-	-	-	-	-	-	-	-	-	44,390
Period 1a Collateral Costs																					
1a.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	614	-	-	-	-	-	153	767	767	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	50	-	14	82	82	-	-	-	610	-	-	-	12,190	20	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	892	89	981	981	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	26,931	4,040	30,971	30,971	-	-	-	-	-	-	-	-	-	422,240
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,367	12	5	-	50	47,211	6,945	55,590	52,648	2,942	-	-	610	-	-	-	12,190	20	544,960
1a.0	TOTAL PERIOD 1a COST	-	1,367	12	5	-	50	54,580	7,925	63,939	59,748	4,191	-	-	610	-	-	-	12,190	20	589,350

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Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1	Totals	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1	Subtotal Period 1b Activity Costs	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	12,675	1,901	14,576	14,576	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	79	-	52	94	-	212	-	112	549	549	-	-	-	487	-	-	-	29,193	95	-
1b.3.4	Small tool allowance	-	20	-	-	-	-	-	3	23	23	-	-	-	-	-	-	-	-	-	-
1b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,134	20	52	94	-	212	311	273	2,097	1,785	311	-	-	487	-	-	-	29,193	95	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	449	-	-	-	-	-	-	112	561	561	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	250	-	-	-	-	-	63	313	313	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	6	3	-	27	-	8	43	43	-	-	-	324	-	-	-	6,486	11	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	449	438	6	3	-	27	11,709	1,866	14,498	13,764	733	-	-	324	-	-	-	6,486	11	135,867
1b.0	TOTAL PERIOD 1b COST	2,781	458	59	97	-	239	24,696	4,640	32,969	31,924	1,045	-	-	811	-	-	-	35,678	17,108	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	75	11	86	86	-	-	-	-	-	-	-	-	-	583
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	808	318	1,707	1,707	-	-	-	-	-	-	-	-	16,501	583
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	163	25	188	-	188	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,032	155	1,187	1,187	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	1,507	309	2,325	1,826	499	-	-	561	-	-	-	33,685	109	-
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	903	90	994	994	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 1c Period-Dependent Costs (continued)																					
1c.4.7	NRC Fees	-	-	-	-	-	-	161	16	177	177	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,709	1,749	13,910	13,177	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,024	2,376	17,943	16,710	1,233	-	-	713	-	-	-	36,724	16,615	136,450
PERIOD 1 TOTALS		2,873	2,846	134	212	-	546	93,299	14,941	114,851	108,382	6,468	-	-	2,134	-	-	-	84,593	33,743	861,667
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection									a											
2a.1.2	Semi-annual environmental survey									a											
2a.1.3	Prepare reports									a											
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	54	8	62	62	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	520	130	650	650	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	574	138	712	712	-	-	-	-	-	-	-	-	-	-
Period 2a Additional Costs																					
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	66,237	9,936	76,173	-	76,173	-	-	-	-	-	-	-	-	-
2a.3.2	Retention and Severance	-	-	-	-	-	-	22,434	3,365	25,799	25,799	-	-	-	-	-	-	-	-	-	-
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	4,654	-	4,654	-	4,654	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	93,325	13,301	106,626	25,799	80,827	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	1,804	180	1,985	1,985	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	13,489	1,349	14,838	14,838	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	801	-	-	-	-	-	200	1,001	1,001	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	14	6	-	59	-	17	96	96	-	-	-	714	-	-	-	14,273	23	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	1,208	181	1,389	1,389	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	908	91	999	999	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	6,924	692	7,616	-	7,616	-	-	-	-	-	-	-	-	-
2a.4.8	Fixed Overhead	-	-	-	-	-	-	4,432	665	5,097	5,097	-	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,573	236	1,809	-	1,809	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	209	31	240	-	240	-	-	-	-	-	-	-	-	-
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	462	69	531	531	-	-	-	-	-	-	-	-	-	-
2a.4.12	Security Staff Cost	-	-	-	-	-	-	29,334	4,400	33,734	24,289	9,446	-	-	-	-	-	-	-	-	431,215
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	3,645	547	4,192	3,517	675	-	-	-	-	-	-	-	-	58,126
2a.4	Subtotal Period 2a Period-Dependent Costs	-	801	14	6	-	59	63,988	8,659	73,527	53,741	19,786	-	-	714	-	-	-	14,273	23	489,341
2a.0	TOTAL PERIOD 2a COST	-	801	14	6	-	59	162,235	22,750	185,865	85,251	100,614	-	-	714	-	-	-	14,273	23	489,341
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection									a											
2b.1.2	Semi-annual environmental survey									a											
2b.1.3	Prepare reports									a											
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	704	106	810	810	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	6,792	1,698	8,490	8,490	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	7,496	1,804	9,300	9,300	-	-	-	-	-	-	-	-	-	-
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	122,995	18,449	141,444	-	141,444	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	60,797	-	60,797	-	60,797	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	183,792	18,449	202,241	-	202,241	-	-	-	-	-	-	-	-	-

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**Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	23,569	2,357	25,926	25,926	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	176,207	17,621	193,828	193,828	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	5,528	-	-	-	-	-	1,382	6,910	6,910	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	100	40	-	414	-	120	674	674	-	-	5,027	-	-	-	-	100,550	164	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	7,891	1,184	9,075	9,075	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	11,071	1,107	12,178	12,178	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	3,608	361	3,969	-	3,969	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	7,930	1,190	9,120	9,120	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,724	409	3,132	-	3,132	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	3,043	456	3,499	3,499	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	135,841	20,376	156,217	34,368	121,849	-	-	-	-	-	-	-	-	1,822,251
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	66,470	9,970	76,440	48,005	28,436	-	-	-	-	-	-	-	-	1,012,362
2b.4	Subtotal Period 2b Period-Dependent Costs	-	5,528	100	40	-	414	438,354	56,532	500,968	343,582	157,386	-	5,027	-	-	-	-	100,550	164	2,834,613
2b.0	TOTAL PERIOD 2b COST	-	5,528	100	40	-	414	629,642	76,785	712,510	352,882	359,628	-	-	5,027	-	-	-	100,550	164	2,834,613
PERIOD 2 TOTALS		-	6,329	114	46	-	473	791,877	99,535	898,374	438,133	460,241	-	-	5,741	-	-	-	114,823	187	3,323,954
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	167	25	192	192	-	-	-	-	-	-	-	-	-	1,300
3a.1.6	Define major work sequence	-	-	-	-	-	-	964	145	1,108	1,108	-	-	-	-	-	-	-	-	-	7,500
3a.1.7	Perform SER and EA	-	-	-	-	-	-	398	60	458	458	-	-	-	-	-	-	-	-	-	3,100
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	643	96	739	739	-	-	-	-	-	-	-	-	-	5,000
Activity Specifications																					
3a.1.9.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	947	142	1,089	980	-	109	-	-	-	-	-	-	-	7,370
3a.1.9.2	Plant systems	-	-	-	-	-	-	536	80	616	554	-	62	-	-	-	-	-	-	-	4,167
3a.1.9.3	Reactor internals	-	-	-	-	-	-	912	137	1,049	1,049	-	-	-	-	-	-	-	-	-	7,100
3a.1.9.4	Reactor vessel	-	-	-	-	-	-	835	125	961	961	-	-	-	-	-	-	-	-	-	6,500
3a.1.9.5	Biological shield	-	-	-	-	-	-	64	10	74	74	-	-	-	-	-	-	-	-	-	500
3a.1.9.6	Steam generators	-	-	-	-	-	-	401	60	461	461	-	-	-	-	-	-	-	-	-	3,120
3a.1.9.7	Reinforced concrete	-	-	-	-	-	-	206	31	236	118	-	118	-	-	-	-	-	-	-	1,600
3a.1.9.8	Main Turbine	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
3a.1.9.9	Main Condensers	-	-	-	-	-	-	51	8	59	-	-	59	-	-	-	-	-	-	-	400
3a.1.9.10	Plant structures & buildings	-	-	-	-	-	-	401	60	461	231	-	231	-	-	-	-	-	-	-	3,120
3a.1.9.11	Waste management	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
3a.1.9.12	Facility & site closeout	-	-	-	-	-	-	116	17	133	67	-	67	-	-	-	-	-	-	-	900
3a.1.9	Total	-	-	-	-	-	-	5,112	767	5,879	5,175	-	704	-	-	-	-	-	-	-	39,777
Planning & Site Preparations																					
3a.1.10	Prepare dismantling sequence	-	-	-	-	-	-	308	46	355	355	-	-	-	-	-	-	-	-	-	2,400
3a.1.11	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
3a.1.12	Design water clean-up system	-	-	-	-	-	-	180	27	207	207	-	-	-	-	-	-	-	-	-	1,400
3a.1.13	Rigging/Cont. Cntrl Envlps/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
3a.1.14	Procure casks/liners & containers	-	-	-	-	-	-	158	24	182	182	-	-	-	-	-	-	-	-	-	1,230
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	14,717	2,208	16,925	16,221	-	704	-	-	-	-	-	-	-	68,607
Period 3a Additional Costs																					
3a.2.1	Site Characterization	-	-	-	-	-	-	3,520	1,056	4,576	4,576	-	-	-	-	-	-	-	-	21,020	8,332
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	3,520	2,129	10,321	10,321	-	-	6,132	12,843	-	-	-	518,936	44,275	8,332
Period 3a Collateral Costs																					
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
3a.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	24,367	3,655	28,022	-	28,022	-	-	-	-	-	-	-	-	-
3a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	25,616	3,660	29,310	39	29,271	-	-	-	-	-	-	-	-	-

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**Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	484	48	533	307	225	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	3,618	362	3,980	2,551	1,429	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	670	-	-	-	-	-	167	837	837	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	10	4	-	42	-	12	69	69	-	-	-	516	-	-	-	10,311	17	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC ISFSI Fees	-	-	-	-	-	-	42	4	46	-	46	-	-	-	-	-	-	-	-	-
3a.4.8	NRC Fees	-	-	-	-	-	-	335	33	368	368	-	-	-	-	-	-	-	-	-	-
3a.4.9	Emergency Planning Fees	-	-	-	-	-	-	74	7	82	-	82	-	-	-	-	-	-	-	-	-
3a.4.10	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
3a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
3a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
3a.4.13	Security Staff Cost	-	-	-	-	-	-	4,632	695	5,327	5,044	282	-	-	-	-	-	-	-	-	69,160
3a.4.14	Utility Staff Cost	-	-	-	-	-	-	16,599	2,490	19,089	18,421	668	-	-	-	-	-	-	-	-	260,000
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,423	10	4	-	42	28,964	4,410	34,853	32,057	2,796	-	-	516	-	-	-	10,311	17	329,160
3a.0	TOTAL PERIOD 3a COST	-	3,983	366	248	178	1,412	72,817	12,406	91,409	58,638	32,067	704	6,132	13,359	-	-	-	529,247	44,292	406,099
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	608	91	700	630	-	70	-	-	-	-	-	-	-	4,733
3b.1.1.2	Reactor internals	-	-	-	-	-	-	321	48	369	369	-	-	-	-	-	-	-	-	-	2,500
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	174	26	200	50	-	150	-	-	-	-	-	-	-	1,350
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	129	19	148	148	-	-	-	-	-	-	-	-	-	1,000
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	467	70	537	537	-	-	-	-	-	-	-	-	-	3,630
3b.1.1.8	Facility closeout	-	-	-	-	-	-	154	23	177	89	-	89	-	-	-	-	-	-	-	1,200
3b.1.1.9	Missile shields	-	-	-	-	-	-	58	9	67	67	-	-	-	-	-	-	-	-	-	450
3b.1.1.10	Biological shield	-	-	-	-	-	-	154	23	177	177	-	-	-	-	-	-	-	-	-	1,200
3b.1.1.11	Steam generators	-	-	-	-	-	-	591	89	680	680	-	-	-	-	-	-	-	-	-	4,600
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	129	19	148	74	-	74	-	-	-	-	-	-	-	1,000
3b.1.1.13	Main Turbine	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
3b.1.1.14	Main Condensers	-	-	-	-	-	-	200	30	231	-	-	231	-	-	-	-	-	-	-	1,560
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
3b.1.1.16	Reactor building	-	-	-	-	-	-	351	53	403	363	-	40	-	-	-	-	-	-	-	2,730
3b.1.1	Total	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	-	32,243
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	4,144	622	4,765	3,841	-	924	-	-	-	-	-	-	-	32,243
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
3b.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	26,241	3,936	30,177	-	30,177	-	-	-	-	-	-	-	-	-
3b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	28,128	4,464	34,846	4,047	30,800	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1,802	180	1,982	1,270	711	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	295	-	-	-	-	-	74	369	369	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	6	2	-	24	-	7	39	39	-	-	-	291	-	-	-	5,814	9	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	21	2	23	-	23	-	-	-	-	-	-	-	-	-
3b.4.9	NRC Fees	-	-	-	-	-	-	167	17	183	183	-	-	-	-	-	-	-	-	-	-
3b.4.10	Emergency Planning Fees	-	-	-	-	-	-	37	4	41	-	41	-	-	-	-	-	-	-	-	-
3b.4.11	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-
3b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
3b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-
3b.4.14	Security Staff Cost	-	-	-	-	-	-	2,310	346	2,656	2,515	141	-	-	-	-	-	-	-	-	34,485
3b.4.15	DOC Staff Cost	-	-	-	-	-	-	5,344	802	6,146	6,146	-	-	-	-	-	-	-	-	-	58,080
3b.4.16	Utility Staff Cost	-	-	-	-	-	-	8,277	1,242	9,518	9,185	333	-	-	-	-	-	-	-	-	129,644

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***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
3b.4	Subtotal Period 3b Period-Dependent Costs	38	671	6	2	-	24	19,784	3,001	23,525	22,244	1,281	-	-	291	-	-	-	5,814	9	222,210
3b.0	TOTAL PERIOD 3b COST	1,092	1,871	6	2	-	24	52,055	8,086	63,137	30,132	32,081	924	-	291	-	-	-	5,814	9	254,453
PERIOD 3 TOTALS		1,092	5,853	372	251	178	1,436	124,872	20,492	154,546	88,770	64,148	1,628	6,132	13,649	-	-	-	535,061	44,301	660,551
PERIOD 4a - Large Component Removal																					
Period 4a Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-
4a.1.1.7	Reactor Vessel Internals	53	4,650	13,334	828	-	8,610	278	11,401	39,153	39,153	-	-	-	1,174	-	742	-	167,605	22,373	1,053
4a.1.1.8	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053
4a.1.1	Totals	146	14,237	17,327	3,250	2,845	17,613	556	21,352	77,327	77,327	-	-	21,210	28,505	-	742	-	3,003,254	63,151	5,187
Removal of Major Equipment																					
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-
Cascading Costs from Clean Building Demolition																					
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
4a.1.4	Totals	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-
Disposal of Plant Systems																					
4a.1.5.1	Air Removal	-	31	-	-	-	-	-	5	36	-	-	36	-	-	-	-	-	-	452	-
4a.1.5.2	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	670	-
4a.1.5.3	Auxiliary Feedwater - RCA	-	47	0	2	36	-	-	17	102	102	-	-	215	-	-	-	-	8,722	601	-
4a.1.5.4	Bleed Steam	-	90	-	-	-	-	-	14	104	-	-	104	-	-	-	-	-	-	1,335	-
4a.1.5.5	Caustic Addition - RCA	-	38	0	2	39	-	-	16	95	95	-	-	233	-	-	-	-	9,453	444	-
4a.1.5.6	Chemical Feed	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	304	-
4a.1.5.7	Chemical Feed - RCA	-	1	0	0	1	-	-	0	3	3	-	-	6	-	-	-	-	243	12	-
4a.1.5.8	Circulating Water	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	619	-
4a.1.5.9	Condensate	-	474	-	-	-	-	-	71	545	-	-	545	-	-	-	-	-	-	6,837	-
4a.1.5.10	Condensate Polishing	-	235	-	-	-	-	-	35	271	-	-	271	-	-	-	-	-	-	3,420	-
4a.1.5.11	Condensate Polishing - RCA	-	183	4	15	348	-	-	101	651	651	-	-	2,078	-	-	-	-	84,395	2,329	-
4a.1.5.12	Electro-hydraulic	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	127	-
4a.1.5.13	Feedwater	-	153	-	-	-	-	-	23	175	-	-	175	-	-	-	-	-	-	2,215	-
4a.1.5.14	Feedwater - RCA	-	195	7	24	537	-	-	133	895	895	-	-	3,208	-	-	-	-	130,294	2,651	-
4a.1.5.15	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	505	-
4a.1.5.16	Heater Drain	-	400	-	-	-	-	-	60	460	-	-	460	-	-	-	-	-	-	5,881	-
4a.1.5.17	Internal Circ Water & CDSR	-	27	-	-	-	-	-	4	31	-	-	31	-	-	-	-	-	-	389	-
4a.1.5.18	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4a.1.5.19	Main Steam	-	115	-	-	-	-	-	17	133	-	-	133	-	-	-	-	-	-	1,690	-
4a.1.5.20	Main Steam - RCA	-	366	10	37	844	-	-	225	1,482	1,482	-	-	5,044	-	-	-	-	204,825	4,956	-
4a.1.5.21	Steam Generator Blowdown	-	434	22	29	340	234	-	224	1,282	1,282	-	-	2,031	686	-	-	-	126,640	5,974	-
4a.1.5.22	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4a.1.5.23	Turbine & Moisture Separators	-	386	-	-	-	-	-	58	444	-	-	444	-	-	-	-	-	-	5,609	-
4a.1.5.24	Turbine Oil Purification	-	70	-	-	-	-	-	11	81	-	-	81	-	-	-	-	-	-	1,003	-
4a.1.5	Totals	-	3,401	44	108	2,144	234	-	1,037	6,967	4,510	-	2,458	12,815	686	-	-	-	564,572	48,101	-
4a.1.6	Scaffolding in support of decommissioning	-	909	3	1	26	4	-	233	1,176	1,176	-	-	138	12	-	-	-	6,985	6,020	-
4a.1	Subtotal Period 4a Activity Costs	146	22,144	17,570	3,426	6,311	17,850	556	23,666	91,669	89,211	-	2,458	40,406	29,203	-	742	-	3,889,412	163,954	5,187
Period 4a Additional Costs																					
4a.2.1	Retired RPV upper internals package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67

