

SUMMARY OF HAYDEN 1 AND 2 SELECTIVE CATALYTIC REDUCTION (“SCR”) PROJECT

Project Overview:

The Hayden 1 and 2 Project (“Project”) involved installing emissions control equipment (Selective Catalytic Reduction or “SCR” units) on Hayden 1 and 2, to comply with the Clean Air – Clean Jobs Act (“CACJA”). The SCR units will reduce the units’ nitrogen oxide (“NO_x”) emissions. Public Service Company of Colorado (“Company”) operates the plant on its behalf and on behalf of two other co-owners (PacificCorp and Tri-State) as part of the Yampa Project. The Company incurs a portion of the capital and operation and maintenance (“O&M”) costs at the plant, commensurate with our ownership percentage; 75.5 percent ownership of Hayden 1 and 37.4 percent ownership of Hayden 2.

The Hayden 1 SCR was placed in service in October 2015. The Hayden 2 SCR was placed in service July 29, 2016.

Project Scope:

The project primarily involved the installation of new SCRs on Hayden Units 1 and 2. The Company also installed an anhydrous ammonia storage and forwarding system to supply both SCRs. In addition, the Unit 1 Induced Draft Fan (“ID Fan”) motors were replaced, and the Unit 2 ID Fan rotors and motors were replaced.

Project Description:

New SCR units, along with a common anhydrous ammonia storage and injection system, were installed on Hayden Units 1 and 2. The SCR units were designed and supplied by Hitachi. The ammonia system was provided by Wahlco under a subcontract to Hitachi. The ammonia system consists of storage tanks, pumps and vaporizers. The vaporized ammonia is injected upstream of the SCR catalyst, where the ammonia mixes with the flue gas. As the flue gas and ammonia mixture flows through the catalyst, a chemical reaction takes place that converts the ammonia and the flue gas NO_x to nitrogen, water and carbon dioxide.

New motors, fabricated and supplied by Teco-Westinghouse, were installed on the Unit 1 ID Fans to overcome the increased pressure drop associated with the new SCR. New motors and new fan rotors, supplied by Howden Variax, were installed on the Hayden Unit 2 ID Fans due to the increased pressure drop of the new SCR. Sargent & Lundy Design provided services for plant system modifications. Construction was being performed by The Industrial Company (“TIC”). System startup was performed by the Company with support from Hitachi and TIC.

Key Changes Since the CPCN Filing (Proceeding No. 11A-917E):

The original scope of work provided in the CPCN proceeding assumed complete replacement of the ID Fans on both Units and modifications to the plant electrical system to support larger ID Fan motors. A subsequent engineering analysis determined

that the ID Fans could be modified instead of being completely replaced. Further analysis of the plant electrical system determined that only minor modifications were required to support the larger ID Fan motors.

As part of the safety analysis of the ammonia system, it was determined that a new emergency access road would be required for use by emergency service agencies in the event of an ammonia leak. This road was not included in the original project estimate or scope of work.

The Company's share of the Hayden 1 cost estimate, which is 75.5 percent of the total costs, has been reduced from \$56.5 million to \$45.1 million as a result of lower direct project costs, lower costs associated with modification of existing systems, and lower-than-estimated contingency costs. These lower costs are partially offset by higher-than-estimated construction costs (e.g., the new emergency access road referenced above).

The Company's share of the Hayden 2 cost estimate, which is 37.4 percent of the total cost, has been reduced from \$33.9 million to \$25.0 million as a result of lower equipment costs, lower direct project costs, and lower contingency costs. These lower costs are partially offset by higher-than-estimated construction costs (e.g., the new emergency access road referenced above).

2019 Activities – Overall Status Update:

The Hayden 1 SCR was placed in service in October 2015 and completed July 2016. The equipment is performing as designed, and the plant is meeting air permit emission limits.

There were no capital expenditures in 2019 through September 30, 2019.

The Hayden 2 SCR was placed in service July 29, 2016 and completed April 2017. Similar to Hayden 1, the contractors needed to achieve substantial completion for final payment; therefore there were capital expenditures after the in-service date. The equipment is performing as designed, and the plant is meeting air permit emission limits. There were no capital expenditures in 2018.

As stated previously, the final cost of the Company's share of the project is \$45.1 million for Unit 1 and \$25.0 million for Unit 2.

A detailed comparison of the spending to date, current projections of total capital expenditures, and the projected total expenditures provided in the CPCN proceeding is included as Attachment 1 to this Exhibit.

Overall 2020 Financial Information:

The 2020 estimated revenue requirement and the overall 2020 financial information for Hayden 1 and 2 is included in Exhibit 3, “Clean Air-Clean Jobs Act (“CACJA”) Overall Project Summary”, in Table 1.

Specific 2020 Project Activities:

The Project has been completed and there are no additional capital expenditures anticipated.

2020 Variable Non-Fuel O&M:

See Exhibit 7, “Summary of Variable Non-Fuel Operation and Maintenance (“O&M”) Costs” for the variable non-fuel O&M expenses for Hayden 1 and 2.

Timeline:

Hayden 1 was completed and was placed in service October 2015.

Hayden 2 was completed and was placed in service July 2016.