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IDAHO PUBLIC
UTILITIES COMMISSION

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE	)	
APPLICATION OF ROCKY	)	**CASE NO. PAC-E-10-07**
MOUNTAIN POWER FOR	)	
APPROVAL OF CHANGES TO ITS	)	**Direct Testimony of Chad A. Teply**
ELECTRIC SERVICE SCHEDULES	)	
AND A PRICE INCREASE OF $27.7	)	
MILLION, OR APPROXIMATELY	)	
13.7 PERCENT	)	

ROCKY MOUNTAIN POWER

CASE NO. PAC-E-10-07

May 2010

Q. Please state your name, business address and position with PacifiCorp ("Company").

A. My name is Chad A. Teply. My business address is 1407 West North Temple, Suite 210, Salt Lake City, Utah. My present position is Vice President of Resource Development and Construction for PacifiCorp Energy. I report to the President of PacifiCorp Energy. Both Rocky Mountain Power and PacifiCorp Energy are divisions of PacifiCorp.

Qualifications

Q. Please describe your education and business experience.

A. I have a Bachelor of Science Degree in Mechanical Engineering from South Dakota State University. I am a Registered Professional Engineer in the state of Iowa. I joined MidAmerican Energy Company in November 1999 and held positions of increasing responsibility within the generation organization, including the role of project manager for the 790-megawatt Walter Scott Energy Center Unit 4 completed in June 2007. In April 2008, I moved to Northern Natural Gas Company as senior director of engineering. In February 2009, I joined the PacifiCorp team as Vice President of Resource Development and Construction, at PacifiCorp Energy. In my current role, I have responsibility for development and execution of major resource additions and major environmental projects.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to provide the Commission and parties with information supporting the prudence of pollution control equipment and additional generation plant capital investments being placed in service during the test period.

Background

Q. Please provide a general description of desired outcomes from the pollution control equipment and generation plant capital investments being placed in service.

A. The pollution control equipment investments contemplated in this case primarily result in the reduction of sulfur dioxide ("SO_2"), nitrogen oxides ("NO_X"), and particulate matter ("PM") emissions from the retrofitted facilities. The turbine upgrade investments are intended to enhance the Company's overall generation capability and cycle efficiency for the large thermal units being provided with this equipment. The repair and replacement capital investments are intended to support generation asset reliability via reduced risk of equipment/component failures.

Description of Pollution Control Investments

Q. Please describe the Dave Johnston Unit 3 pollution control project and associated equipment.

A. The pollution control project at the Dave Johnston Unit 3 power plant is being completed in conjunction with the Dave Johnston Unit 4 pollution control project that will be placed in service in 2012. The Dave Johnston Unit 3 pollution control project will upgrade and improve the unit's PM controls and install SO_2 controls. The capital expenditure for the project during the test period is $300 million. Construction began in 2008, and the project will be operational by May 31, 2010.

The new pollution control equipment is being tied into the existing unit during a scheduled plant maintenance outage. The project will install a dry flue gas desulfurization ("DFGD") system with fabric filter. A DFGD system injects lime slurry in the top of an absorber vessel (scrubber) with a rapidly rotating atomizer wheel. The rapid rotation of the atomizer wheel causes the lime slurry to separate into very fine droplets that intermix with the flue gas. The SO_2 in the flue gas reacts with the calcium in the lime slurry to form calcium sulfate in the form of dry PM. The dry PM is then captured in the downstream baghouse along with fly ash from the boiler. The DFGD system will produce a nonhazardous dry waste product suitable for landfill disposal. Other equipment to be installed as part of the project includes induced draft fans, boiler reinforcement, new ductwork, lime slurry reagent preparation systems, waste material handling systems, electrical infrastructure, controls, and other miscellaneous appurtenances and support systems.

Q. Will the Dave Johnston Unit 4 pollution control project also be placed in service during the test period contemplated in this case?

A. No. The Dave Johnston Unit 4 pollution control project, which is being constructed concurrently with the Dave Johnston Unit 3 pollution control project, will be placed in service during the next planned major maintenance outage for that unit. The planned major maintenance outages for the Company's generation assets are scheduled on a control area basis, considering optimal frequency between overhauls and to minimize the number of major units off line at any one time. The Company's Dave Johnston Unit 4 completed its most recent overhaul in 2009 and is scheduled for its next overhaul in the spring of 2012. The Company's intent in establishing the tie-in schedules for the Dave Johnston Unit 3 and Dave Johnston Unit 4 pollution control equipment was to balance the aggregated construction costs and schedules for the pollution control equipment projects against the established planned maintenance overhaul schedules, work plans, and budgets for the respective units.