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**Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	2	-	4	8	-	17	-	7	38	38	-	-	-	39	-	-	-	2,337	8	-
4a.3.3	Small tool allowance	-	213	-	-	-	-	-	32	245	220	-	24	-	-	-	-	-	-	-	-
4a.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	2,163	324	2,487	-	2,487	-	-	-	-	-	-	-	-	-
4a.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,660	-	1,660	-	1,660	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	2	213	4	8	-	17	3,823	363	4,430	258	4,147	24	-	39	-	-	-	2,337	8	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	4,441	444	4,886	2,985	1,901	-	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,744	-	-	-	-	-	436	2,181	2,181	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	59	24	-	245	-	71	398	398	-	-	-	2,972	-	-	-	59,446	97	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC ISFSI Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
4a.4.9	NRC Fees	-	-	-	-	-	-	643	64	707	707	-	-	-	-	-	-	-	-	-	-
4a.4.10	Emergency Planning Fees	-	-	-	-	-	-	99	10	108	-	108	-	-	-	-	-	-	-	-	-
4a.4.11	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-
4a.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-
4a.4.13	ISFSI Operating Costs	-	-	-	-	-	-	74	11	86	-	86	-	-	-	-	-	-	-	-	-
4a.4.14	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	-	-	-	-	-	-	-	-	-	-	-
4a.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-
4a.4.16	Security Staff Cost	-	-	-	-	-	-	6,863	1,029	7,892	5,943	1,949	-	-	-	-	-	-	-	-	105,553
4a.4.17	DOC Staff Cost	-	-	-	-	-	-	17,190	2,579	19,769	19,769	-	-	-	-	-	-	-	-	-	189,964
4a.4.18	Utility Staff Cost	-	-	-	-	-	-	21,887	3,283	25,170	24,389	780	-	-	-	-	-	-	-	-	343,058
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,069	59	24	-	245	57,659	9,385	72,542	67,657	4,885	-	-	2,972	-	-	-	59,446	97	638,574
4a.0	TOTAL PERIOD 4a COST	248	27,554	17,799	3,516	6,311	19,695	62,038	34,358	171,520	160,006	9,032	2,482	40,406	32,786	125	742	-	4,000,995	165,725	643,828
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
4b.1.2.1	Aux Bldg Normal Ventilation	-	2	0	0	1	-	-	1	3	3	-	-	3	-	-	-	-	140	26	-
4b.1.2.3	Buildings Maintenance	-	5	-	-	-	-	-	1	5	-	-	5	-	-	-	-	-	-	65	-
4b.1.2.4	Chemical & Volume Control	-	1,263	89	90	753	973	-	694	3,861	3,861	-	-	4,498	2,846	-	-	-	366,565	17,235	-
4b.1.2.5	Component Cooling - RCA	-	858	25	91	2,079	-	-	543	3,597	3,597	-	-	12,427	-	-	-	-	504,675	11,242	-
4b.1.2.6	Containment Cooling	-	74	-	-	-	-	-	11	85	-	-	85	-	-	-	-	-	-	1,086	-
4b.1.2.7	Containment Cooling - RCA	-	304	7	25	569	-	-	166	1,070	1,070	-	-	3,400	-	-	-	-	138,090	3,971	-
4b.1.2.8	Containment Hydrogen Control - RCA	-	30	0	1	18	-	-	10	59	59	-	-	105	-	-	-	-	4,278	401	-
4b.1.2.9	Containment Spray - RCA	-	93	2	6	145	-	-	46	293	293	-	-	868	-	-	-	-	35,249	1,217	-
4b.1.2.10	Containment Ventilation	-	229	24	51	828	248	-	254	1,635	1,635	-	-	4,951	737	-	-	-	247,952	3,278	-
4b.1.2.11	Cooling Water	-	163	-	-	-	-	-	24	187	-	-	187	-	-	-	-	-	-	2,396	-
4b.1.2.12	Cooling Water - RCA	-	658	16	57	1,293	-	-	368	2,392	2,392	-	-	7,728	-	-	-	-	313,832	8,594	-
4b.1.2.13	D1 Emergency Diesel	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	730	-
4b.1.2.14	D2 Emergency Diesel	-	36	-	-	-	-	-	5	41	-	-	41	-	-	-	-	-	-	522	-
4b.1.2.15	Diesel Rooms Ventilation	-	9	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	135	-
4b.1.2.16	Electrical - Clean	-	1,905	-	-	-	-	-	286	2,191	-	-	2,191	-	-	-	-	-	-	26,981	-
4b.1.2.17	Electrical - Contaminated	-	553	7	20	423	32	-	213	1,248	1,248	-	-	2,527	95	-	-	-	108,690	7,488	-
4b.1.2.18	Electrical - Contaminated - Fuel Pool	-	137	2	5	103	8	-	53	307	307	-	-	615	23	-	-	-	26,449	1,857	-
4b.1.2.19	Electrical - Decontaminated	-	3,787	48	173	3,940	-	-	1,569	9,518	9,518	-	-	23,551	-	-	-	-	956,401	49,378	-
4b.1.2.20	Electrical - Decontaminated - Fuel Pool	-	947	12	43	986	-	-	392	2,380	2,380	-	-	5,893	-	-	-	-	239,327	12,340	-
4b.1.2.21	Fuel Handling	-	108	6	11	152	73	-	70	421	421	-	-	908	218	-	-	-	50,723	1,595	-
4b.1.2.22	Fuel Oil	-	121	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	1,697	-
4b.1.2.23	HVAC - Clean	-	120	-	-	-	-	-	18	138	-	-	138	-	-	-	-	-	-	1,891	-
4b.1.2.24	HVAC - Contaminated	-	337	9	26	546	41	-	181	1,141	1,141	-	-	3,261	123	-	-	-	140,257	4,335	-
4b.1.2.25	HVAC - Contaminated - Fuel Pool	-	145	4	11	234	18	-	78	489	489	-	-	1,398	53	-	-	-	60,110	1,858	-
4b.1.2.26	Incore Instrumentation	-	25	1	2	10	19	-	13	70	70	-	-	60	57	-	-	-	6,058	382	-
4b.1.2.27	Misc Drains & Vents	-	212	15	13	65	176	-	110	592	592	-	-	390	514	-	-	-	49,062	2,764	-
4b.1.2.28	Reactor Coolant	-	283	21	18	58	265	-	150	796	796	-	-	344	777	-	-	-	64,085	3,865	-
4b.1.2.29	Reactor Hot Sampling	-	125	12	7	11	118	-	65	339	339	-	-	66	342	-	-	-	25,063	1,611	-
4b.1.2.30	Reactor Makeup	-	73	-	-	-	-	-	11	84	-	-	84	-	-	-	-	-	-	1,042	-
4b.1.2.31	Reactor Vessel	-	19	1	0	4	5	-	7	36	36	-	-	26	14	-	-	-	2,000	260	-
4b.1.2.32	Residual Heat Removal	-	378	85	86	484	1,105	-	465	2,603	2,603	-	-	2,895	3,252	-	-	-	326,425	5,374	-
4b.1.2.33	Safeguards Chilled Water	-	18	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	259	-

***Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis***

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**Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4b.1.2.34	Safeguards Chilled Water - RCA	-	85	1	4	83	-	-	34	207	207	-	-	495	-	-	-	-	20,100	1,019	-
4b.1.2.35	Safety Injection	-	809	42	73	1,136	393	-	486	2,939	2,939	-	-	6,788	1,156	-	-	-	349,908	11,276	-
4b.1.2.36	Sampling	-	54	4	3	10	37	-	25	133	133	-	-	59	107	-	-	-	9,420	731	-
4b.1.2.37	Shield Bldg Ventilation	-	125	14	26	360	165	-	132	821	821	-	-	2,152	491	-	-	-	118,583	1,811	-
4b.1.2.38	Spent Fuel Pool Cooling	-	324	34	32	135	450	-	222	1,198	1,198	-	-	806	1,325	-	-	-	117,816	4,400	-
4b.1.2.39	Station & Instrument Air	-	20	-	-	-	-	-	3	23	-	-	23	-	-	-	-	-	-	300	-
4b.1.2.40	Station & Instrument Air - RCA	-	81	1	2	56	-	-	29	169	169	-	-	332	-	-	-	-	13,496	1,053	-
4b.1.2.41	Station & Instrument Air - RCA Fuel Pool	-	20	0	1	14	-	-	7	42	42	-	-	83	-	-	-	-	3,374	263	-
4b.1.2.42	Turbine Bldg Traps & Drains	-	50	-	-	-	-	-	8	58	-	-	58	-	-	-	-	-	-	767	-
4b.1.2.43	Unit Coolers	-	42	-	-	-	-	-	6	49	-	-	49	-	-	-	-	-	-	611	-
4b.1.2.44	Unit Coolers - RCA	-	55	0	2	39	-	-	20	115	115	-	-	230	-	-	-	-	9,348	683	-
4b.1.2	Totals	-	14,735	481	883	14,533	4,126	-	6,807	41,565	38,474	-	3,091	86,861	12,129	-	-	-	4,307,475	198,796	-
4b.1.3	Scaffolding in support of decommissioning	-	1,363	4	2	38	6	-	349	1,763	1,763	-	-	207	18	-	-	-	10,477	9,030	-
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	1,096	2,527	240	1,236	373	7,080	-	3,215	15,766	15,766	-	-	2,230	67,325	-	-	-	3,286,372	45,729	-
4b.1.4.2	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-
4b.1.4	Totals	1,096	2,552	243	1,253	373	7,177	-	3,248	15,941	15,941	-	-	2,230	68,254	-	-	-	3,330,268	45,995	-
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	526	79	605	605	-	-	-	-	-	-	-	-	-	4,096
4b.1.6	Receive NRC approval of termination plan	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-	-
4b.1	Subtotal Period 4b Activity Costs	1,410	18,685	814	2,179	14,945	12,012	526	10,839	61,410	58,319	-	3,091	89,298	82,494	-	-	-	7,781,139	254,398	4,096
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
4b.2	Subtotal Period 4b Additional Costs	-	1,175	11	36	606	-	1,262	736	3,827	3,827	-	-	5,880	-	-	-	-	147,000	7,427	6,240
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	5	-	9	16	-	37	-	15	83	83	-	-	-	85	-	-	-	5,092	17	-
4b.3.3	Small tool allowance	-	307	-	-	-	-	-	46	353	353	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
4b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,225	-	2,225	-	2,225	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	5	307	139	84	1,112	215	2,225	296	4,382	2,158	2,225	-	6,000	614	-	-	-	308,700	163	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	564	-	-	-	-	-	-	141	705	705	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	5,819	582	6,401	3,853	2,548	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	2,435	-	-	-	-	-	609	3,043	3,043	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	77	31	-	322	-	93	523	523	-	-	-	3,905	-	-	-	78,097	127	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	74	7	81	-	81	-	-	-	-	-	-	-	-	-
4b.4.9	NRC Fees	-	-	-	-	-	-	862	86	948	948	-	-	-	-	-	-	-	-	-	-
4b.4.10	Emergency Planning Fees	-	-	-	-	-	-	132	13	145	-	145	-	-	-	-	-	-	-	-	-
4b.4.11	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	-
4b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	-
4b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	100	15	115	-	115	-	-	-	-	-	-	-	-	-
4b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	-
4b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	-
4b.4.16	Security Staff Cost	-	-	-	-	-	-	1,202	180	1,383	462	921	-	-	-	-	-	-	-	-	20,373
4b.4.17	DOC Staff Cost	-	-	-	-	-	-	15,039	2,256	17,294	17,294	-	-	-	-	-	-	-	-	-	174,093
4b.4.18	Utility Staff Cost	-	-	-	-	-	-	18,793	2,819	21,612	20,790	821	-	-	-	-	-	-	-	-	311,145
4b.4	Subtotal Period 4b Period-Dependent Costs	564	7,011	77	31	-	322	50,029	8,646	66,682	62,051	4,631	-	-	3,905	-	-	-	78,097	127	505,611
4b.0	TOTAL PERIOD 4b COST	1,979	27,178	1,042	2,330	16,663	12,549	54,043	20,517	136,300	126,354	6,856	3,091	101,178	87,013	-	-	-	8,314,936	262,116	515,947

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**Prairie Island Nuclear Generating Plant
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Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 4e - Delay before License Termination																					
Period 4e Direct Decommissioning Activities																					
Period 4e Collateral Costs																					
4e.3.1	Prairie Island Indian Community Payments	-	-	-	-	-	-	986	-	986	-	986	-	-	-	-	-	-	-	-	-
4e.3	Subtotal Period 4e Collateral Costs	-	-	-	-	-	-	986	-	986	-	986	-	-	-	-	-	-	-	-	-
Period 4e Period-Dependent Costs																					
4e.4.1	Insurance	-	-	-	-	-	-	382	38	420	-	420	-	-	-	-	-	-	-	-	-
4e.4.2	Property taxes	-	-	-	-	-	-	2,498	250	2,748	1,624	1,124	-	-	-	-	-	-	-	-	-
4e.4.3	Health physics supplies	-	87	-	-	-	-	-	22	109	109	-	-	-	-	-	-	-	-	-	-
4e.4.4	Disposal of DAW generated	-	-	2	1	-	6	-	2	11	11	-	-	-	79	-	-	-	1,573	3	-
4e.4.6	NRC ISFSI Fees	-	-	-	-	-	-	33	3	36	-	36	-	-	-	-	-	-	-	-	-
4e.4.7	NRC Fees	-	-	-	-	-	-	162	16	178	178	-	-	-	-	-	-	-	-	-	-
4e.4.8	Emergency Planning Fees	-	-	-	-	-	-	58	6	64	-	64	-	-	-	-	-	-	-	-	-
4e.4.9	Fixed Overhead	-	-	-	-	-	-	939	141	1,079	1,079	-	-	-	-	-	-	-	-	-	-
4e.4.10	ISFSI Operating Costs	-	-	-	-	-	-	44	7	51	-	51	-	-	-	-	-	-	-	-	-
4e.4.11	Railroad Track Maintenance	-	-	-	-	-	-	49	7	57	57	-	-	-	-	-	-	-	-	-	-
4e.4.12	Utility Staff Cost	-	-	-	-	-	-	696	104	801	742	58	-	-	-	-	-	-	-	-	11,488
4e.4	Subtotal Period 4e Period-Dependent Costs	-	87	2	1	-	6	4,862	596	5,554	3,800	1,754	-	-	79	-	-	-	1,573	3	11,488
4e.0	TOTAL PERIOD 4e COST	-	87	2	1	-	6	5,847	596	6,540	3,800	2,740	-	-	79	-	-	-	1,573	3	11,488
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license	-	-	-	-	-	-	-	a	216	-	-	-	-	-	-	-	-	-	-	-
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	3,199	960	4,159	4,159	-	-	-	-	-	-	-	-	40,531	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
4f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	362	36	398	-	398	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	2,306	231	2,537	1,469	1,068	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	501	-	-	-	-	-	125	626	626	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC ISFSI Fees	-	-	-	-	-	-	31	3	34	-	34	-	-	-	-	-	-	-	-	-
4f.4.7	NRC Fees	-	-	-	-	-	-	422	42	465	465	-	-	-	-	-	-	-	-	-	-
4f.4.8	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
4f.4.9	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
4f.4.10	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
4f.4.11	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
4f.4.12	Security Staff Cost	-	-	-	-	-	-	1,835	275	2,111	927	1,184	-	-	-	-	-	-	-	-	27,614
4f.4.13	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
4f.4.14	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
4f.4	Subtotal Period 4f Period-Dependent Costs	-	501	7	3	-	28	14,483	2,147	17,167	13,936	3,232	-	-	334	-	-	-	6,685	11	133,404
4f.0	TOTAL PERIOD 4f COST	-	501	7	3	-	28	20,046	3,346	23,930	19,764	4,166	-	-	334	-	-	-	6,685	40,542	136,524
PERIOD 4 TOTALS		2,227	55,320	18,849	5,850	22,974	32,278	141,974	58,818	338,289	309,924	22,793	5,573	141,584	120,212	125	742	-	12,324,190	468,386	1,307,787

