Appendix C. Phase II Process Overview

This Appendix provides an overview of the Phase II process, including the bid solicitation, the bid receipt process, and key steps in the Company's bid evaluation process.

1. Bid Solicitation

a. Resource Acquisition Period

Paragraph 15 of the Settlement Agreement approved by the Phase I Decision,[1] establishes a single resource acquisition period ("RAP") from 2021 through 2030 and the Company will issue a single RFP for purposes of soliciting resources to fill RAP needs. However, the Company agreed in this 2021 Electric Resource Plan and Clean Energy Plan ("2021 ERP & CEP") not to accept bids for and not to acquire resources with in-service dates after December 31, 2028. The final, approved plan in Phase II of this 2021 ERP & CEP may include new, generic resources in 2029 and 2030; however, in any future solicitations after this 2021 ERP & CEP, there shall not be any presumption that any generic resources from this ERP should be acquired. All 2029 and 2030 resource needs identified will be filled through the Pueblo Just Transition Plan solicitation, which will utilize a RAP through end of year 2031 (see also Section 12.0 of the 120-Day Report ("Report") regarding related future filings).

b. Modeling Assumptions Update

In Paragraph 316 of its Phase I Decision, the Commission required that the Company to update its modeling inputs and assumptions prior to commencing the competitive solicitation consistent with past practice. The Company filed its Updated Modeling Inputs and Assumptions on November 29, 2022 ("Modeling Assumptions Update") with updated base case and sensitivity values and methodologies to be used to evaluate bids in Phase II, including gas price assumptions, carbon ("CO2") pricing, capacity credit, and generic resource costs. Additionally, the Modeling Assumptions Update included a new resource need forecast through the RAP based on the updated demand forecast and other changes in demand forecasts and generation resources pursuant to Commission decisions. This updated demand forecast resulted in a resource need of 183 megawatts ("MW") in 2023 and up to a resource need of 1,556 MW in 2028. The Company posted the Modeling Assumptions Update document on its 2022 All-Source Solicitation webpage in advance of issuing the solicitation.[2] Additionally, Section 3 of the Report discusses inputs and assumptions updated after issuance of the Request for Proposals ("RFPs") but prior to the Phase II resource evaluation consistent with Paragraph 316 of the Phase I Decision.

[1] Decision No. C22-0459, at ¶165.
[2] Xcel Energy - PSCo 2022 All-Source RFP

c. Issuance of 2022 All-Source Solicitation Request for Proposals

The Company issued its 2022 All-Source Solicitation on December 1, 2022, with a bid due date of March 1, 2023.[3] The 2022 All-Source Solicitation included three separate RFPs:

- Dispatchable Resources RFP
- Renewable Resources RFP
- Company Ownership RFP

Through the 2022 All-Source Solicitation, the Company sought power supply bids that could be utilized to fill a range of resource capacity acquisitions from 183 MW in 2023 to 1,556 MW in 2028 on an accredited capacity basis. The table below is excerpted from the RFP documents and shows the range of potential resource capacity need by year that was sought through the solicitation:

Table C1 – Resource Capacity Need by Year (Cumulative)

Year	2023	2024	2025	2026	2027	2028	2029	2030
Capacity Need (MW)	183	388	398	433	840	1,556	1,802	1,880

d. Pre-Bid Conference

On December 20, 2022, the Company hosted a Pre-Bid conference at the Company's Denver offices in-person and via webinar to allow potential bidders to ask questions and seek additional information about the Phase II process. The Independent Evaluator ("IE") and representatives from the Leeds School of Business, University of Colorado–Boulder (i.e., the "labor economist") also participated in the Pre-Bid conference. A recording of the meeting and the presentation slides were posted on the 2022 All-Source Solicitation webpage following the conference.