Q. Are costs specific to Dave Johnston Unit 4 pollution control equipment included in this case?

A. No. Costs contemplated in this case include only those costs that are specific to Dave Johnston Unit 3 as well as the cost of all common facilities that are required to be placed in service to allow prudent operation of either unit's new emission control system. Common facilities include reagent preparation, waste disposal, electrical supply, and ancillary utility systems, as well as site preparation and the chimney. In the event one of the subject units is retired in the future, these common facilities would not be retired since they must remain in service for the remaining unit to operate.

Q. Please describe the emissions improvements that will be achieved with the Dave Johnston Unit 3 pollution control project.

A. The Dave Johnston Unit 3 DFGD system and baghouse will reduce SO_2 emissions from the unit by approximately 90 percent, or approximately 6,600 tons per year. In addition to reducing SO_2 emissions, the baghouse will reduce the emissions of PM. The PM emission limit will be reduced from 0.20 pounds per million British Thermal Units to 0.015 pounds per million British Thermal Units.

Q. Please describe the other major pollution control projects and associated equipment contemplated in this case.

A. The other major pollution control projects undertaken by PacifiCorp in 2010 include: (1) the Huntington Unit 1 electrostatic precipitator to baghouse conversion project; (2) the Huntington Unit 1 scrubber upgrade project; (3) the Huntington Unit 1 low NO_X burners installation project; (4) the Dave Johnston Unit 3 low NO_X burners installation project; (5) the Jim Bridger Unit 1 scrubber upgrade project; and (6) the Jim Bridger Unit 1 low NO_X burners installation project. The Huntington baghouse installation project will replace the existing electrostatic precipitator with a fabric filter to capture dry PM from the flue gas stream. The scope of work for this project also includes converting the existing stack to wet operation to enable the scrubber bypass dampers to be removed. The Huntington Unit 1 scrubber upgrade will allow treatment of all the flue gas from the unit. The project will also provide new waste handling equipment to manage the increase in waste product from the higher removal efficiency of the scrubber. The Jim Bridger Unit 1 scrubber upgrade will replace internal scrubber parts (trays, piping and nozzles). This work will improve SO_2 removal efficiency while enabling the bypass dampers to bypass less flue gas. The low NO_X burners projects referenced above will install new burners that utilize improved combustion characteristics and a separated over-fire air supply to the boiler to reduce NO_X emissions.

Q. Do Huntington Unit 1 and Jim Bridger Unit 1 currently have scrubbers?

A. Yes. The scrubber upgrade projects primarily include the upgrade and replacement of existing pumps, spray headers, trays, and ancillary equipment to improve the control of SO_2 emissions from the affected units.

Q. Please describe the emissions improvements that will be achieved with the pollution control projects described above.

A. The pollution control equipment investments described above support the Company's ongoing commitment to reduce SO_2 emissions from its generation fleet by approximately 50 percent compared to 2005 levels. In addition to reducing SO_2 emissions, the projects support the Company's ongoing commitment to reduce NO_X emissions from its generation fleet by approximately 40 percent compared to 2005 levels.

Q. Have the costs of the projects been prudently managed?

A. Yes. The scrubber and baghouse projects have been contracted under lump-sum turnkey engineer, procure and construct (EPC) contract terms which resulted from competitive bidding processes. The burner replacement projects have been contracted under multiple lump-sum contracts which resulted from competitive bidding processes. PacifiCorp management continues to provide oversight of the projects and closely manages any project execution plan changes or potential contract scope changes.

Q. Are there additional operating costs that will be incurred as a result of the installation of the pollution control equipment?

A. Yes. Operation of the new pollution control equipment will result in increased operation and maintenance costs of $1.5 million associated with reagent, waste disposal, and equipment maintenance. These costs are summarized on page 4.6 in

Exhibit 2 of Mr. Steven McDougal's Direct Testimony.

Q. How are the pollution control investment costs and associated operating costs being treated in the revenue requirement?

A. The costs for the pollution control equipment have been included in this case as explained in the revenue requirement testimony of Mr. McDougal.