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Table J-1
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															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	4,644	-	-	-	-	-	697	5,341	-	-	5,341	-	-	-	-	-	-	44,669	-
5b.1.1.2	Condensate Storage Tank Foundation	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	16	-
5b.1.1.3	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
5b.1.1.4	Turbine	-	2,139	-	-	-	-	-	321	2,460	-	-	2,460	-	-	-	-	-	-	21,985	-
5b.1.1.5	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
5b.1.1	Totals	-	8,936	-	-	-	-	-	1,340	10,276	-	-	10,276	-	-	-	-	-	-	77,765	-
Site Closeout Activities																					
5b.1.2	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
5b.1.3	Final report to NRC	-	-	-	-	-	-	200	30	231	231	-	-	-	-	-	-	-	-	-	1,560
5b.1	Subtotal Period 5b Activity Costs	-	9,384	-	-	-	-	200	1,438	11,022	231	-	10,792	-	-	-	-	-	-	78,686	1,560
Period 5b Additional Costs																					
5b.2.1	Clean Concrete Disposal	-	2,242	-	-	-	-	5	337	2,583	-	-	2,583	-	-	-	-	-	-	8,386	-
5b.2.2	Intake Structure Cofferdam	-	623	-	-	-	-	-	93	716	-	-	716	-	-	-	-	-	-	5,168	-
5b.2.3	Construction Debris	-	-	-	-	-	-	10	2	12	-	-	12	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	3,011	-	-	-	-	-	452	3,462	-	-	3,462	-	-	-	-	-	-	2,904	-
5b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	1,059,612	146	-
5b.2	Subtotal Period 5b Additional Costs	-	5,899	80	418	-	2,390	15	1,611	10,413	3,640	-	6,773	-	8,929	-	-	-	1,059,612	16,604	-
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	122	-	-	-	-	-	18	140	-	-	140	-	-	-	-	-	-	-	-
5b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	3,821	573	4,394	-	4,394	-	-	-	-	-	-	-	-	-
5b.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	122	-	-	-	-	6,470	591	7,183	-	7,043	140	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	513	51	565	-	565	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	5,904	590	6,494	-	2,663	3,831	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
5b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	243	24	268	-	268	-	-	-	-	-	-	-	-	-
5b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
5b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	781	397	-	-	-	-	-	-	-	-
5b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
5b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	(0)	97	56	-	-	-	-	-	-	-	-
5b.4.10	Security Staff Cost	-	-	-	-	-	-	4,976	746	5,722	0	5,310	412	-	-	-	-	-	-	-	74,431
5b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	29,504	5,156	41,804	0	11,666	30,139	-	-	-	-	-	-	-	267,952
5b.0	TOTAL PERIOD 5b COST	-	22,548	80	418	-	2,390	36,189	8,797	70,422	3,871	18,708	47,843	-	8,929	-	-	-	1,059,612	95,290	269,512
PERIOD 5c - Fuel Storage Operations/Shipping																					
Period 5c Direct Decommissioning Activities																					
Period 5c Collateral Costs																					
5c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	445,840	66,876	512,716	-	512,716	-	-	-	-	-	-	-	-	-
5c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	152,793	-	152,793	-	152,793	-	-	-	-	-	-	-	-	-
5c.3	Subtotal Period 5c Collateral Costs	-	-	-	-	-	-	598,632	66,876	665,508	-	665,508	-	-	-	-	-	-	-	-	-
Period 5c Period-Dependent Costs																					
5c.4.1	Insurance	-	-	-	-	-	-	29,616	2,962	32,578	-	32,578	-	-	-	-	-	-	-	-	-
5c.4.2	Property taxes	-	-	-	-	-	-	169,412	16,941	186,354	-	186,354	-	-	-	-	-	-	-	-	-
5c.4.3	Plant energy budget	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	14,030	1,403	15,432	-	15,432	-	-	-	-	-	-	-	-	-
5c.4.5	Emergency Planning Fees	-	-	-	-	-	-	9,068	907	9,974	-	9,974	-	-	-	-	-	-	-	-	-
5c.4.6	Fixed Overhead	-	-	-	-	-	-	19,930	2,990	22,920	-	22,920	-	-	-	-	-	-	-	-	-
5c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	6,845	1,027	7,872	-	7,872	-	-	-	-	-	-	-	-	-

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Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5c Period-Dependent Costs (continued)																					
5c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	7,647	1,147	8,795	-	8,795	-	-	-	-	-	-	-	-	-
5c.4.9	Security Staff Cost	-	-	-	-	-	-	236,347	35,452	271,799	-	271,799	-	-	-	-	-	-	-	-	3,434,684
5c.4.10	DOC Staff Cost	-	-	-	-	-	-	18,749	2,812	21,561	-	21,561	-	-	-	-	-	-	-	-	127,211
5c.4.11	Utility Staff Cost	-	-	-	-	-	-	115,440	17,316	132,756	-	132,756	-	-	-	-	-	-	-	-	1,685,540
5c.4	Subtotal Period 5c Period-Dependent Costs	-	-	-	-	-	-	627,085	82,956	710,041	-	710,041	-	-	-	-	-	-	-	-	5,247,434
5c.0	TOTAL PERIOD 5c COST	-	-	-	-	-	-	1,225,717	149,832	1,375,549	-	1,375,549	-	-	-	-	-	-	-	-	5,247,434
PERIOD 5d - GTCC shipping																					
Period 5d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
5d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1	Subtotal Period 5d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 5d Collateral Costs																					
5d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
5d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
5d.3	Subtotal Period 5d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 5d Period-Dependent Costs																					
5d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
5d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
5d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
5d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
5d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
5d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
5d.4.8	Security Staff Cost	-	-	-	-	-	-	74	11	85	85	-	-	-	-	-	-	-	-	-	1,077
5d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
5d.4	Subtotal Period 5d Period-Dependent Costs	-	-	-	-	-	-	171	22	194	186	7	-	-	-	-	-	-	-	-	1,346
5d.0	TOTAL PERIOD 5d COST	-	-	1,444	-	-	8,680	247	1,689	12,060	11,973	87	-	-	-	-	-	1,773	344,823	-	1,346
PERIOD 5e - ISFSI Decontamination																					
Period 5e Direct Decommissioning Activities																					
Period 5e Additional Costs																					
5e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
5e.2	Subtotal Period 5e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
Period 5e Period-Dependent Costs																					
5e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
5e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
5e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
5e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
5e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
5e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
5e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
5e.4	Subtotal Period 5e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,396
5e.0	TOTAL PERIOD 5e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556
PERIOD 5f - ISFSI Site Restoration																					
Period 5f Direct Decommissioning Activities																					
Period 5f Additional Costs																					
5f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
5f.2	Subtotal Period 5f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80

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**Table J-1
Prairie Island SAFSTOR Unit 1
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 5f Collateral Costs																					
5f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
5f.3	Subtotal Period 5f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
Period 5f Period-Dependent Costs																					
5f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
5f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
5f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
5f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
5f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
5f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
5f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
5f.4	Subtotal Period 5f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
5f.0	TOTAL PERIOD 5f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 5 TOTALS		-	23,736	1,525	435	-	11,212	1,264,263	161,025	1,462,196	18,210	1,394,345	49,641	-	9,353	-	-	1,773	1,470,189	106,017	5,526,005
TOTAL COST TO DECOMMISSION		6,192	94,084	20,994	6,793	23,152	45,944	2,416,286	354,811	2,968,256	963,420	1,947,995	56,842	147,716	151,089	125	742	1,773	14,528,860	652,634	11,679,960
TOTAL COST TO DECOMMISSION WITH 13.58% CONTINGENCY:					\$2,968,256 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 32.46% OR:					\$963,420 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 65.63% OR:					\$1,947,995 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 1.91% OR:					\$56,842 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					151,957 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					33,003 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					652,634 Man-hours																

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1a - Shutdown through Transition																					
Period 1a Direct Decommissioning Activities																					
1a.1.1	SAFSTOR site characterization survey	-	-	-	-	-	-	415	124	539	539	-	-	-	-	-	-	-	-	-	-
1a.1.2	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.3	Notification of Cessation of Operations									a											
1a.1.4	Remove fuel & source material									n/a											
1a.1.5	Notification of Permanent Defueling									a											
1a.1.6	Deactivate plant systems & process waste									a											
1a.1.7	Prepare and submit PSDAR	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.8	Review plant dwgs & specs.	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
1a.1.9	Perform detailed rad survey									a											
1a.1.10	Estimate by-product inventory	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.11	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.12	Detailed by-product inventory	-	-	-	-	-	-	82	12	95	95	-	-	-	-	-	-	-	-	-	641
1a.1.13	Define major work sequence	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
1a.1.14	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
1a.1.15	Prepare/submit Defueled Technical Specifications	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
1a.1.16	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
1a.1.17	Prepare/submit Irradiated Fuel Management Plan	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
Activity Specifications																					
1a.1.18.1	Prepare plant and facilities for SAFSTOR	-	-	-	-	-	-	270	41	311	311	-	-	-	-	-	-	-	-	-	2,104
1a.1.18.2	Plant systems	-	-	-	-	-	-	229	34	263	263	-	-	-	-	-	-	-	-	-	1,782
1a.1.18.3	Plant structures and buildings	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
1a.1.18.4	Waste management	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.18.5	Facility and site dormancy	-	-	-	-	-	-	110	16	126	126	-	-	-	-	-	-	-	-	-	855
1a.1.18	Total	-	-	-	-	-	-	891	134	1,024	1,024	-	-	-	-	-	-	-	-	-	6,930
Detailed Work Procedures																					
1a.1.19.1	Plant systems	-	-	-	-	-	-	65	10	75	75	-	-	-	-	-	-	-	-	-	506
1a.1.19.2	Facility closeout & dormancy	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
1a.1.19	Total	-	-	-	-	-	-	131	20	151	151	-	-	-	-	-	-	-	-	-	1,019
1a.1.20	Procure vacuum drying system	-	-	-	-	-	-	5	1	6	6	-	-	-	-	-	-	-	-	-	43
1a.1.21	Drain/de-energize non-cont. systems									a											
1a.1.22	Drain & dry NSSS									a											
1a.1.23	Drain/de-energize contaminated systems									a											
1a.1.24	Decon/secure contaminated systems									a											
1a.1	Subtotal Period 1a Activity Costs	-	-	-	-	-	-	2,854	490	3,345	3,345	-	-	-	-	-	-	-	-	-	18,981
Period 1a Collateral Costs																					
1a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	1,330	199	1,529	-	1,529	-	-	-	-	-	-	-	-	-
1a.3.2	Retention and Severance	-	-	-	-	-	-	8,394	1,259	9,653	9,653	-	-	-	-	-	-	-	-	-	-
1a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
1a.3	Subtotal Period 1a Collateral Costs	-	-	-	-	-	-	10,973	1,459	12,432	9,653	2,779	-	-	-	-	-	-	-	-	-
Period 1a Period-Dependent Costs																					
1a.4.1	Insurance	-	-	-	-	-	-	1,660	166	1,826	1,826	-	-	-	-	-	-	-	-	-	-
1a.4.2	Property taxes	-	-	-	-	-	-	3,623	362	3,985	3,985	-	-	-	-	-	-	-	-	-	-
1a.4.3	Health physics supplies	-	604	-	-	-	-	-	151	755	755	-	-	-	-	-	-	-	-	-	-
1a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
1a.4.5	Disposal of DAW generated	-	-	12	5	-	49	-	14	80	80	-	-	-	597	-	-	-	11,944	19	-
1a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
1a.4.7	NRC Fees	-	-	-	-	-	-	516	52	567	567	-	-	-	-	-	-	-	-	-	-
1a.4.8	Emergency Planning Fees	-	-	-	-	-	-	2,174	217	2,392	-	2,392	-	-	-	-	-	-	-	-	-
1a.4.9	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
1a.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	422	63	486	-	486	-	-	-	-	-	-	-	-	-
1a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
1a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
1a.4.13	Security Staff Cost	-	-	-	-	-	-	8,328	1,249	9,577	9,577	-	-	-	-	-	-	-	-	-	122,720
1a.4.14	Utility Staff Cost	-	-	-	-	-	-	25,478	3,822	29,300	29,300	-	-	-	-	-	-	-	-	-	400,944
1a.4	Subtotal Period 1a Period-Dependent Costs	-	1,357	12	5	-	49	45,381	6,687	53,491	50,549	2,942	-	-	597	-	-	-	11,944	19	523,664
1a.0	TOTAL PERIOD 1a COST	-	1,357	12	5	-	49	59,209	8,636	69,267	63,547	5,720	-	-	597	-	-	-	11,944	19	542,645

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Decommissioning Cost Analysis**