2. Bid Receipt

On March 1, 2023, the Resource Planning group took possession of all electronic bid packages received by the bid due date. All bid proposals were required to be submitted electronically via a secure, confidential file upload application (XpressDRIVE). See also Appendix B, Independent Evaluator Coordination.

a. Overview of Bids Received and 30-Day Report

The 2022 All-Source Solicitation yielded an unprecedented response with 1,073 total proposals (approximately 170 individual projects) received from bidders. Over 900 of these individual proposals are renewable energy proposals or renewable energy with

[3] Company self-build proposals were due by February 28, 2023.

storage proposals.[4] Of the 1,073 proposals, 262 proposals included Company ownership plus an additional 13 bundled proposals that are not included in these totals. Such ownership could include, without limitation: (1) a self-build proposal, (2) a build-own-transfer ("BOT") proposal, (3) a sale of an existing asset, or (4) a joint PPA/Company-ownership proposal.

On March 31, 2023, the Company filed its 30-Day Report pursuant to Rule 3618(b)(I), reporting the number of bids received, breakdowns of bids by technology and nameplate capacity, and the median prices of the bids received (grouped by technology type). Additionally, the Company reported on how many bids claimed Section 123 status. As detailed in the 30-Day Report, the Company received bids across twelve different generation type categories as shown in Table C2 below. Highlights include 36 gas bids, 276 solar bids, 306 winds bids, over 350 renewable energy with storage bids, and over 90 standalone storage bids. Of the total bids received, five claimed Section 123 status.[5]

A variety of ownership structures were proposed by bidders. These structures included Power Purchase Agreements ("PPAs"), Company ownership, and a small number of split-ownership structures whereby the Company would purchase power through a PPA as well as provide some capital or otherwise have some equity stake in the project. Company ownership projects include self-build resources, build-own transfers ("BOTs"), and projects offering the sale of existing assets. Many bidders submitted multiple bids for the same project under different commercial structures and different in-service dates, leading to more bids than projects proposed. Moreover, the locations of the projects bid into the solicitation were spread across Colorado, representing wide geographic diversity.

An excerpt from public Attachment A to the 30-Day Report showing a summary of bid counts by generation technology, MW, and median bid price is provided in Table C2 below. For comparison, the Company received approximately 430 total bids in the 2017 All-Source Solicitation as part of the 2016 ERP.

[4] For comparison, the Company received approximately 430 total proposals (238 individual projects) in the 2017 All-Source Solicitation as part of the 2016 ERP and 55 bids in the 2013 All-Source Solicitation as part of the 2011 ERP.
[5] See Highly Confidential Attachment B to the 30-Day Report filed on March 31, 2023.

Table C2 – Solicitation Responses by Generation Technology

Company Ownership RFP Bids

Generation Technology	# of Bids*	Bid MW**	Median Bid Price ($/kW Installed)
Gas	25	10,397	$965
Biomass	1	19	small sample
Solar	66	19,493	$1,635
Solar/Storage	61	28,712	$1,628
Storage	11	2,065	$1,627
Wind	96	36,206	$1,822
Wind/Solar	2	601	small sample