Justification of Pollution Control Investments

Q. What is the basis for these investments?

A. These investments were identified as part of the Company's response to environmental regulations that govern the plants' operations. Through the 1977 amendments to the Clean Air Act, Congress set a national goal for visibility to remedy impairment from manmade emissions in designated national parks and wilderness areas; this goal resulted in development of the Regional Haze Rules, adopted in 2005 by the Environmental Protection Agency. The first phase of these rules trigger Best Available Retrofit Technology ("BART") reviews for all coal-fired generation facilities built between 1962 and 1977 that emit at least 250 tons of visibility-impairing pollution per year. The units provided with the pollution control equipment investments discussed above are subject to BART reviews. BART reviews of the units have been completed and submitted to the respective state departments of environmental quality for final disposition.

The respective state departments of environmental quality for the units have incorporated the results of the above mentioned BART analyses into the construction permits and approval orders for the pollution control equipment contemplated by this case.

With respect to the Dave Johnston Unit 3 and Jim Bridger Unit 1 projects, the Wyoming Department of Environmental Quality ("WY DEQ") issued BART permits for those units on December 31, 2009, incorporating the equipment and installation schedules recommended via the BART review and contemplated in this case. The conditions of the BART permits will be incorporated into the Wyoming State Implementation Plan ("SIP") for Regional Haze in support of its goals to reduce visibility impairing emissions. The Wyoming SIP is subject to U.S. Environmental Protection Agency ("EPA") review and approval. The WY DEQ has also issued construction permits for the Dave Johnston Unit 3 and Jim Bridger Unit 1 environmental improvement projects.

With respect to the Huntington Unit 1 project, the Utah Department of Environmental Quality has incorporated the results of a BART review completed for that facility into the Utah SIP. The Utah SIP is subject to EPA review and approval. The state of Utah has also issued an Approval Order (i.e. a permit to construct) for the Huntington Unit 1 environmental improvement project.

In addition to the BART requirements, increasingly more stringent National Ambient Air Quality Standards have been and are being adopted for criteria pollutants, including SO_2, nitrogen dioxide, ozone and PM. Implementation of these projects assists in avoiding nonattainment of these standards. The environmental compliance activities discussed above form the basis for these investments.

Q. What factors does the Company consider when determining which capital investments to make in environmental equipment retrofit projects?

A. The Company takes several factors into consideration when making pollution control equipment investments including: evaluation of state and federal environmental regulatory requirements and associated compliance deadlines; review of emerging environmental regulations and rulemaking; and analyses of alternate compliance options. As part of the BART review of each facility, the Company evaluated several technologies on their ability to economically achieve compliance and support an integrated approach to control criteria pollutants (e.g. SO_2, NO_X, and PM for the facility), if it were to continue to operate and to burn coal. The BART analyses reviewed available retrofit emission control technologies and their associated performance and cost metrics. Each of the technologies was reviewed against its ability to meet a presumptive BART emission limit based on technology and fuel characteristics. The BART analyses outlined the available emission control technologies, the cost for each and the projected improvement in visibility which can be expected by the installation of the respective technology. Once the preferred BART technology was identified, the Company moved forward with its competitive bidding process to evaluate and ultimately select the preferred provider for the projects.

Q. Would the Company's decision to make this incremental investment in environmental controls at these units change if limitations were placed on carbon dioxide emissions, such as in the Waxman-Markey bill in the U.S. House of Representatives or the Kerry-Lieberman bill in the U.S. Senate?

A. No. The Company is currently engaged in assessing its existing generation resources, its planned supply and demand-side resources and its 10-year capital budget regarding the impact of carbon dioxide emissions restrictions. While planned investments in other units may change, the Company's plans regarding these investments would not change due to carbon-emission restrictions. The units have depreciation lives for ratemaking purposes that provide sufficient remaining time to depreciate the investments in the pollution controls.

Timing of Investment

Q. Why is PacifiCorp installing pollution control equipment at this time?

A. As discussed above, the Company is installing the pollution control equipment at this time primarily to ensure compliance with Regional Haze Rules, but also in response to a more stringent National Ambient Air Quality Standards and a variety of existing and emerging emission reduction requirements. Final installation activities and tie-in of the pollution control equipment described above can only be accomplished when the units are off-line. Meeting the timing requirements of construction permits/approval orders and reducing plant outage time necessitated completion of final installation activities and tie-in of the pollution control equipment during the scheduled overhauls within this test period. Installation of the pollution control equipment and associated systems contemplated in this case represent a significant step for PacifiCorp's coal-fueled power plant fleet toward meeting the SO_2 and NO_X reductions required by the Regional Haze Rules and established by the respective states' emissions reduction milestones.