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 1b - SAFSTOR Limited DECON Activities																					
Period 1b Direct Decommissioning Activities																					
Decontamination of Site Buildings																					
1b.1.1.1	Reactor	1,199	-	-	-	-	-	-	599	1,798	1,798	-	-	-	-	-	-	-	-	17,003	-
1b.1.1.2	Auxiliary	1,244	-	-	-	-	-	-	622	1,866	1,866	-	-	-	-	-	-	-	-	17,950	-
1b.1.1.3	Drum Transfer & Truck Loading Enclosure	17	-	-	-	-	-	-	8	25	25	-	-	-	-	-	-	-	-	244	-
1b.1.1.4	LLRW Storage Enclosure	105	-	-	-	-	-	-	52	157	157	-	-	-	-	-	-	-	-	1,487	-
1b.1.1.5	Radwaste	47	-	-	-	-	-	-	23	70	70	-	-	-	-	-	-	-	-	669	-
1b.1.1.6	Resin Disposal	14	-	-	-	-	-	-	7	21	21	-	-	-	-	-	-	-	-	198	-
1b.1.1.7	Fuel Handling of Aux Building	911	-	-	-	-	-	-	455	1,366	1,366	-	-	-	-	-	-	-	-	12,414	-
1b.1.1	Totals	3,536	-	-	-	-	-	-	1,768	5,304	5,304	-	-	-	-	-	-	-	-	49,966	-
1b.1	Subtotal Period 1b Activity Costs	3,536	-	-	-	-	-	-	1,768	5,304	5,304	-	-	-	-	-	-	-	-	49,966	-
Period 1b Additional Costs																					
1b.2.1	Spent Fuel Pool Isolation	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
1b.2	Subtotal Period 1b Additional Costs	-	-	-	-	-	-	8,450	1,268	9,718	9,718	-	-	-	-	-	-	-	-	-	-
Period 1b Collateral Costs																					
1b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
1b.3.2	Process decommissioning water waste	107	-	71	128	-	288	-	152	746	746	-	-	-	661	-	-	-	39,639	129	-
1b.3.4	Small tool allowance	-	59	-	-	-	-	-	9	68	68	-	-	-	-	-	-	-	-	-	-
1b.3.5	Spent Fuel Capital and Transfer	-	-	-	-	-	-	309	46	356	-	356	-	-	-	-	-	-	-	-	-
1b.3.6	Retention and Severance	-	-	-	-	-	-	2,296	344	2,640	2,640	-	-	-	-	-	-	-	-	-	-
1b.3.7	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1b.3	Subtotal Period 1b Collateral Costs	1,162	59	71	128	-	288	2,917	710	5,334	4,667	667	-	-	661	-	-	-	39,639	129	-
Period 1b Period-Dependent Costs																					
1b.4.1	Decon supplies	1,334	-	-	-	-	-	-	333	1,667	1,667	-	-	-	-	-	-	-	-	-	-
1b.4.2	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1b.4.3	Property taxes	-	-	-	-	-	-	902	90	993	993	-	-	-	-	-	-	-	-	-	-
1b.4.4	Health physics supplies	-	438	-	-	-	-	-	109	547	547	-	-	-	-	-	-	-	-	-	-
1b.4.5	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1b.4.6	Disposal of DAW generated	-	-	13	5	-	52	-	15	85	85	-	-	-	634	-	-	-	12,677	21	-
1b.4.7	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1b.4.8	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	-
1b.4.9	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1b.4.10	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1b.4.11	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1b.4.14	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1b.4.15	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1b.4	Subtotal Period 1b Period-Dependent Costs	1,334	626	13	5	-	52	11,645	2,135	15,809	15,076	733	-	-	634	-	-	-	12,677	21	135,867
1b.0	TOTAL PERIOD 1b COST	6,032	684	84	133	-	340	23,012	5,880	36,165	34,764	1,401	-	-	1,295	-	-	-	52,317	50,115	135,867
PERIOD 1c - Preparations for SAFSTOR Dormancy																					
Period 1c Direct Decommissioning Activities																					
1c.1.1	Prepare support equipment for storage	-	527	-	-	-	-	-	79	606	606	-	-	-	-	-	-	-	-	3,000	-
1c.1.2	Install containment pressure equal. lines	-	54	-	-	-	-	-	8	62	62	-	-	-	-	-	-	-	-	700	-
1c.1.3	Interim survey prior to dormancy	-	-	-	-	-	-	733	220	953	953	-	-	-	-	-	-	-	-	12,801	-
1c.1.4	Secure building accesses	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
1c.1.5	Prepare & submit interim report	-	-	-	-	-	-	32	5	37	37	-	-	-	-	-	-	-	-	-	249
1c.1	Subtotal Period 1c Activity Costs	-	581	-	-	-	-	765	312	1,658	1,658	-	-	-	-	-	-	-	-	16,501	249
Period 1c Collateral Costs																					
1c.3.1	Process decommissioning water waste	91	-	60	109	-	245	-	129	634	634	-	-	-	561	-	-	-	33,685	109	-
1c.3.3	Small tool allowance	-	5	-	-	-	-	-	1	6	6	-	-	-	-	-	-	-	-	-	-
1c.3.4	Spent Fuel Capital and Transfer	-	-	-	-	-	-	90	13	103	-	103	-	-	-	-	-	-	-	-	-
1c.3.5	Retention and Severance	-	-	-	-	-	-	1,722	258	1,980	1,980	-	-	-	-	-	-	-	-	-	-
1c.3.6	Prairie Island Indian Community Payments	-	-	-	-	-	-	311	-	311	-	311	-	-	-	-	-	-	-	-	-
1c.3	Subtotal Period 1c Collateral Costs	91	5	60	109	-	245	2,123	401	3,034	2,619	415	-	-	561	-	-	-	33,685	109	-

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity		Decon	Removal	Packaging	Transport	Off-Site	LLRW	Other	Total	Total	NRC	Spent Fuel	Site	Processed	Burial Volumes				Burial /	Craft	Utility and
Index	Activity Description	Cost	Cost	Costs	Costs	Processing	Disposal	Costs	Contingency	Costs	Lic. Term.	Management	Restoration	Volume	Class A	Class B	Class C	GTCC	Processed	Manhours	Contractor
						Costs	Costs				Costs	Costs	Costs	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Cu. Feet	Wt., Lbs.		Manhours
Period 1c Period-Dependent Costs																					
1c.4.1	Insurance	-	-	-	-	-	-	414	41	455	455	-	-	-	-	-	-	-	-	-	-
1c.4.2	Property taxes	-	-	-	-	-	-	901	90	991	991	-	-	-	-	-	-	-	-	-	-
1c.4.3	Health physics supplies	-	248	-	-	-	-	-	62	309	309	-	-	-	-	-	-	-	-	-	-
1c.4.4	Heavy equipment rental	-	188	-	-	-	-	-	28	216	216	-	-	-	-	-	-	-	-	-	-
1c.4.5	Disposal of DAW generated	-	-	3	1	-	13	-	4	20	20	-	-	-	152	-	-	-	3,039	5	-
1c.4.6	Plant energy budget	-	-	-	-	-	-	404	61	465	465	-	-	-	-	-	-	-	-	-	-
1c.4.7	NRC Fees	-	-	-	-	-	-	98	10	108	108	-	-	-	-	-	-	-	-	-	-
1c.4.8	Emergency Planning Fees	-	-	-	-	-	-	542	54	596	-	596	-	-	-	-	-	-	-	-	-
1c.4.9	Fixed Overhead	-	-	-	-	-	-	359	54	413	413	-	-	-	-	-	-	-	-	-	-
1c.4.10	Spent Fuel Pool O&M	-	-	-	-	-	-	105	16	121	-	121	-	-	-	-	-	-	-	-	-
1c.4.11	ISFSI Operating Costs	-	-	-	-	-	-	14	2	16	-	16	-	-	-	-	-	-	-	-	-
1c.4.12	Railroad Track Maintenance	-	-	-	-	-	-	16	2	18	18	-	-	-	-	-	-	-	-	-	-
1c.4.13	Security Staff Cost	-	-	-	-	-	-	2,076	311	2,388	2,388	-	-	-	-	-	-	-	-	-	30,596
1c.4.14	Utility Staff Cost	-	-	-	-	-	-	6,714	1,007	7,722	7,722	-	-	-	-	-	-	-	-	-	105,271
1c.4	Subtotal Period 1c Period-Dependent Costs	-	435	3	1	-	13	11,643	1,742	13,838	13,104	733	-	-	152	-	-	-	3,039	5	135,867
1c.0	TOTAL PERIOD 1c COST	91	1,021	63	110	-	257	14,531	2,456	18,530	17,382	1,148	-	-	713	-	-	-	36,724	16,615	136,116
PERIOD 1 TOTALS		6,123	3,062	159	248	-	646	96,752	16,972	123,961	115,692	8,269	-	-	2,605	-	-	-	100,985	66,750	814,628
PERIOD 2a - SAFSTOR Dormancy with Wet Spent Fuel Storage																					
Period 2a Direct Decommissioning Activities																					
2a.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2a.1.4	Bituminous roof replacement	-	-	-	-	-	-	223	33	256	256	-	-	-	-	-	-	-	-	-	-
2a.1.5	Maintenance supplies	-	-	-	-	-	-	349	87	437	437	-	-	-	-	-	-	-	-	-	-
2a.1	Subtotal Period 2a Activity Costs	-	-	-	-	-	-	572	121	693	693	-	-	-	-	-	-	-	-	-	-
Period 2a Additional Costs																					
2a.2.1	Security Modifications	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
2a.2	Subtotal Period 2a Additional Costs	-	-	-	-	-	-	4,348	652	5,000	5,000	-	-	-	-	-	-	-	-	-	-
Period 2a Collateral Costs																					
2a.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	64,672	9,701	74,373	-	74,373	-	-	-	-	-	-	-	-	-
2a.3.2	Retention and Severance	-	-	-	-	-	-	11,054	1,658	12,712	12,712	-	-	-	-	-	-	-	-	-	-
2a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	3,128	-	3,128	-	3,128	-	-	-	-	-	-	-	-	-
2a.3	Subtotal Period 2a Collateral Costs	-	-	-	-	-	-	78,854	11,359	90,213	12,712	77,501	-	-	-	-	-	-	-	-	-
Period 2a Period-Dependent Costs																					
2a.4.1	Insurance	-	-	-	-	-	-	1,213	121	1,334	1,334	-	-	-	-	-	-	-	-	-	-
2a.4.2	Property taxes	-	-	-	-	-	-	9,065	907	9,972	9,972	-	-	-	-	-	-	-	-	-	-
2a.4.3	Health physics supplies	-	617	-	-	-	-	-	154	771	771	-	-	-	-	-	-	-	-	-	-
2a.4.4	Disposal of DAW generated	-	-	11	5	-	47	-	14	77	77	-	-	-	576	-	-	-	11,523	19	-
2a.4.5	Plant energy budget	-	-	-	-	-	-	812	122	934	934	-	-	-	-	-	-	-	-	-	-
2a.4.6	NRC Fees	-	-	-	-	-	-	536	54	590	590	-	-	-	-	-	-	-	-	-	-
2a.4.7	Emergency Planning Fees	-	-	-	-	-	-	4,653	465	5,119	-	5,119	-	-	-	-	-	-	-	-	-
2a.4.8	Fixed Overhead	-	-	-	-	-	-	2,979	447	3,426	3,426	-	-	-	-	-	-	-	-	-	-
2a.4.9	Spent Fuel Pool O&M	-	-	-	-	-	-	1,057	159	1,216	-	1,216	-	-	-	-	-	-	-	-	-
2a.4.10	ISFSI Operating Costs	-	-	-	-	-	-	140	21	161	-	161	-	-	-	-	-	-	-	-	-
2a.4.11	Railroad Track Maintenance	-	-	-	-	-	-	385	58	443	443	-	-	-	-	-	-	-	-	-	-
2a.4.12	Security Staff Cost	-	-	-	-	-	-	19,158	2,874	22,032	15,863	6,169	-	-	-	-	-	-	-	-	281,262
2a.4.13	Utility Staff Cost	-	-	-	-	-	-	13,370	2,006	15,376	12,900	2,476	-	-	-	-	-	-	-	-	205,738
2a.4	Subtotal Period 2a Period-Dependent Costs	-	617	11	5	-	47	53,370	7,400	61,450	46,309	15,140	-	-	576	-	-	-	11,523	19	486,999
2a.0	TOTAL PERIOD 2a COST	-	617	11	5	-	47	137,143	19,532	157,355	64,714	92,641	-	-	576	-	-	-	11,523	19	486,999
PERIOD 2b - SAFSTOR Dormancy with Dry Spent Fuel Storage																					
Period 2b Direct Decommissioning Activities																					
2b.1.1	Quarterly Inspection	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.2	Semi-annual environmental survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.3	Prepare reports	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
2b.1.4	Bituminous roof replacement	-	-	-	-	-	-	4,402	660	5,063	5,063	-	-	-	-	-	-	-	-	-	-
2b.1.5	Maintenance supplies	-	-	-	-	-	-	6,902	1,726	8,628	8,628	-	-	-	-	-	-	-	-	-	-
2b.1	Subtotal Period 2b Activity Costs	-	-	-	-	-	-	11,305	2,386	13,691	13,691	-	-	-	-	-	-	-	-	-	-

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**Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)**

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 2b Collateral Costs																					
2b.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	136,259	20,439	156,698	-	156,698	-	-	-	-	-	-	-	-	-
2b.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	61,783	-	61,783	-	61,783	-	-	-	-	-	-	-	-	-
2b.3	Subtotal Period 2b Collateral Costs	-	-	-	-	-	-	198,042	20,439	218,481	-	218,481	-	-	-	-	-	-	-	-	-
Period 2b Period-Dependent Costs																					
2b.4.1	Insurance	-	-	-	-	-	-	23,951	2,395	26,346	26,346	-	-	-	-	-	-	-	-	-	-
2b.4.2	Property taxes	-	-	-	-	-	-	179,063	17,906	196,969	196,969	-	-	-	-	-	-	-	-	-	-
2b.4.3	Health physics supplies	-	5,618	-	-	-	-	-	1,404	7,022	7,022	-	-	-	-	-	-	-	-	-	-
2b.4.4	Disposal of DAW generated	-	-	101	41	-	421	-	122	685	685	-	-	-	5,109	-	-	-	102,180	167	-
2b.4.5	Plant energy budget	-	-	-	-	-	-	8,019	1,203	9,222	9,222	-	-	-	-	-	-	-	-	-	-
2b.4.6	NRC Fees	-	-	-	-	-	-	10,191	1,019	11,211	11,211	-	-	-	-	-	-	-	-	-	-
2b.4.7	Emergency Planning Fees	-	-	-	-	-	-	3,667	367	4,033	-	4,033	-	-	-	-	-	-	-	-	-
2b.4.8	Fixed Overhead	-	-	-	-	-	-	8,059	1,209	9,268	9,268	-	-	-	-	-	-	-	-	-	-
2b.4.9	ISFSI Operating Costs	-	-	-	-	-	-	2,768	415	3,183	-	3,183	-	-	-	-	-	-	-	-	-
2b.4.10	Railroad Track Maintenance	-	-	-	-	-	-	3,092	464	3,556	3,556	-	-	-	-	-	-	-	-	-	-
2b.4.11	Security Staff Cost	-	-	-	-	-	-	138,043	20,706	158,749	34,925	123,825	-	-	-	-	-	-	-	-	1,851,793
2b.4.12	Utility Staff Cost	-	-	-	-	-	-	67,547	10,132	77,680	48,783	28,897	-	-	-	-	-	-	-	-	1,028,774
2b.4	Subtotal Period 2b Period-Dependent Costs	-	5,618	101	41	-	421	444,401	57,343	507,924	347,987	159,938	-	-	5,109	-	-	-	102,180	167	2,880,567
2b.0	TOTAL PERIOD 2b COST	-	5,618	101	41	-	421	653,748	80,167	740,096	361,678	378,419	-	-	5,109	-	-	-	102,180	167	2,880,567
PERIOD 2 TOTALS		-	6,235	113	46	-	468	790,891	99,699	897,452	426,392	471,060	-	-	5,685	-	-	-	113,703	185	3,367,566
PERIOD 3a - Reactivate Site Following SAFSTOR Dormancy																					
Period 3a Direct Decommissioning Activities																					
3a.1.1	Prepare preliminary decommissioning cost	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.2	Review plant dwgs & specs.	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.3	Perform detailed rad survey	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
3a.1.4	End product description	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3a.1.5	Detailed by-product inventory	-	-	-	-	-	-	71	11	82	82	-	-	-	-	-	-	-	-	-	556
3a.1.6	Define major work sequence	-	-	-	-	-	-	412	62	474	474	-	-	-	-	-	-	-	-	-	3,207
3a.1.7	Perform SER and EA	-	-	-	-	-	-	170	26	196	196	-	-	-	-	-	-	-	-	-	1,326
3a.1.8	Perform Site-Specific Cost Study	-	-	-	-	-	-	275	41	316	316	-	-	-	-	-	-	-	-	-	2,138
Activity Specifications																					
3a.1.9.1	Re-activate plant & temporary facilities	-	-	-	-	-	-	405	61	466	419	-	47	-	-	-	-	-	-	-	3,151
3a.1.9.2	Plant systems	-	-	-	-	-	-	229	34	263	237	-	26	-	-	-	-	-	-	-	1,782
3a.1.9.3	Reactor internals	-	-	-	-	-	-	390	59	449	449	-	-	-	-	-	-	-	-	-	3,036
3a.1.9.4	Reactor vessel	-	-	-	-	-	-	357	54	411	411	-	-	-	-	-	-	-	-	-	2,779
3a.1.9.5	Biological shield	-	-	-	-	-	-	27	4	32	32	-	-	-	-	-	-	-	-	-	214
3a.1.9.6	Steam generators	-	-	-	-	-	-	171	26	197	197	-	-	-	-	-	-	-	-	-	1,334
3a.1.9.7	Reinforced concrete	-	-	-	-	-	-	88	13	101	51	-	51	-	-	-	-	-	-	-	684
3a.1.9.8	Main Turbine	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.9.9	Main Condensers	-	-	-	-	-	-	22	3	25	-	-	25	-	-	-	-	-	-	-	171
3a.1.9.10	Plant structures & buildings	-	-	-	-	-	-	171	26	197	99	-	99	-	-	-	-	-	-	-	1,334
3a.1.9.11	Waste management	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3a.1.9.12	Facility & site closeout	-	-	-	-	-	-	49	7	57	28	-	28	-	-	-	-	-	-	-	385
3a.1.9	Total	-	-	-	-	-	-	2,186	328	2,514	2,213	-	301	-	-	-	-	-	-	-	17,009
Planning & Site Preparations																					
3a.1.10	Prepare dismantling sequence	-	-	-	-	-	-	132	20	152	152	-	-	-	-	-	-	-	-	-	1,026
3a.1.11	Plant prep. & temp. svces	-	-	-	-	-	-	3,500	525	4,025	4,025	-	-	-	-	-	-	-	-	-	-
3a.1.12	Design water clean-up system	-	-	-	-	-	-	77	12	88	88	-	-	-	-	-	-	-	-	-	599
3a.1.13	Rigging/Cont. Cntrl Envlp/s/tooling/etc.	-	-	-	-	-	-	2,400	360	2,760	2,760	-	-	-	-	-	-	-	-	-	-
3a.1.14	Procure casks/liners & containers	-	-	-	-	-	-	68	10	78	78	-	-	-	-	-	-	-	-	-	526
3a.1	Subtotal Period 3a Activity Costs	-	-	-	-	-	-	9,670	1,451	11,121	10,820	-	301	-	-	-	-	-	-	-	29,336
Period 3a Additional Costs																					
3a.2.1	Site Characterization	-	-	-	-	-	-	1,505	451	1,956	1,956	-	-	-	-	-	-	-	-	8,988	3,563
3a.2.2	Mixed/Hazardous Waste	-	-	353	94	178	-	-	76	702	702	-	-	6,132	-	-	-	-	351,977	2,348	-
3a.2.3	Asbestos Abatement	-	2,526	3	150	-	1,369	-	996	5,044	5,044	-	-	-	12,843	-	-	-	166,959	20,907	-
3a.2	Subtotal Period 3a Additional Costs	-	2,526	356	244	178	1,369	1,505	1,524	7,702	7,702	-	-	6,132	12,843	-	-	-	518,936	32,243	3,563