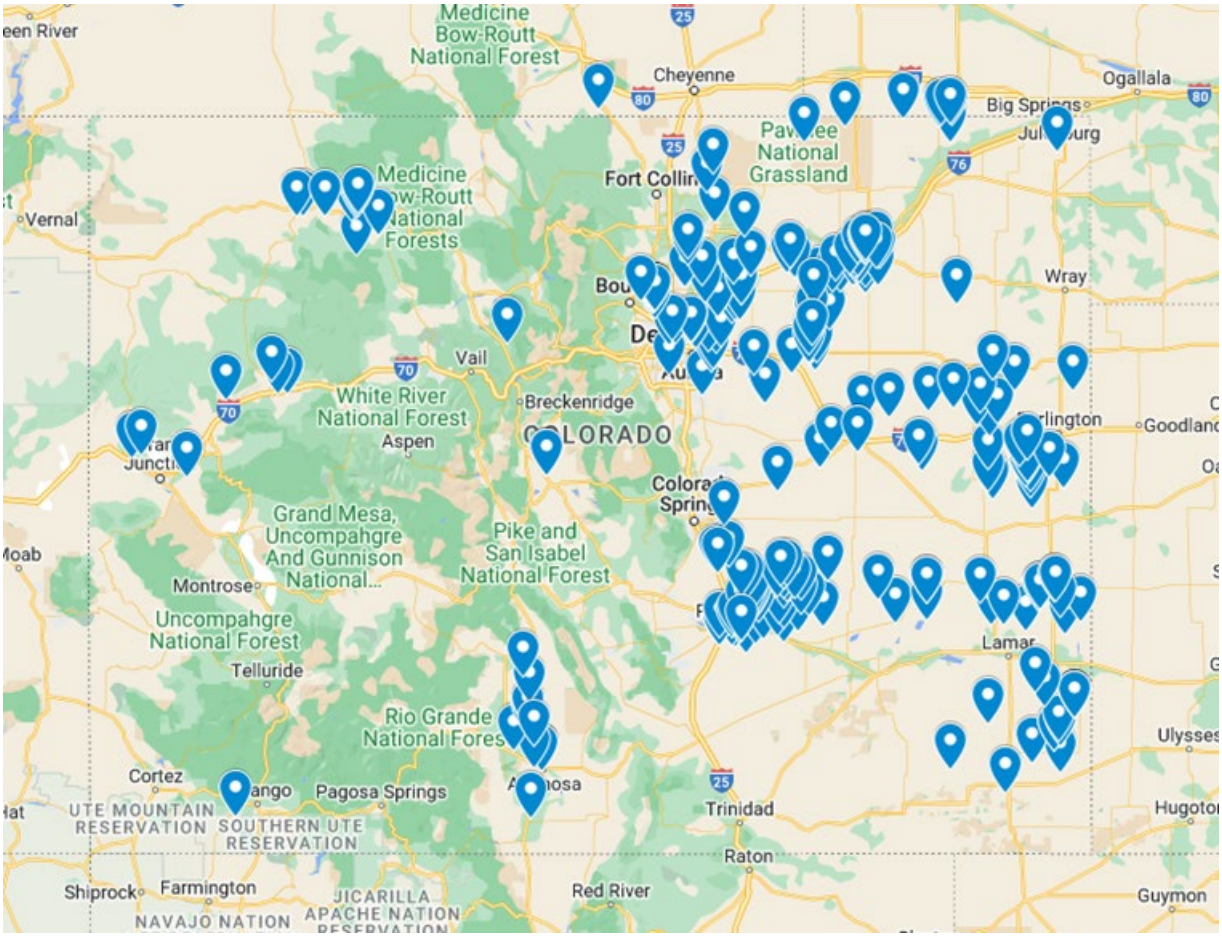
Renewable and Dispatchable RFP Bids

Generation Technology	# of Bids*	Bid MW**	Median Bid Price ($/MWh levelized)	Median Bid Price ($/kW-mo levelized)
Gas	13	3,347	-	$10.65
Other***	3	163	small sample	small sample
Solar	210	55,212	$32.73	-
Solar/Storage	223	110,119	$39.89	$ 9.69
Storage	80	14,833	-	$12.14
Wind	210	84,533	$21.99	-
Wind/Solar	10	15,801	$28.67	-
Wind/Solar/Storage	40	19,703	$38.20	$6.94
Wind/Storage	6	3,156	$19.62	$12.61

* # of Bids reflects number of proposals, the unique projects are less than this value
** Bid MW column provides total MW bid across all proposals, the MWs of unique projects are less than this value
*** Includes biomass and compressed air storage.

Figure C1 below shows the general geographic diversity of bids received.