Customer Considerations

Q. What are the benefits to customers of installing the pollution control equipment and why should Rocky Mountain Power's customers pay the costs related to this project?

A. Customers directly benefit from the continued availability of low-cost generation produced at the facilities while also achieving environmental improvements from these resources, resulting in cleaner air. In addition, the tie-in of these necessary controls is being accomplished during planned maintenance outages, as opposed to scheduling separate outages for this work, which reduces replacement power costs. The Company has ten BART-eligible units in Wyoming and four in Utah. The BART controls for each of these units must be installed as expeditiously as possible, but no later than five years from the date the respective SIPs are approved and prior to the compliance dates specified in the permits Postponing installation on these units to later planned maintenance outages would make it virtually impossible for the Company to effectively ensure that all of its affected units meet compliance deadlines and would place the Company at risk of not having access to necessary capital, materials, and labor while attempting to perform these major equipment installations in a compressed timeframe.

Description of Turbine Upgrade Investments

Q. Please describe the turbine upgrade projects.

A. The Company has three turbine upgrade projects totaling approximately $129 million that will be completed during the test period. The projects include: (1) the Hunter Unit 1 high pressure (HP)/intermediate pressure (IP)/low pressure (LP) turbine sections replacement; (2) the Huntington Unit 1 HP/IP/LP turbine sections replacement; and (3) the Jim Bridger Unit 1 HP/IP turbine sections replacement. The revenue requirement impact of this investment has been included in Exhibit No. 2 of Mr. McDougal's Direct Testimony and the investment is summarized on page 8.6.2 of such exhibit.

Q. Please describe the efficiency improvements that will be achieved with the turbine upgrade projects described above.

A. The Company expects the Hunter Unit 1 turbine upgrade to allow more efficient turbine performance without increasing emissions, such that an additional 15 megawatts of capacity can to be generated by the unit. The same principles apply to the Huntington Unit 1 turbine upgrade and Jim Bridger Unit 1 turbine upgrades, which are expected to provide efficiency improvements, without increasing emissions, resulting in an additional 18 megawatts and an additional four megawatts, respectively, of capacity to be generated by the units. Dr. Hui Shu has annualized the incremental changes to these three units in her net power cost analysis in her Direct Testimony.

Justification of Turbine Upgrade Investments

Q. What is the basis for these investments?

A. As part of the Company's efforts to meet the growing demand for generation, and given the advancing technological improvements in steam turbine design and manufacturing, the Company has initiated a turbine upgrade initiative. This turbine upgrade initiative is intended to further enhance PacifiCorp's overall generation capability and cycle efficiency for the large thermal units being provided with this equipment.

Q. What other generation plant capital investments are included in this application?

A. Repair and replacement investments are the remaining projects contemplated in this case. The projects fall within four major categories: (1) boiler section replacements; (2) controls upgrades; (3) generator rewind; and (4) other.

Q. How will customers benefit from these capital expenditures?

A. These capital expenditures enable the Company to maintain overall reliability of the aging fleet. The Company's plants produce energy at costs lower than market prices, enabling the Company to serve its customers at some of the lowest retail electricity prices in the United States. Investment in the Company's existing generating units increases the probability of continued safe and reliable operation of these low-cost resources.

Conclusion

Q. Please summarize your testimony.

A. Investment in pollution control equipment is required to meet the Regional Haze

Rules enacted in 2005 by the EPA, and the resulting BART reviews and permitting process. The Company's decision to install this pollution control equipment would not change due to the enactment of carbon dioxide emission reduction legislation. The investment allows for the continued operation of low-cost coal-fired generation facilities while achieving significant environmental improvements to air quality and regional haze issues.

Also, the Company is making other prudent capital expenditures in its existing generation fleet that will benefit customers by maintaining safe, reliable, efficient, cost-effective generating resources. The investments during the test period are reasonable and prudent, and the Company should be granted full cost recovery for these investments.

Q. Does this conclude your direct testimony?

A. Yes.