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 3a Collateral Costs																					
3a.3.1	Small tool allowance	-	34	-	-	-	-	-	5	39	39	-	-	-	-	-	-	-	-	-	-
3a.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	39,506	5,926	45,431	-	45,431	-	-	-	-	-	-	-	-	-
3a.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,249	-	1,249	-	1,249	-	-	-	-	-	-	-	-	-
3a.3	Subtotal Period 3a Collateral Costs	-	34	-	-	-	-	40,755	5,931	46,720	39	46,680	-	-	-	-	-	-	-	-	-
Period 3a Period-Dependent Costs																					
3a.4.1	Insurance	-	-	-	-	-	-	484	48	533	307	225	-	-	-	-	-	-	-	-	-
3a.4.2	Property taxes	-	-	-	-	-	-	3,546	355	3,900	2,500	1,400	-	-	-	-	-	-	-	-	-
3a.4.3	Health physics supplies	-	641	-	-	-	-	-	160	802	802	-	-	-	-	-	-	-	-	-	-
3a.4.4	Heavy equipment rental	-	753	-	-	-	-	-	113	866	866	-	-	-	-	-	-	-	-	-	-
3a.4.5	Disposal of DAW generated	-	-	10	4	-	40	-	11	64	64	-	-	-	481	-	-	-	9,613	16	-
3a.4.6	Plant energy budget	-	-	-	-	-	-	1,621	243	1,864	1,864	-	-	-	-	-	-	-	-	-	-
3a.4.7	NRC ISFSI Fees	-	-	-	-	-	-	42	4	46	-	46	-	-	-	-	-	-	-	-	-
3a.4.8	NRC Fees	-	-	-	-	-	-	260	26	286	286	-	-	-	-	-	-	-	-	-	-
3a.4.9	Emergency Planning Fees	-	-	-	-	-	-	74	7	82	-	82	-	-	-	-	-	-	-	-	-
3a.4.10	Fixed Overhead	-	-	-	-	-	-	1,440	216	1,656	1,656	-	-	-	-	-	-	-	-	-	-
3a.4.11	ISFSI Operating Costs	-	-	-	-	-	-	56	8	64	-	64	-	-	-	-	-	-	-	-	-
3a.4.12	Railroad Track Maintenance	-	-	-	-	-	-	63	9	72	72	-	-	-	-	-	-	-	-	-	-
3a.4.13	Security Staff Cost	-	-	-	-	-	-	368	55	424	424	-	-	-	-	-	-	-	-	-	6,240
3a.4.14	Utility Staff Cost	-	-	-	-	-	-	12,056	1,808	13,864	13,379	485	-	-	-	-	-	-	-	-	199,680
3a.4	Subtotal Period 3a Period-Dependent Costs	-	1,394	10	4	-	40	20,010	3,066	24,523	22,220	2,302	-	-	481	-	-	-	9,613	16	205,920
3a.0	TOTAL PERIOD 3a COST	-	3,954	366	248	178	1,409	71,939	11,971	90,065	40,781	48,983	301	6,132	13,324	-	-	-	528,549	32,259	238,819
PERIOD 3b - Decommissioning Preparations																					
Period 3b Direct Decommissioning Activities																					
Detailed Work Procedures																					
3b.1.1.1	Plant systems	-	-	-	-	-	-	260	39	299	269	-	30	-	-	-	-	-	-	-	2,024
3b.1.1.2	Reactor internals	-	-	-	-	-	-	137	21	158	158	-	-	-	-	-	-	-	-	-	1,069
3b.1.1.3	Remaining buildings	-	-	-	-	-	-	74	11	85	21	-	64	-	-	-	-	-	-	-	577
3b.1.1.4	CRD cooling assembly	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.5	CRD housings & ICI tubes	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.6	Incore instrumentation	-	-	-	-	-	-	55	8	63	63	-	-	-	-	-	-	-	-	-	428
3b.1.1.7	Reactor vessel	-	-	-	-	-	-	199	30	229	229	-	-	-	-	-	-	-	-	-	1,552
3b.1.1.8	Facility closeout	-	-	-	-	-	-	66	10	76	38	-	38	-	-	-	-	-	-	-	513
3b.1.1.9	Missile shields	-	-	-	-	-	-	25	4	28	28	-	-	-	-	-	-	-	-	-	192
3b.1.1.10	Biological shield	-	-	-	-	-	-	66	10	76	76	-	-	-	-	-	-	-	-	-	513
3b.1.1.11	Steam generators	-	-	-	-	-	-	253	38	291	291	-	-	-	-	-	-	-	-	-	1,967
3b.1.1.12	Reinforced concrete	-	-	-	-	-	-	55	8	63	32	-	32	-	-	-	-	-	-	-	428
3b.1.1.13	Main Turbine	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.14	Main Condensers	-	-	-	-	-	-	86	13	99	-	-	99	-	-	-	-	-	-	-	667
3b.1.1.15	Auxiliary building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1.16	Reactor building	-	-	-	-	-	-	150	23	173	155	-	17	-	-	-	-	-	-	-	1,167
3b.1.1	Total	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787
3b.1	Subtotal Period 3b Activity Costs	-	-	-	-	-	-	1,772	266	2,038	1,643	-	395	-	-	-	-	-	-	-	13,787
Period 3b Collateral Costs																					
3b.3.1	Decon equipment	1,055	-	-	-	-	-	-	158	1,213	1,213	-	-	-	-	-	-	-	-	-	-
3b.3.2	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
3b.3.3	Pipe cutting equipment	-	1,200	-	-	-	-	-	180	1,380	1,380	-	-	-	-	-	-	-	-	-	-
3b.3.4	Prairie Island Indian Community Payments	-	-	-	-	-	-	623	-	623	-	623	-	-	-	-	-	-	-	-	-
3b.3	Subtotal Period 3b Collateral Costs	1,055	1,200	-	-	-	-	1,887	528	4,669	4,047	623	-	-	-	-	-	-	-	-	-
Period 3b Period-Dependent Costs																					
3b.4.1	Decon supplies	38	-	-	-	-	-	-	9	47	47	-	-	-	-	-	-	-	-	-	-
3b.4.2	Insurance	-	-	-	-	-	-	241	24	266	266	-	-	-	-	-	-	-	-	-	-
3b.4.3	Property taxes	-	-	-	-	-	-	1,667	167	1,834	1,175	658	-	-	-	-	-	-	-	-	-
3b.4.4	Health physics supplies	-	274	-	-	-	-	-	68	342	342	-	-	-	-	-	-	-	-	-	-
3b.4.5	Heavy equipment rental	-	375	-	-	-	-	-	56	432	432	-	-	-	-	-	-	-	-	-	-
3b.4.6	Disposal of DAW generated	-	-	5	2	-	22	-	6	35	35	-	-	-	264	-	-	-	5,286	9	-
3b.4.7	Plant energy budget	-	-	-	-	-	-	808	121	930	930	-	-	-	-	-	-	-	-	-	-
3b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	21	2	23	-	23	-	-	-	-	-	-	-	-	-
3b.4.9	NRC Fees	-	-	-	-	-	-	129	13	142	142	-	-	-	-	-	-	-	-	-	-
3b.4.10	Emergency Planning Fees	-	-	-	-	-	-	37	4	41	-	41	-	-	-	-	-	-	-	-	-
3b.4.11	Fixed Overhead	-	-	-	-	-	-	718	108	826	826	-	-	-	-	-	-	-	-	-	-

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Table J-2
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SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				GTCC	Burial / Processed	Craft	Utility and Contractor
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	Cu. Feet	Wt., Lbs.	Manhours	Manhours	
Period 3b Period-Dependent Costs (continued)																						
3b.4.12	ISFSI Operating Costs	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-	
3b.4.13	Railroad Track Maintenance	-	-	-	-	-	-	31	5	36	36	-	-	-	-	-	-	-	-	-	-	
3b.4.14	Security Staff Cost	-	-	-	-	-	-	184	28	211	211	-	-	-	-	-	-	-	-	-	3,111	
3b.4.15	DOC Staff Cost	-	-	-	-	-	-	3,727	559	4,287	4,287	-	-	-	-	-	-	-	-	-	42,523	
3b.4.16	Utility Staff Cost	-	-	-	-	-	-	6,011	902	6,913	6,671	242	-	-	-	-	-	-	-	-	99,566	
3b.4	Subtotal Period 3b Period-Dependent Costs	38	649	5	2	-	22	13,604	2,076	16,396	15,400	996	-	-	264	-	-	-	5,286	9	145,201	
3b.0	TOTAL PERIOD 3b COST	1,092	1,849	5	2	-	22	17,262	2,870	23,103	21,089	1,619	395	-	264	-	-	-	5,286	9	158,988	
PERIOD 3 TOTALS		1,092	5,803	371	250	178	1,430	89,202	14,841	113,168	61,871	50,601	696	6,132	13,588	-	-	-	533,835	32,267	397,807	
PERIOD 4a - Large Component Removal																						
Period 4a Direct Decommissioning Activities																						
Nuclear Steam Supply System Removal																						
4a.1.1.1	Reactor Coolant Piping	11	42	10	11	66	94	-	52	285	285	-	-	240	254	-	-	-	33,680	778	-	
4a.1.1.2	Pressurizer Relief Tank	5	19	6	7	44	62	-	31	174	174	-	-	160	169	-	-	-	22,441	352	-	
4a.1.1.3	Reactor Coolant Pumps & Motors	13	60	46	85	-	463	-	155	822	822	-	-	-	2,332	-	-	-	295,800	1,226	80	
4a.1.1.4	Pressurizer	-	77	382	91	-	776	-	265	1,591	1,591	-	-	-	2,196	-	-	-	158,199	1,346	750	
4a.1.1.5	Steam Generators	-	3,307	1,690	1,743	2,409	3,885	-	2,590	15,625	15,625	-	-	18,672	10,990	-	-	-	1,581,180	10,253	2,250	
4a.1.1.6	CRDMs/ICIs/Service Structure Removal	63	248	205	44	326	454	-	283	1,623	1,623	-	-	2,138	2,146	-	-	-	165,025	4,449	-	
4a.1.1.7	Reactor Vessel Internals	51	4,650	13,353	862	-	7,848	278	11,032	38,074	38,074	-	-	-	1,174	-	673	-	167,337	22,373	1,053	
4a.1.1.8	Reactor Vessel	-	5,835	1,653	442	-	3,268	278	6,576	18,053	18,053	-	-	-	9,245	-	-	-	579,324	22,373	1,053	
4a.1.1	Totals	144	14,237	17,346	3,284	2,845	16,851	556	20,984	76,247	76,247	-	-	21,210	28,505	-	673	-	3,002,986	63,151	5,187	
Removal of Major Equipment																						
4a.1.2	Main Turbine/Generator	-	292	116	35	555	-	-	173	1,170	1,170	-	-	2,243	-	-	-	-	134,601	4,116	-	
4a.1.3	Main Condensers	-	2,510	79	33	742	-	-	752	4,115	4,115	-	-	4,000	-	-	-	-	180,000	34,978	-	
Cascading Costs from Clean Building Demolition																						
4a.1.4.1	Reactor	-	794	-	-	-	-	-	119	913	913	-	-	-	-	-	-	-	-	7,589	-	
4a.1.4.2	Auxiliary	-	221	-	-	-	-	-	33	254	254	-	-	-	-	-	-	-	-	1,309	-	
4a.1.4.3	Radwaste	-	9	-	-	-	-	-	1	10	10	-	-	-	-	-	-	-	-	65	-	
4a.1.4	Totals	-	1,023	-	-	-	-	-	154	1,177	1,177	-	-	-	-	-	-	-	-	8,963	-	
Disposal of Plant Systems																						
4a.1.5.1	Admin Bldg Ventilation	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	90	-	
4a.1.5.2	Air Removal	-	29	-	-	-	-	-	4	33	-	-	33	-	-	-	-	-	-	422	-	
4a.1.5.3	Auxiliary Feedwater	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	676	-	
4a.1.5.4	Auxiliary Feedwater - RCA	-	38	0	1	30	-	-	14	84	84	-	-	178	-	-	-	-	7,214	486	-	
4a.1.5.5	Bleed Steam	-	90	-	-	-	-	-	13	103	-	-	103	-	-	-	-	-	-	1,331	-	
4a.1.5.6	Caustic Addition - RCA	-	40	0	2	40	-	-	16	99	99	-	-	240	-	-	-	-	9,761	468	-	
4a.1.5.7	Chemical Feed	-	17	-	-	-	-	-	3	20	-	-	20	-	-	-	-	-	-	261	-	
4a.1.5.8	Chemical Feed - RCA	-	3	0	0	3	-	-	1	7	7	-	-	16	-	-	-	-	634	31	-	
4a.1.5.9	Circulating Water	-	27	-	-	-	-	-	4	32	-	-	32	-	-	-	-	-	-	401	-	
4a.1.5.10	Condensate	-	525	-	-	-	-	-	79	603	-	-	603	-	-	-	-	-	-	7,537	-	
4a.1.5.11	Condensate Polishing	-	208	-	-	-	-	-	31	239	-	-	239	-	-	-	-	-	-	2,987	-	
4a.1.5.12	Condensate Polishing - RCA	-	38	1	4	81	-	-	22	145	145	-	-	483	-	-	-	-	19,616	493	-	
4a.1.5.13	Electro-Hydraulic	-	10	-	-	-	-	-	1	11	-	-	11	-	-	-	-	-	-	143	-	
4a.1.5.14	External Circulating Water	-	26	-	-	-	-	-	4	30	-	-	30	-	-	-	-	-	-	385	-	
4a.1.5.15	External Circulating Water - RCA	-	72	1	5	121	-	-	37	237	237	-	-	721	-	-	-	-	29,284	938	-	
4a.1.5.16	Feedwater	-	127	-	-	-	-	-	19	146	-	-	146	-	-	-	-	-	-	1,840	-	
4a.1.5.17	Feedwater - RCA	-	248	8	31	694	-	-	171	1,152	1,152	-	-	4,147	-	-	-	-	168,414	3,377	-	
4a.1.5.18	Gland Seal	-	34	-	-	-	-	-	5	39	-	-	39	-	-	-	-	-	-	504	-	
4a.1.5.19	Heater Drain	-	384	-	-	-	-	-	58	441	-	-	441	-	-	-	-	-	-	5,638	-	
4a.1.5.20	Hypobromous Acid Feed	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	86	-	
4a.1.5.21	Hypobromous Acid Feed - RCA	-	1	0	0	0	-	-	0	2	2	-	-	2	-	-	-	-	100	12	-	
4a.1.5.22	Internal Circ Water & CDSR	-	25	-	-	-	-	-	4	29	-	-	29	-	-	-	-	-	-	366	-	
4a.1.5.23	Main Gen/Exciter/Transformer	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-	
4a.1.5.24	Main Steam	-	101	-	-	-	-	-	15	116	-	-	116	-	-	-	-	-	-	1,482	-	
4a.1.5.25	Main Steam - RCA	-	380	11	38	864	-	-	231	1,525	1,525	-	-	5,166	-	-	-	-	209,799	5,146	-	
4a.1.5.26	Repairable Spare Snubbers	-	6	0	0	2	-	-	2	10	10	-	-	12	-	-	-	-	490	82	-	
4a.1.5.27	Steam Exclusion	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	32	-	
4a.1.5.28	Steam Exclusion - RCA	-	4	0	0	4	-	-	2	10	10	-	-	24	-	-	-	-	966	47	-	
4a.1.5.29	Steam Generator Blowdown	-	378	21	27	319	215	-	202	1,162	1,162	-	-	1,906	631	-	-	-	118,130	5,179	-	
4a.1.5.30	Steam Generators	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-	