Figure C1 – Geographic Diversity of Bids Received



C. Bid Evaluation Process

The Company evaluated bids in accordance with the multi-step evaluation process detailed in Section 5 of the RFP documents. The multi-step process includes:

- Step 1 – Bid Eligibility Screening
- Step 2 – Interconnection Assessment and Initial Economic Evaluation
- Step 3 – Non-Price Factor Analysis
- Step 4 – Bidder Notification
- Step 5 – Computer-Based Modeling of Bid Portfolios
- Step 6 – Evaluation of Bids Between 100 kW and 10 MW
- Step 7 – Phase II Report to the Colorado Public Utilities Commission

1. Bid Eligibility Screening

The Company, in partnership with the IE, reviewed each bid to determine whether it satisfied the minimum requirements for eligibility as outlined in Section 2 (Eligible Project Information), Section 4.2 (Minimum Requirements for Proposals), Section 4.3 (Proposal Content Requirements), and Section 4.6 (Proposal Submission Deadline) of the RFPs.

In general, bids were deemed ineligible due to insufficient best value employment metrics ("BVEM") information, in-service dates being outside the RAP, incorrect bid fee payment, or incomplete or missing bid forms or narratives. As discussed further in Section 9.0 of the Report, bids that did not provide sufficient BVEM information as part of their bid package were disqualified; however, bidders were allowed to supplement any deficiencies in BVEM data and to provide an explanation if they cannot provide quantitative data in their bid packages. Bids deemed ineligible for BVEM, or other deficiencies, were given 5 business days to supplement or rectify their materials. Any disqualified bids were reviewed with the IE prior to informing the bidder of the Company's decision.

2. Interconnection Assessment and Initial Economic Evaluation

Following the bid eligibility determination, the Company screened the eligible bids based on an initial economic evaluation. Dispatchable generation bids, including gas-fired generators and standalone storage, were evaluated on a levelized capacity cost basis (LCC, in $/kW-mo). Non-dispatchable generation bids, including wind, solar, and biomass, were evaluated on a levelized energy cost basis (LEC, in $/MWh). Renewable resources with a storage component were also evaluated on an LEC basis. Where the bid proposed separate payment rates for energy generated (on $/MWh terms) and for the storage component (on $/kW-mo terms), the Company converted the forecasted expenditures to an LEC.

The Company's Transmission Access group reviewed the reasonableness of the bidder-provided interconnection cost estimates and upgrade schedules using publicly available generator interconnection study information and adjusted the costs as necessary. When cost discrepancies or other issues arose, the Company sought clarification from bidders.

3. Non-Price Factor Analysis

In the next step of the bid evaluation process, multi-disciplinary due diligence teams reviewed the bids to assess project feasibility and identify any fatal flaws.

For each bid, the due diligence team summarized bid risk and issued an overall review noting any flaws. If the teams needed clarification or additional information from the bidders, questions were asked of bidders through the designated email communications protocol described in Appendix B, Independent Evaluator Coordination and in the RFP documents.

The Company assessed the following non-price factors:

- Financial strength of the respondent;
- Financing plan, including ability to utilize tax advantages;
- Development, construction, and operation experience;
- Generator technology, availability, and warranties;
- Environmental permitting and compliance;
- Land use permitting and zoning;
- Other permitting;
- Real property acquisition/site control progress and plan;
- Project operational characteristics;
- Scale of the project and whether it meets the Commission definition of an Eligible Energy Resource;
- Community support for the project;
- Transmission access plan feasibility and arrangements;
- Transmission upgrade schedule assessment;
- Construction and equipment supply plans and arrangements;
- BVEM information; and
- Project execution planning.

4. Bidder Notification of Advancement to Computer Modeling

Of the 1,073 total submitted bids, 382 bids (approximately 157 distinct projects) were advanced to computer-based modeling.