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**Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis**

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4a.1.5.31	Turbine & Moisture Separators	-	377	-	-	-	-	-	57	434	-	-	434	-	-	-	-	-	-	5,472	-
4a.1.5.32	Turbine Oil Purification	-	53	-	-	-	-	-	8	61	-	-	61	-	-	-	-	-	-	757	-
4a.1.5.33	Water Treatment	-	453	-	-	-	-	-	68	521	-	-	521	-	-	-	-	-	-	6,677	-
4a.1.5.34	Water Treatment - RCA	-	20	0	1	19	-	-	8	49	49	-	-	115	-	-	-	-	4,652	252	-
4a.1.5	Totals	-	3,779	43	108	2,177	215	-	1,091	7,413	4,480	-	2,933	13,010	631	-	-	-	569,060	53,681	-
4a.1.6	Scaffolding in support of decommissioning	-	2,865	22	10	188	30	-	755	3,870	3,870	-	-	1,012	89	-	-	-	51,216	23,719	-
4a.1	Subtotal Period 4a Activity Costs	144	24,706	17,607	3,470	6,506	17,096	556	23,908	93,993	91,059	-	2,933	41,476	29,226	-	673	-	3,937,863	188,606	5,187
Period 4a Additional Costs																					
4a.2.1	Retired RPV Upper Internals Package	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
4a.2	Subtotal Period 4a Additional Costs	-	128	166	58	-	1,583	-	944	2,879	2,879	-	-	-	572	125	-	-	49,800	1,667	67
Period 4a Collateral Costs																					
4a.3.1	Process decommissioning water waste	3	-	4	8	-	17	-	7	39	39	-	-	-	40	-	-	-	2,408	8	-
4a.3.3	Small tool allowance	-	241	-	-	-	-	-	36	277	249	-	28	-	-	-	-	-	-	-	-
4a.3.4	Prairie Island Indian Community Payments	-	-	-	-	-	-	1,660	-	1,660	-	1,660	-	-	-	-	-	-	-	-	-
4a.3	Subtotal Period 4a Collateral Costs	3	241	4	8	-	17	1,660	43	1,976	288	1,660	28	-	40	-	-	-	2,408	8	-
Period 4a Period-Dependent Costs																					
4a.4.1	Decon supplies	100	-	-	-	-	-	-	25	125	125	-	-	-	-	-	-	-	-	-	-
4a.4.2	Insurance	-	-	-	-	-	-	643	64	708	708	-	-	-	-	-	-	-	-	-	-
4a.4.3	Property taxes	-	-	-	-	-	-	4,395	439	4,834	2,954	1,881	-	-	-	-	-	-	-	-	-
4a.4.4	Health physics supplies	-	1,882	-	-	-	-	-	470	2,352	2,352	-	-	-	-	-	-	-	-	-	-
4a.4.5	Heavy equipment rental	-	3,325	-	-	-	-	-	499	3,824	3,824	-	-	-	-	-	-	-	-	-	-
4a.4.6	Disposal of DAW generated	-	-	70	29	-	293	-	85	477	477	-	-	-	3,556	-	-	-	71,113	116	-
4a.4.7	Plant energy budget	-	-	-	-	-	-	2,047	307	2,354	2,354	-	-	-	-	-	-	-	-	-	-
4a.4.8	NRC ISFSI Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
4a.4.9	NRC Fees	-	-	-	-	-	-	420	42	461	461	-	-	-	-	-	-	-	-	-	-
4a.4.10	Emergency Planning Fees	-	-	-	-	-	-	99	10	108	-	108	-	-	-	-	-	-	-	-	-
4a.4.11	Fixed Overhead	-	-	-	-	-	-	1,581	237	1,818	1,818	-	-	-	-	-	-	-	-	-	-
4a.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	565	85	649	649	-	-	-	-	-	-	-	-	-	-
4a.4.13	ISFSI Operating Costs	-	-	-	-	-	-	74	11	86	-	86	-	-	-	-	-	-	-	-	-
4a.4.14	Railroad Track Maintenance	-	-	-	-	-	-	83	12	96	96	-	-	-	-	-	-	-	-	-	-
4a.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,489	223	1,712	1,712	-	-	-	-	-	-	-	-	-	-
4a.4.16	Security Staff Cost	-	-	-	-	-	-	5,911	887	6,798	5,159	1,638	-	-	-	-	-	-	-	-	91,140
4a.4.17	DOC Staff Cost	-	-	-	-	-	-	17,103	2,565	19,668	19,668	-	-	-	-	-	-	-	-	-	189,200
4a.4.18	Utility Staff Cost	-	-	-	-	-	-	21,408	3,211	24,619	23,856	763	-	-	-	-	-	-	-	-	337,712
4a.4	Subtotal Period 4a Period-Dependent Costs	100	5,207	70	29	-	293	55,871	9,179	70,749	66,212	4,537	-	-	3,556	-	-	-	71,113	116	618,052
4a.0	TOTAL PERIOD 4a COST	246	30,282	17,847	3,564	6,506	18,989	58,087	34,074	169,596	160,439	6,196	2,961	41,476	33,394	125	673	-	4,061,184	190,397	623,305
PERIOD 4b - Site Decontamination																					
Period 4b Direct Decommissioning Activities																					
4b.1.1	Remove spent fuel racks	314	35	86	41	-	703	-	356	1,535	1,535	-	-	-	2,092	-	-	-	132,919	576	-
Disposal of Plant Systems																					
4b.1.2.1	ADT & Misc Ventilation	-	22	1	1	26	3	-	10	63	63	-	-	153	9	-	-	-	6,803	325	-
4b.1.2.2	Aux Bldg Normal Ventilation	-	62	2	6	116	13	-	37	237	237	-	-	692	39	-	-	-	30,595	906	-
4b.1.2.3	Aux Bldg Special Ventilation	-	12	0	1	12	2	-	5	32	32	-	-	70	6	-	-	-	3,234	176	-
4b.1.2.4	Battery Rm Special Ventilation	-	2	-	-	-	-	-	0	2	-	-	2	-	-	-	-	-	-	24	-
4b.1.2.5	Boron Recycle	-	3	0	0	0	3	-	2	9	9	-	-	3	9	-	-	-	700	45	-
4b.1.2.6	Chemical & Volume Control	-	858	62	57	394	677	-	458	2,507	2,507	-	-	2,356	1,977	-	-	-	223,753	11,575	-
4b.1.2.7	Cold Chemical Lab Ventilation	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
4b.1.2.8	Component Cooling - RCA	-	647	25	88	2,007	-	-	479	3,246	3,246	-	-	11,996	-	-	-	-	487,169	8,583	-
4b.1.2.9	Containment Cooling	-	35	-	-	-	-	-	5	40	-	-	40	-	-	-	-	-	-	502	-
4b.1.2.10	Containment Cooling - RCA	-	302	6	20	459	-	-	148	934	934	-	-	2,743	-	-	-	-	111,390	3,949	-
4b.1.2.11	Containment Hydrogen Control - RCA	-	36	0	1	24	-	-	13	74	74	-	-	141	-	-	-	-	5,742	494	-
4b.1.2.12	Containment Spray - RCA	-	194	3	11	243	-	-	87	538	538	-	-	1,453	-	-	-	-	59,019	2,617	-
4b.1.2.13	Containment Ventilation	-	211	23	49	790	243	-	242	1,558	1,558	-	-	4,721	722	-	-	-	237,643	3,016	-
4b.1.2.14	Control/Relay/Cmptr Rm Vent	-	28	1	2	44	7	-	16	98	98	-	-	260	20	-	-	-	11,878	406	-
4b.1.2.15	Cooling Water	-	159	-	-	-	-	-	24	183	-	-	183	-	-	-	-	-	-	2,344	-
4b.1.2.16	Cooling Water - RCA	-	476	17	62	1,412	-	-	342	2,310	2,310	-	-	8,442	-	-	-	-	342,822	6,311	-
4b.1.2.17	Cranes/Hoists/Elevators - RCA	-	3	0	1	17	-	-	4	25	25	-	-	103	-	-	-	-	4,184	48	-
4b.1.2.18	D3 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-
4b.1.2.19	D4 Emergency Diesel	-	10	-	-	-	-	-	2	12	-	-	12	-	-	-	-	-	-	141	-

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Disposal of Plant Systems (continued)																					
4b.1.2.20	D5 Emergency Diesel	-	0	-	-	-	-	-	0	0	-	-	0	-	-	-	-	-	-	5	-
4b.1.2.21	Electrical - Clean	-	1,714	-	-	-	-	-	257	1,972	-	-	1,972	-	-	-	-	-	-	24,276	-
4b.1.2.22	Electrical - Contaminated	-	430	5	16	334	25	-	167	978	978	-	-	1,997	75	-	-	-	85,887	5,813	-
4b.1.2.23	Electrical - Contaminated - Fuel Pool	-	184	2	7	145	11	-	72	421	421	-	-	864	33	-	-	-	37,167	2,488	-
4b.1.2.24	Electrical - Decontaminated	-	2,955	38	138	3,138	-	-	1,234	7,503	7,503	-	-	18,753	-	-	-	-	761,569	38,423	-
4b.1.2.25	Electrical - Decontaminated - Fuel Pool	-	1,269	17	59	1,350	-	-	530	3,225	3,225	-	-	8,069	-	-	-	-	327,668	16,495	-
4b.1.2.26	Filter Rm Ventilation	-	4	0	0	4	0	-	2	10	10	-	-	24	1	-	-	-	1,017	61	-
4b.1.2.27	Fire Protection & Detection	-	204	-	-	-	-	-	31	235	-	-	235	-	-	-	-	-	-	3,009	-
4b.1.2.28	Fire Protection & Detection - RCA	-	246	4	13	306	-	-	110	679	679	-	-	1,828	-	-	-	-	74,245	3,134	-
4b.1.2.29	Fire Protection & Detection - RCA Fuel P	-	37	1	2	48	-	-	17	105	105	-	-	286	-	-	-	-	11,622	476	-
4b.1.2.30	Fuel Handling	-	66	1	2	34	17	-	26	146	146	-	-	200	49	-	-	-	11,273	983	-
4b.1.2.31	Fuel Oil	-	1	-	-	-	-	-	0	1	-	-	1	-	-	-	-	-	-	9	-
4b.1.2.32	HVAC - Clean	-	151	-	-	-	-	-	23	174	-	-	174	-	-	-	-	-	-	2,373	-
4b.1.2.33	HVAC - Contaminated	-	1,112	29	87	1,798	136	-	598	3,759	3,759	-	-	10,745	405	-	-	-	462,103	14,282	-
4b.1.2.34	HVAC - Contaminated - Fuel Pool	-	499	13	39	808	61	-	268	1,689	1,689	-	-	4,828	182	-	-	-	207,612	6,417	-
4b.1.2.35	Heating	-	322	-	-	-	-	-	48	370	-	-	370	-	-	-	-	-	-	4,804	-
4b.1.2.36	Heating - RCA	-	337	4	14	319	-	-	135	809	809	-	-	1,907	-	-	-	-	77,458	4,086	-
4b.1.2.37	Hot Lab & Sample Rm Ventilation	-	17	0	1	18	1	-	8	46	46	-	-	107	4	-	-	-	4,622	255	-
4b.1.2.38	Incore Instrumentation	-	27	1	2	10	20	-	13	73	73	-	-	60	58	-	-	-	6,143	412	-
4b.1.2.39	Misc Drains & Vents	-	213	12	12	77	145	-	104	563	563	-	-	458	426	-	-	-	46,079	2,841	-
4b.1.2.40	Misc Lab & Service Areas Vent	-	118	8	8	62	84	-	62	342	342	-	-	370	244	-	-	-	30,899	1,537	-
4b.1.2.41	Miscellaneous Gas	-	72	-	-	-	-	-	11	83	-	-	83	-	-	-	-	-	-	1,073	-
4b.1.2.42	Miscellaneous Gas - RCA	-	134	1	4	100	-	-	49	289	289	-	-	600	-	-	-	-	24,378	1,636	-
4b.1.2.43	Radiation Monitoring	-	7	-	-	-	-	-	1	9	-	-	9	-	-	-	-	-	-	111	-
4b.1.2.44	Radiation Monitoring - RCA	-	65	1	2	53	-	-	25	145	145	-	-	316	-	-	-	-	12,826	782	-
4b.1.2.45	Reactor Coolant	-	216	20	16	38	249	-	126	666	666	-	-	229	730	-	-	-	56,440	2,891	-
4b.1.2.46	Reactor Hot Sampling	-	116	11	7	9	108	-	60	311	311	-	-	54	312	-	-	-	22,678	1,499	-
4b.1.2.47	Reactor Makeup	-	41	-	-	-	-	-	6	47	-	-	47	-	-	-	-	-	-	583	-
4b.1.2.48	Reactor Makeup - RCA	-	4	0	0	5	-	-	2	11	11	-	-	28	-	-	-	-	1,148	47	-
4b.1.2.49	Reactor Vessel	-	16	1	0	4	5	-	6	32	32	-	-	22	14	-	-	-	1,816	225	-
4b.1.2.50	Residual Heat Removal	-	354	84	86	477	1,102	-	457	2,562	2,562	-	-	2,853	3,244	-	-	-	324,232	5,039	-
4b.1.2.51	Safeguards Chilled Water	-	5	-	-	-	-	-	1	6	-	-	6	-	-	-	-	-	-	75	-
4b.1.2.52	Safeguards Chilled Water - RCA	-	5	0	0	4	-	-	2	11	11	-	-	26	-	-	-	-	1,045	51	-
4b.1.2.53	Safety Injection	-	793	42	72	1,117	395	-	479	2,898	2,898	-	-	6,676	1,161	-	-	-	345,708	11,029	-
4b.1.2.54	Sampling	-	48	3	2	6	32	-	22	113	113	-	-	37	93	-	-	-	7,628	645	-
4b.1.2.56	Shield Bldg Ventilation	-	108	13	25	339	163	-	124	771	771	-	-	2,028	484	-	-	-	113,139	1,555	-
4b.1.2.57	Spent Fuel Pool Cooling	-	33	3	2	6	37	-	19	101	101	-	-	39	107	-	-	-	8,481	427	-
4b.1.2.58	Spent Fuel Pool Normal Ventilation	-	24	1	2	44	4	-	14	90	90	-	-	265	12	-	-	-	11,505	352	-
4b.1.2.59	Station & Instrument Air	-	161	-	-	-	-	-	24	185	-	-	185	-	-	-	-	-	-	2,424	-
4b.1.2.60	Station & Instrument Air - RCA	-	299	3	12	272	-	-	118	704	704	-	-	1,625	-	-	-	-	65,986	3,638	-
4b.1.2.61	Turbine Bldg Traps & Drains	-	30	-	-	-	-	-	5	35	-	-	35	-	-	-	-	-	-	462	-
4b.1.2.62	Turbine Bldg Traps & Drains - RCA	-	30	0	1	30	-	-	12	73	73	-	-	180	-	-	-	-	7,321	344	-
4b.1.2.63	Turbine Bldg Ventilation	-	46	-	-	-	-	-	7	53	-	-	53	-	-	-	-	-	-	655	-
4b.1.2.64	Unit Coolers	-	23	-	-	-	-	-	3	26	-	-	26	-	-	-	-	-	-	332	-
4b.1.2.65	Unit Coolers - RCA	-	56	0	2	39	-	-	20	117	117	-	-	232	-	-	-	-	9,413	690	-
4b.1.2.66	Waste Gas Disposal	-	438	43	45	410	464	-	298	1,699	1,699	-	-	2,453	1,358	-	-	-	187,339	5,879	-
4b.1.2.67	Waste Liquid Disposal	-	1,642	116	100	612	1,234	-	837	4,541	4,541	-	-	3,655	3,594	-	-	-	381,754	22,011	-
4b.1.2.68	Waste Solid Disposal	-	132	12	11	65	134	-	79	433	433	-	-	389	393	-	-	-	41,177	1,781	-
4b.1.2	Totals	-	17,877	633	1,092	17,625	5,377	-	8,385	50,989	47,545	-	3,444	105,339	15,761	-	-	-	5,294,310	240,033	-
4b.1.3	Scaffolding in support of decommissioning	-	4,297	33	15	281	45	-	1,133	5,804	5,804	-	-	1,518	134	-	-	-	76,824	35,578	-
Decontamination of Site Buildings																					
4b.1.4.1	Reactor	1,096	2,528	240	1,236	373	7,080	-	3,215	15,768	15,768	-	-	2,230	67,331	-	-	-	3,286,725	45,740	-
4b.1.4.2	Auxiliary	1,168	375	23	117	177	648	-	886	3,395	3,395	-	-	1,060	6,118	-	-	-	332,495	21,235	-
4b.1.4.3	Backwash Waste Receiving Tank	-	25	3	17	-	97	-	33	175	175	-	-	-	929	-	-	-	43,896	266	-
4b.1.4.4	Drum Transfer & Truck Loading Enclosure	16	8	1	3	3	14	-	15	59	59	-	-	19	135	-	-	-	7,118	328	-
4b.1.4.5	LLRW Storage Enclosure	111	48	3	17	6	96	-	95	377	377	-	-	38	920	-	-	-	44,971	2,151	-
4b.1.4.6	Radwaste	50	21	1	8	7	43	-	43	174	174	-	-	42	412	-	-	-	21,136	964	-
4b.1.4.7	Resin Disposal	15	11	1	3	14	14	-	16	72	72	-	-	83	124	-	-	-	9,271	340	-
4b.1.4.8	Fuel Handling of Aux Building	924	1,015	13	45	404	195	-	833	3,430	3,430	-	-	2,417	1,652	-	-	-	177,755	27,145	-
4b.1.4	Totals	3,380	4,031	285	1,445	985	8,187	-	5,137	23,450	23,450	-	-	5,889	77,619	-	-	-	3,923,368	98,170	-
4b.1.5	Prepare/submit License Termination Plan	-	-	-	-	-	-	225	34	259	259	-	-	-	-	-	-	-	-	-	1,751
4b.1.6	Receive NRC approval of termination plan	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4b.1	Subtotal Period 4b Activity Costs	3,693	26,240	1,036	2,594	18,892	14,312	225	15,045	82,037	78,593	-	3,444	112,746	95,607	-	-	-	9,427,420	374,358	1,751

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
Period 4b Additional Costs																					
4b.2.1	License Termination Survey Planning	-	-	-	-	-	-	1,037	311	1,348	1,348	-	-	-	-	-	-	-	-	-	6,240
4b.2.2	Excavation of Underground Services	-	1,175	-	-	-	-	225	328	1,728	1,728	-	-	-	-	-	-	-	-	7,411	-
4b.2.3	Operational Equipment	-	-	11	36	606	-	-	97	751	751	-	-	5,880	-	-	-	-	147,000	16	-
4b.2	Subtotal Period 4b Additional Costs	-	1,175	11	36	606	-	1,262	736	3,827	3,827	-	-	5,880	-	-	-	-	147,000	7,427	6,240
Period 4b Collateral Costs																					
4b.3.1	Process decommissioning water waste	7	-	12	21	-	48	-	20	107	107	-	-	-	109	-	-	-	6,547	21	-
4b.3.3	Small tool allowance	-	443	-	-	-	-	-	66	509	509	-	-	-	-	-	-	-	-	-	-
4b.3.4	Decommissioning Equipment Disposition	-	-	130	67	1,112	178	-	234	1,722	1,722	-	-	6,000	529	-	-	-	303,608	147	-
4b.3.5	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,225	-	2,225	-	2,225	-	-	-	-	-	-	-	-	-
4b.3	Subtotal Period 4b Collateral Costs	7	443	142	88	1,112	225	2,225	320	4,563	2,338	2,225	-	6,000	638	-	-	-	310,155	168	-
Period 4b Period-Dependent Costs																					
4b.4.1	Decon supplies	1,449	-	-	-	-	-	-	362	1,811	1,811	-	-	-	-	-	-	-	-	-	-
4b.4.2	Insurance	-	-	-	-	-	-	862	86	949	949	-	-	-	-	-	-	-	-	-	-
4b.4.3	Property taxes	-	-	-	-	-	-	5,715	572	6,287	3,785	2,502	-	-	-	-	-	-	-	-	-
4b.4.4	Health physics supplies	-	3,213	-	-	-	-	-	803	4,016	4,016	-	-	-	-	-	-	-	-	-	-
4b.4.5	Heavy equipment rental	-	4,577	-	-	-	-	-	687	5,263	5,263	-	-	-	-	-	-	-	-	-	-
4b.4.6	Disposal of DAW generated	-	-	116	47	-	482	-	139	784	784	-	-	-	5,851	-	-	-	117,027	191	-
4b.4.7	Plant energy budget	-	-	-	-	-	-	2,165	325	2,490	2,490	-	-	-	-	-	-	-	-	-	-
4b.4.8	NRC ISFSI Fees	-	-	-	-	-	-	74	7	81	-	81	-	-	-	-	-	-	-	-	-
4b.4.9	NRC Fees	-	-	-	-	-	-	562	56	618	618	-	-	-	-	-	-	-	-	-	-
4b.4.10	Emergency Planning Fees	-	-	-	-	-	-	132	13	145	-	145	-	-	-	-	-	-	-	-	-
4b.4.11	Fixed Overhead	-	-	-	-	-	-	2,118	318	2,436	2,436	-	-	-	-	-	-	-	-	-	-
4b.4.12	Liquid Radwaste Processing Equipment/Services	-	-	-	-	-	-	757	113	870	870	-	-	-	-	-	-	-	-	-	-
4b.4.13	ISFSI Operating Costs	-	-	-	-	-	-	100	15	115	-	115	-	-	-	-	-	-	-	-	-
4b.4.14	Railroad Track Maintenance	-	-	-	-	-	-	111	17	128	128	-	-	-	-	-	-	-	-	-	-
4b.4.15	Remedial Actions Surveys	-	-	-	-	-	-	1,995	299	2,294	2,294	-	-	-	-	-	-	-	-	-	-
4b.4.16	Security Staff Cost	-	-	-	-	-	-	10,435	1,565	12,000	8,988	3,012	-	-	-	-	-	-	-	-	160,203
4b.4.17	DOC Staff Cost	-	-	-	-	-	-	22,641	3,396	26,038	26,038	-	-	-	-	-	-	-	-	-	248,175
4b.4.18	Utility Staff Cost	-	-	-	-	-	-	28,347	4,252	32,600	31,361	1,239	-	-	-	-	-	-	-	-	440,789
4b.4	Subtotal Period 4b Period-Dependent Costs	1,449	7,790	116	47	-	482	76,016	13,026	98,926	91,832	7,094	-	-	5,851	-	-	-	117,027	191	849,167
4b.0	TOTAL PERIOD 4b COST	5,149	35,647	1,305	2,766	20,610	15,020	79,729	29,128	189,353	176,590	9,319	3,444	124,626	102,096	-	-	-	10,001,600	382,144	857,159
PERIOD 4f - License Termination																					
Period 4f Direct Decommissioning Activities																					
4f.1.1	ORISE confirmatory survey	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
4f.1.2	Terminate license	-	-	-	-	-	-	-	-	a	-	-	-	-	-	-	-	-	-	-	-
4f.1	Subtotal Period 4f Activity Costs	-	-	-	-	-	-	166	50	216	216	-	-	-	-	-	-	-	-	-	-
Period 4f Additional Costs																					
4f.2.1	License Termination Survey	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
4f.2	Subtotal Period 4f Additional Costs	-	-	-	-	-	-	7,041	2,112	9,154	9,154	-	-	-	-	-	-	-	-	100,895	3,120
Period 4f Collateral Costs																					
4f.3.1	DOC staff relocation expenses	-	-	-	-	-	-	1,264	190	1,454	1,454	-	-	-	-	-	-	-	-	-	-
4f.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	934	-	934	-	934	-	-	-	-	-	-	-	-	-
4f.3	Subtotal Period 4f Collateral Costs	-	-	-	-	-	-	2,198	190	2,388	1,454	934	-	-	-	-	-	-	-	-	-
Period 4f Period-Dependent Costs																					
4f.4.1	Insurance	-	-	-	-	-	-	362	36	398	-	398	-	-	-	-	-	-	-	-	-
4f.4.2	Property taxes	-	-	-	-	-	-	2,306	231	2,537	1,469	1,068	-	-	-	-	-	-	-	-	-
4f.4.3	Health physics supplies	-	710	-	-	-	-	-	178	888	888	-	-	-	-	-	-	-	-	-	-
4f.4.4	Disposal of DAW generated	-	-	7	3	-	28	-	8	45	45	-	-	-	334	-	-	-	6,685	11	-
4f.4.5	Plant energy budget	-	-	-	-	-	-	243	36	279	279	-	-	-	-	-	-	-	-	-	-
4f.4.6	NRC ISFSI Fees	-	-	-	-	-	-	31	3	34	-	34	-	-	-	-	-	-	-	-	-
4f.4.7	NRC Fees	-	-	-	-	-	-	263	26	290	290	-	-	-	-	-	-	-	-	-	-
4f.4.8	Emergency Planning Fees	-	-	-	-	-	-	55	6	61	-	61	-	-	-	-	-	-	-	-	-
4f.4.9	Fixed Overhead	-	-	-	-	-	-	890	133	1,023	1,023	-	-	-	-	-	-	-	-	-	-
4f.4.10	ISFSI Operating Costs	-	-	-	-	-	-	42	6	48	-	48	-	-	-	-	-	-	-	-	-
4f.4.11	Railroad Track Maintenance	-	-	-	-	-	-	47	7	54	54	-	-	-	-	-	-	-	-	-	-
4f.4.12	Security Staff Cost	-	-	-	-	-	-	1,835	275	2,111	927	1,184	-	-	-	-	-	-	-	-	27,614
4f.4.13	DOC Staff Cost	-	-	-	-	-	-	4,238	636	4,874	4,874	-	-	-	-	-	-	-	-	-	46,283
4f.4.14	Utility Staff Cost	-	-	-	-	-	-	4,011	602	4,613	4,175	438	-	-	-	-	-	-	-	-	59,507
4f.4	Subtotal Period 4f Period-Dependent Costs	-	710	7	3	-	28	14,324	2,183	17,254	14,022	3,232	-	-	334	-	-	-	6,685	11	133,404

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
4f.0	TOTAL PERIOD 4f COST	-	710	7	3	-	28	23,730	4,535	29,012	24,846	4,166	-	-	334	-	-	-	6,685	100,906	136,524
PERIOD 4 TOTALS		5,395	66,639	19,159	6,333	27,115	34,036	161,545	67,737	387,961	361,874	19,681	6,405	166,102	135,824	125	673	-	14,069,470	673,447	1,616,988
PERIOD 5b - Site Restoration																					
Period 5b Direct Decommissioning Activities																					
Demolition of Remaining Site Buildings																					
5b.1.1.1	Reactor	-	4,645	-	-	-	-	-	697	5,342	-	-	5,342	-	-	-	-	-	-	44,679	-
5b.1.1.2	Auxiliary	-	1,993	-	-	-	-	-	299	2,291	-	-	2,291	-	-	-	-	-	-	11,902	-
5b.1.1.3	Condensate Storage Tank Foundation	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	33	-
5b.1.1.4	Construction Warehouse & Fab Shop	-	130	-	-	-	-	-	19	149	-	-	149	-	-	-	-	-	-	1,405	-
5b.1.1.5	D3/D4 Emergency Generator	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	84	-
5b.1.1.6	Drum Transfer & Truck Loading Enclosure	-	20	-	-	-	-	-	3	24	-	-	24	-	-	-	-	-	-	221	-
5b.1.1.7	Hydrogen House	-	6	-	-	-	-	-	1	7	-	-	7	-	-	-	-	-	-	47	-
5b.1.1.8	LLRW Storage Enclosure	-	128	-	-	-	-	-	19	147	-	-	147	-	-	-	-	-	-	853	-
5b.1.1.9	Misc Structures 2017	-	2,617	-	-	-	-	-	393	3,009	-	-	3,009	-	-	-	-	-	-	22,582	-
5b.1.1.10	Radwaste	-	176	-	-	-	-	-	26	202	-	-	202	-	-	-	-	-	-	1,400	-
5b.1.1.11	Resin Disposal	-	14	-	-	-	-	-	2	16	-	-	16	-	-	-	-	-	-	120	-
5b.1.1.12	Structures below 3' below grade	-	1,785	-	-	-	-	-	268	2,052	-	-	2,052	-	-	-	-	-	-	9,238	-
5b.1.1.13	Sulfuric Acid Tank Enclosure	-	3	-	-	-	-	-	0	4	-	-	4	-	-	-	-	-	-	35	-
5b.1.1.14	Turbine	-	2,140	-	-	-	-	-	321	2,461	-	-	2,461	-	-	-	-	-	-	21,997	-
5b.1.1.15	Turbine Pedestal	-	365	-	-	-	-	-	55	420	-	-	420	-	-	-	-	-	-	1,857	-
5b.1.1.16	Warehouse #2	-	24	-	-	-	-	-	4	27	-	-	27	-	-	-	-	-	-	213	-
5b.1.1.17	Waste Neutralizing Tank House	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	56	-
5b.1.1.18	Waste Oil Storage	-	9	-	-	-	-	-	1	10	-	-	10	-	-	-	-	-	-	70	-
5b.1.1.19	Water Treatment	-	324	-	-	-	-	-	49	373	-	-	373	-	-	-	-	-	-	2,690	-
5b.1.1.20	Fuel Handling of Aux Building	-	1,095	-	-	-	-	-	164	1,259	-	-	1,259	-	-	-	-	-	-	8,240	-
5b.1.1	Totals	-	15,501	-	-	-	-	-	2,325	17,826	-	-	17,826	-	-	-	-	-	-	127,723	-
Site Closeout Activities																					
5b.1.2	Remove Rubble	-	1,517	-	-	-	-	-	228	1,745	-	-	1,745	-	-	-	-	-	-	7,408	-
5b.1.3	Grade & landscape site	-	448	-	-	-	-	-	67	515	-	-	515	-	-	-	-	-	-	921	-
5b.1.4	Final report to NRC	-	-	-	-	-	-	86	13	99	99	-	-	-	-	-	-	-	-	-	667
5b.1	Subtotal Period 5b Activity Costs	-	17,466	-	-	-	-	86	2,633	20,185	99	-	20,086	-	-	-	-	-	-	136,051	667
Period 5b Additional Costs																					
5b.2.1	Clean Concrete Disposal	-	4,912	-	-	-	-	10	738	5,660	-	-	5,660	-	-	-	-	-	-	18,372	-
5b.2.2	Intake Structure Cofferdam	-	442	-	-	-	-	-	66	508	-	-	508	-	-	-	-	-	-	3,552	-
5b.2.3	Construction Debris	-	-	-	-	-	-	2,150	323	2,473	-	-	2,473	-	-	-	-	-	-	-	-
5b.2.4	Backfill	-	9,257	-	-	-	-	-	1,388	10,645	-	-	10,645	-	-	-	-	-	-	9,327	-
5b.2.5	Disposition of Original Casks	-	24	80	418	-	2,390	-	728	3,640	3,640	-	-	-	8,929	-	-	-	1,059,612	146	-
5b.2	Subtotal Period 5b Additional Costs	-	14,634	80	418	-	2,390	2,160	3,244	22,926	3,640	-	19,286	-	8,929	-	-	-	1,059,612	31,397	-
Period 5b Collateral Costs																					
5b.3.1	Small tool allowance	-	213	-	-	-	-	-	32	245	-	-	245	-	-	-	-	-	-	-	-
5b.3.2	Spent Fuel Capital and Transfer	-	-	-	-	-	-	3,821	573	4,394	-	4,394	-	-	-	-	-	-	-	-	-
5b.3.3	Prairie Island Indian Community Payments	-	-	-	-	-	-	2,649	-	2,649	-	2,649	-	-	-	-	-	-	-	-	-
5b.3	Subtotal Period 5b Collateral Costs	-	213	-	-	-	-	6,470	605	7,288	-	7,043	245	-	-	-	-	-	-	-	-
Period 5b Period-Dependent Costs																					
5b.4.1	Insurance	-	-	-	-	-	-	513	51	565	-	565	-	-	-	-	-	-	-	-	-
5b.4.2	Property taxes	-	-	-	-	-	-	5,904	590	6,494	-	2,663	3,831	-	-	-	-	-	-	-	-
5b.4.3	Heavy equipment rental	-	7,144	-	-	-	-	-	1,072	8,215	-	-	8,215	-	-	-	-	-	-	-	-
5b.4.4	Plant energy budget	-	-	-	-	-	-	344	52	395	-	395	-	-	-	-	-	-	-	-	-
5b.4.5	NRC ISFSI Fees	-	-	-	-	-	-	243	24	268	-	268	-	-	-	-	-	-	-	-	-
5b.4.6	Emergency Planning Fees	-	-	-	-	-	-	157	16	173	-	173	-	-	-	-	-	-	-	-	-
5b.4.7	Fixed Overhead	-	-	-	-	-	-	1,024	154	1,178	-	781	397	-	-	-	-	-	-	-	-
5b.4.8	ISFSI Operating Costs	-	-	-	-	-	-	119	18	136	-	136	-	-	-	-	-	-	-	-	-
5b.4.9	Railroad Track Maintenance	-	-	-	-	-	-	133	20	152	(0)	97	56	-	-	-	-	-	-	-	-
5b.4.10	Security Staff Cost	-	-	-	-	-	-	4,976	746	5,722	0	5,310	412	-	-	-	-	-	-	-	74,431
5b.4.11	DOC Staff Cost	-	-	-	-	-	-	10,921	1,638	12,559	-	-	12,559	-	-	-	-	-	-	-	116,885
5b.4.12	Utility Staff Cost	-	-	-	-	-	-	5,170	776	5,946	-	1,278	4,668	-	-	-	-	-	-	-	76,637
5b.4	Subtotal Period 5b Period-Dependent Costs	-	7,144	-	-	-	-	29,504	5,156	41,804	0	11,666	30,139	-	-	-	-	-	-	-	267,952
5b.0	TOTAL PERIOD 5b COST	-	39,457	80	418	-	2,390	38,220	11,638	92,203	3,739	18,708	69,756	-	8,929	-	-	-	1,059,612	167,448	268,620