Prior to advancing bids to computer-based modeling, the Company and the IE discussed the proposed criteria for advancing bids and how the Company planned to conduct the 45-day bidder notification pursuant to Rule 3613(a). The Company and the IE jointly reviewed each bid proposed to move forward to computer-based modeling and received concurrence from the IE regarding this decision. Similarly, the Company jointly worked with the IE and received concurrence on those bids that were not proposed to be advanced to computer-based modeling. Bids were advanced based on a comprehensive set of factors, including size, technology, ownership structure, asset class, price/economics, geographic location, transmission interconnection, and the results of Non-Price Factor Analysis. Additionally, as discussed in its 30-Day Report Update filed on March 31, 2023, the Company advanced all bidder-claimed Section 123 resources to computer-based modeling. Of the 1,073 individual project bids received, 6 projects claimed Section 123 status; however, only 5 of these met the criteria established by Paragraph 501 of the Commission's Phase I Decision. All bids claiming Section 123 status were advanced to computer-based modeling. (See Section 7.0 of the Report for additional Section 123 bid information). Lastly, in accordance with Paragraph 356 of the Phase I Decision, all bids submitted by the Company were advanced to computer modeling.

On May 1, 2023, the Company provided email notice to the owner or developer of each bid stating whether the bid was being advanced to computer-based modeling, and, if not

advanced, the reasons supporting this decision.[6] Through this notification process, bidders were informed that: (1) bids not advanced would be set aside and not considered further; and (2) a bid being advanced to computer-based modeling did not in any way guarantee or otherwise represent that the bid would be included in any portfolio presented for Commission consideration in the Company's 120-Day Report. This notification process was fully coordinated with the IE.

Highly Confidential Appendix P to the 120-Day Report provides a complete list of all bids advanced to computer-based modeling.

5. Portfolio Development Process

The initial economic evaluation phase resulted in the advancement of 382 bids to computer-based modeling. That evaluation was performed on a static basis, considering only the costs of *individual* bids, and as a result was limited in application to comparing the costs of bids with similar technology (i.e. wind versus wind, CTs versus CTs). This initial evaluation was necessary to identify and focus the modeling process on the most competitive bids. However, in order to understand both the costs and benefits that bids can provide to the Public Service power supply system it is necessary to use computer-based modeling. Computer modeling captures these system costs and benefits not only for individual bids but more importantly for combinations of bids (i.e., bid portfolios) over the full operating lives of the bid facilities and allows an assessment of how these costs/benefits change when different future assumptions for key inputs such as gas prices or CO2 costs are applied (sensitivity analyses).

Portfolio Development Framework

As approved by the Commission in Paragraph 329 of Decision No. C22-0459, Attachment 1 of the Settlement Agreement established the portfolio and sensitivity framework for Phase II. Section 3 and Section 4 of the Report detail the development and results of these portfolios and sensitivities as discussed further in Section 3 and Section 4 of the Report.

Computer Modeling

Section 3 of the Report covers the processes of the computer modeling in detail, including the challenges experienced in the modeling process and associated modifications made, application of the best-in-class testing, and the reliability rubric. At a high level, the modeling team first conducted the best-in-class testing to determine the top bids to further analyze. The modeling team then proceeded through portfolio development and reliability testing of the resultant portfolios. Portfolios that did not meet the reliability criteria with the initial iteration (every portfolio developed did not meet this criteria) were modified according to the rubric to arrive at a final reliable portfolio.

[6] Notification to bidders of bid eligibility was provided on May 1, 2023 pursuant to Decision No. C23-0246-I, which extended the 45-day notification timeframe under Rule 3613(a) by an additional 15 days due to the volume of bids received.

6. Evaluation of Bids Between 100 kW and 10 MW

No bids were received that met the criteria outlined in Volume 2, Technical Appendix, of the Company's Phase I Direct Case filing for requiring the special analysis techniques applicable to small bids (i.e., less than 10 MW). Thus, this step proved unnecessary and was not conducted.

7. 120-Day Report

Upon completion of the modeling and review of the results by the IE, the Company prepared the 120-Day Report to present its Preferred Plan and bid evaluation analysis as well as other requirements set forth in the Phase I Decision and other Commission directives. In accordance with Commission Decision No. C23-0594-I, the Company filed its 120-Day Report on September 18, 2023.