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
PERIOD 5c - Fuel Storage Operations/Shipping																					
Period 5c Direct Decommissioning Activities																					
Period 5c Collateral Costs																					
5c.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	445,840	66,876	512,716	-	512,716	-	-	-	-	-	-	-	-	-
5c.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	152,793	-	152,793	-	152,793	-	-	-	-	-	-	-	-	-
5c.3	Subtotal Period 5c Collateral Costs	-	-	-	-	-	-	598,632	66,876	665,508	-	665,508	-	-	-	-	-	-	-	-	-
Period 5c Period-Dependent Costs																					
5c.4.1	Insurance	-	-	-	-	-	-	29,616	2,962	32,578	-	32,578	-	-	-	-	-	-	-	-	-
5c.4.2	Property taxes	-	-	-	-	-	-	169,412	16,941	186,354	-	186,354	-	-	-	-	-	-	-	-	-
5c.4.4	NRC ISFSI Fees	-	-	-	-	-	-	14,030	1,403	15,432	-	15,432	-	-	-	-	-	-	-	-	-
5c.4.5	Emergency Planning Fees	-	-	-	-	-	-	9,068	907	9,974	-	9,974	-	-	-	-	-	-	-	-	-
5c.4.6	Fixed Overhead	-	-	-	-	-	-	19,930	2,990	22,920	-	22,920	-	-	-	-	-	-	-	-	-
5c.4.7	ISFSI Operating Costs	-	-	-	-	-	-	6,845	1,027	7,872	-	7,872	-	-	-	-	-	-	-	-	-
5c.4.8	Railroad Track Maintenance	-	-	-	-	-	-	7,647	1,147	8,795	-	8,795	-	-	-	-	-	-	-	-	-
5c.4.9	Security Staff Cost	-	-	-	-	-	-	236,347	35,452	271,799	-	271,799	-	-	-	-	-	-	-	-	3,434,684
5c.4.10	DOC Staff Cost	-	-	-	-	-	-	18,749	2,812	21,561	-	21,561	-	-	-	-	-	-	-	-	127,211
5c.4.11	Utility Staff Cost	-	-	-	-	-	-	115,440	17,316	132,756	-	132,756	-	-	-	-	-	-	-	-	1,685,540
5c.4	Subtotal Period 5c Period-Dependent Costs	-	-	-	-	-	-	627,085	82,956	710,041	-	710,041	-	-	-	-	-	-	-	-	5,247,434
5c.0	TOTAL PERIOD 5c COST	-	-	-	-	-	-	1,225,717	149,832	1,375,549	-	1,375,549	-	-	-	-	-	-	-	-	5,247,434
PERIOD 5d - GTCC shipping																					
Period 5d Direct Decommissioning Activities																					
Nuclear Steam Supply System Removal																					
5d.1.1.1	Vessel & Internals GTCC Disposal	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1.1	Totals	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
5d.1	Subtotal Period 5d Activity Costs	-	-	1,444	-	-	8,680	-	1,663	11,787	11,787	-	-	-	-	-	-	1,773	344,823	-	-
Period 5d Collateral Costs																					
5d.3.1	Spent Fuel Capital and Transfer	-	-	-	-	-	-	28	4	32	-	32	-	-	-	-	-	-	-	-	-
5d.3.2	Prairie Island Indian Community Payments	-	-	-	-	-	-	48	-	48	-	48	-	-	-	-	-	-	-	-	-
5d.3	Subtotal Period 5d Collateral Costs	-	-	-	-	-	-	76	4	80	-	80	-	-	-	-	-	-	-	-	-
Period 5d Period-Dependent Costs																					
5d.4.1	Insurance	-	-	-	-	-	-	9	1	10	10	-	-	-	-	-	-	-	-	-	-
5d.4.2	Property taxes	-	-	-	-	-	-	53	5	58	58	-	-	-	-	-	-	-	-	-	-
5d.4.4	NRC ISFSI Fees	-	-	-	-	-	-	4	0	4	-	4	-	-	-	-	-	-	-	-	-
5d.4.5	Emergency Planning Fees	-	-	-	-	-	-	3	0	3	-	3	-	-	-	-	-	-	-	-	-
5d.4.6	Fixed Overhead	-	-	-	-	-	-	6	1	7	7	-	-	-	-	-	-	-	-	-	-
5d.4.7	Railroad Track Maintenance	-	-	-	-	-	-	2	0	3	3	-	-	-	-	-	-	-	-	-	-
5d.4.8	Security Staff Cost	-	-	-	-	-	-	74	11	85	85	-	-	-	-	-	-	-	-	-	1,077
5d.4.9	Utility Staff Cost	-	-	-	-	-	-	19	3	22	22	-	-	-	-	-	-	-	-	-	269
5d.4	Subtotal Period 5d Period-Dependent Costs	-	-	-	-	-	-	171	22	194	186	7	-	-	-	-	-	-	-	-	1,346
5d.0	TOTAL PERIOD 5d COST	-	-	1,444	-	-	8,680	247	1,689	12,060	11,973	87	-	-	-	-	-	1,773	344,823	-	1,346
PERIOD 5e - ISFSI Decontamination																					
Period 5e Direct Decommissioning Activities																					
Period 5e Additional Costs																					
5e.2.1	License Termination ISFSI	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
5e.2	Subtotal Period 5e Additional Costs	-	0	2	17	-	142	1,197	339	1,696	1,696	-	-	-	424	-	-	-	65,754	5,882	1,161
Period 5e Period-Dependent Costs																					
5e.4.1	Insurance	-	-	-	-	-	-	93	23	116	116	-	-	-	-	-	-	-	-	-	-
5e.4.2	Property taxes	-	-	-	-	-	-	56	14	69	69	-	-	-	-	-	-	-	-	-	-
5e.4.3	Plant energy budget	-	-	-	-	-	-	11	3	13	13	-	-	-	-	-	-	-	-	-	-
5e.4.4	Fixed Overhead	-	-	-	-	-	-	54	14	68	68	-	-	-	-	-	-	-	-	-	-
5e.4.5	Railroad Track Maintenance	-	-	-	-	-	-	21	5	26	26	-	-	-	-	-	-	-	-	-	-
5e.4.6	Security Staff Cost	-	-	-	-	-	-	174	43	217	217	-	-	-	-	-	-	-	-	-	2,500
5e.4.7	Utility Staff Cost	-	-	-	-	-	-	129	32	161	161	-	-	-	-	-	-	-	-	-	1,896
5e.4	Subtotal Period 5e Period-Dependent Costs	-	-	-	-	-	-	536	134	670	670	-	-	-	-	-	-	-	-	-	4,399

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Table J-2
Prairie Island SAFSTOR Unit 2
SAFSTOR Decommissioning Cost Estimate with 200 Years of Spent Fuel Storage
(Thousands of 2020 Dollars)

Activity Index	Activity Description	Decon Cost	Removal Cost	Packaging Costs	Transport Costs	Off-Site Processing Costs	LLRW Disposal Costs	Other Costs	Total Contingency	Total Costs	NRC Lic. Term. Costs	Spent Fuel Management Costs	Site Restoration Costs	Processed Volume Cu. Feet	Burial Volumes				Burial / Processed Wt., Lbs.	Craft Manhours	Utility and Contractor Manhours
															Class A Cu. Feet	Class B Cu. Feet	Class C Cu. Feet	GTCC Cu. Feet			
5e.0	TOTAL PERIOD 5e COST	-	0	2	17	-	142	1,733	473	2,367	2,367	-	-	-	424	-	-	-	65,754	5,882	5,556
PERIOD 5f - ISFSI Site Restoration																					
Period 5f Direct Decommissioning Activities																					
Period 5f Additional Costs																					
5f.2.1	Demolition and Site Restoration of ISFSI	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
5f.2	Subtotal Period 5f Additional Costs	-	1,121	-	-	-	-	161	192	1,474	-	-	1,474	-	-	-	-	-	-	4,846	80
Period 5f Collateral Costs																					
5f.3.1	Small tool allowance	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
5f.3	Subtotal Period 5f Collateral Costs	-	7	-	-	-	-	-	1	8	-	-	8	-	-	-	-	-	-	-	-
Period 5f Period-Dependent Costs																					
5f.4.2	Property taxes	-	-	-	-	-	-	28	3	31	-	-	31	-	-	-	-	-	-	-	-
5f.4.3	Heavy equipment rental	-	59	-	-	-	-	-	9	68	-	-	68	-	-	-	-	-	-	-	-
5f.4.4	Plant energy budget	-	-	-	-	-	-	6	1	6	-	-	6	-	-	-	-	-	-	-	-
5f.4.5	Fixed Overhead	-	-	-	-	-	-	28	4	32	-	-	32	-	-	-	-	-	-	-	-
5f.4.6	Railroad Track Maintenance	-	-	-	-	-	-	11	2	12	-	-	12	-	-	-	-	-	-	-	-
5f.4.7	Security Staff Cost	-	-	-	-	-	-	89	13	102	-	-	102	-	-	-	-	-	-	-	1,281
5f.4.8	Utility Staff Cost	-	-	-	-	-	-	55	8	63	-	-	63	-	-	-	-	-	-	-	795
5f.4	Subtotal Period 5f Period-Dependent Costs	-	59	-	-	-	-	216	40	315	-	-	315	-	-	-	-	-	-	-	2,076
5f.0	TOTAL PERIOD 5f COST	-	1,187	-	-	-	-	377	233	1,798	-	-	1,798	-	-	-	-	-	-	4,846	2,156
PERIOD 5 TOTALS		-	40,644	1,525	435	-	11,212	1,266,294	163,866	1,483,976	18,078	1,394,345	71,553	-	9,353	-	-	1,773	1,470,189	178,175	5,525,112
TOTAL COST TO DECOMMISSION		12,610	122,384	21,327	7,312	27,293	47,794	2,404,684	363,115	3,006,518	983,908	1,943,956	78,655	172,234	167,056	125	673	1,773	16,288,180	950,825	11,722,100
TOTAL COST TO DECOMMISSION WITH 13.74% CONTINGENCY:					\$3,006,518 thousands of 2020 dollars																
TOTAL NRC LICENSE TERMINATION COST IS 32.73% OR:					\$983,908 thousands of 2020 dollars																
SPENT FUEL MANAGEMENT COST IS 64.66% OR:					\$1,943,956 thousands of 2020 dollars																
NON-NUCLEAR DEMOLITION COST IS 2.62% OR:					\$78,655 thousands of 2020 dollars																
TOTAL LOW-LEVEL RADIOACTIVE WASTE VOLUME BURIED (EXCLUDING GTCC):					167,854 Cubic Feet																
TOTAL GREATER THAN CLASS C RADWASTE VOLUME GENERATED:					1,773 Cubic Feet																
TOTAL SCRAP METAL REMOVED:					42,406 Tons																
TOTAL CRAFT LABOR REQUIREMENTS:					950,825 Man-hours																

End Notes:
n/a - indicates that this activity not charged as decommissioning expense
a - indicates that this activity performed by decommissioning staff
0 - indicates that this value is less than 0.5 but is non-zero
A cell containing " - " indicates a zero value

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ISFSI DECOMMISSIONING

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Prairie Island Nuclear Generating Plant – Scenarios 1, 2, 5, and 6	K-2
Prairie Island Nuclear Generating Plant – Scenarios 3, 4, 7, and 8	K-3

Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis

Table K-1
Prarie Island Nuclear Generating Plant
Scenarios 1, 2, 5, & 6
ISFSI Decommissioning Cost Estimate
(thousands of 2020 dollars)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (cubic feet)	Craft Manhours	Oversight and Contractor Manhours
Decommissioning Contractor									
Planning (characterization, specs and procedures)	-	-	-	-	189	189	-	-	976
Decontamination (activated disposition)	49	163	870	5,065	-	6,146	18,710	321	-
License Termination (radiological surveys)	-	-	-	-	1,020	1,020	-	7,203	-
Subtotal	49	163	870	5,065	1,209	7,355	18,710	7,524	976
Supporting Costs									
NRC and NRC Contractor Fees and Costs	-	-	-	-	469	469	-	-	1,153
Insurance	-	-	-	-	185	185	-	-	-
Property taxes	-	-	-	-	111	111	-	-	-
Plant energy budget	-	-	-	-	21	21	-	-	-
Fixed Overhead	-	-	-	-	108	108	-	-	-
Railroad Track Maintenance	-	-	-	-	41	41	-	-	-
Security Staff Cost	-	-	-	-	348	348	-	-	4,999
Utility Staff Cost	-	-	-	-	258	258	-	-	3,792
Subtotal	-	-	-	-	1,541	1,541	-	-	9,945
Total (w/o contingency)	49	163	870	5,065	2,751	8,896	18,710	7,524	10,921
Total (w/25% contingency)	61	204	1,087	6,331	3,438	11,121			

The application of contingency (25%) is consistent with the evaluation criteria referenced by the NRC in NUREG-1757 ("Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping, and Timeliness," U.S. NRC's Office of Nuclear Material Safety and Safeguards, NUREG-1757, Vol. 3, Rev. 1, February 2012)

Prairie Island Nuclear Generating Plant
Decommissioning Cost Analysis

Table K-2
Prarie Island Nuclear Generating Plant
Scenarios 3, 4, 7, & 8
ISFSI Decommissioning Cost Estimate
(thousands of 2020 dollars)

Activity Description	Removal Costs	Packaging Costs	Transport Costs	LLRW Disposal Costs	Other Costs	Total Costs	Burial Volume Class A (cubic feet)	Craft Manhours	Oversight and Contractor Manhours
Decommissioning Contractor									
Planning (characterization, specs and procedures)	-	-	-	-	299	299	-	-	1,168
Decontamination (activated disposition)	0	3	33	283	-	320	848	29	-
License Termination (radiological surveys)	-	-	-	-	1,619	1,619	-	11,734	-
Subtotal	0	3	33	283	1,918	2,238	848	11,763	1,168
Supporting Costs									
NRC and NRC Contractor Fees and Costs	-	-	-	-	476	476	-	-	1,153
Insurance	-	-	-	-	185	185	-	-	-
Property taxes	-	-	-	-	111	111	-	-	-
Plant energy budget	-	-	-	-	21	21	-	-	-
Fixed Overhead	-	-	-	-	108	108	-	-	-
Railroad Track Maintenance	-	-	-	-	41	41	-	-	-
Security Staff Cost	-	-	-	-	348	348	-	-	4,999
Utility Staff Cost	-	-	-	-	258	258	-	-	3,792
Subtotal	-	-	-	-	1,549	1,549	-	-	9,945
Total (w/o contingency)	0	3	33	283	3,467	3,787	848	11,763	11,113
Total (w/25% contingency)	0	4	41	354	4,333	4,733			

The application of contingency (25%) is consistent with the evaluation criteria referenced by the NRC in NUREG-1757 ("Consolidated Decommissioning Guidance, Financial Assurance, Recordkeeping, and Timeliness," U.S. NRC's Office of Nuclear Material Safety and Safeguards, NUREG-1757, Vol. 3, Rev. 1, February 2012)