I. Joint Exhibit 1 - THE BIG STONE AIR QUALITY CONTROL SYSTEM PROJECT

A. Big Stone Plant Description

The Big Stone Plant ("Big Stone" or "Plant") is located in Grant County, South Dakota, 2.5 miles northwest of Big Stone City, South Dakota, which is near the Minnesota/South Dakota border. Big Stone is rated at 495 MW gross and 475 MW net electrical output. The Plant has three owners; Otter Tail Power Company ("OTP") owns 53.9 percent of the Plant, NorthWestern Energy owns 23.4 percent, and Montana-Dakota Utilities Co. ("Montana-Dakota") owns 22.7 percent. The Co-Owners, as investor owned utilities, use the Plant to provide electricity to customers in their South Dakota, North Dakota, Montana and Minnesota service areas. Montana-Dakota and OTP serve North Dakota load. The Plant was built in the early 1970s and began commercial operation on May 1, 1975. Montana-Dakota and OTP request in their Applications that the Commission find prudent Montana-Dakota's and OTP's participation in the AQCS Project. In terms of the joint plant ownership agreement, approval of two of the three owners is needed to decide on whether to proceed with the AQCS Project or any other course of action.

The Plant was constructed and operates as a baseload facility with load following capabilities. Load following is the ability for the unit to adjust its output between full load and partial load to meet the demands of the system.[1] The Plant is a cornerstone generation source for all three companies, comprising the largest baseload resource for each of the Co-Owners. The Plant also provides electricity, steam and water to the adjacent POET Biorefining Ethanol Plant.

The Big Stone Plant has a single generating unit. Its cyclone boiler was originally designed by Babcock & Wilcox to burn lignite fuel. The boiler is a Carolina-type balanced draft pump-assisted radiant unit. The unit was originally constructed with a Westinghouse steam turbine and generator. Through the years, due to maintenance problems and efficiency improvement, certain steam components have been replaced. The generator stator and rotor have been rewound, and the generator shaft was replaced in 1987 due to failure of the original rotor.

The Plant now receives its fuel from Wyoming, transported by the BNSF Railway Company. The Big Stone Plant burns low sulfur PRB fuel to limit sulfur dioxide emissions, but it is not currently equipped with a flue gas desulfurization system for control of sulfur dioxide emissions, commonly referred to as a scrubber. Particulate emissions are controlled by a baghouse, and an over fire air system provides nitrogen oxide control.

The Plant is a zero-liquid discharge facility, meaning that no process water used in Plant operations leaves the site other than through evaporation. Big Stone Lake is the water source for the Plant. Water can only be taken from the lake when lake levels are at or above levels prescribed in water appropriations permits issued by the South Dakota Department of Environment and Natural Resources (South Dakota DENR). The water is stored in a cooling

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1 For example, during certain times of the year the Plant's output will be low at night, as demand is low. The Plant will then increase output in the morning as the system load increases. Late in the evening the Plant will decrease its output as load decreases.

pond for use in the condenser for cooling. The Plant also has an evaporation pond and holding pond for maintaining water quality as well as a brine concentrator used to control water chemistry in the cooling pond.

The Big Stone Plant has a dry on-site ash disposal area permitted by the South Dakota DENR.

B. Requirement to Implement the Big Stone AQCS Project

The federal Clean Air Act established a national goal of remedying any existing and preventing any future impairment of visibility from man-made air pollution in specified "Class I" areas of the United States.[2] EPA promulgated the Regional Haze Rule ("RHR") in 1999 to address visibility impairment in these areas, and in 2005 published a revised rule that provided guidelines for control technology determinations under the RHR.[3] State environmental agencies like the South Dakota DENR and the North Dakota Department of Health (DOH) are required to submit State Implementation Plans ("SIPs") to EPA that develop and implement their strategy to reduce existing emissions that may contribute to regional haze, and to set additional reasonable progress goals toward meeting the goal of no man-made visibility impairment in Class I areas by 2064.[4]

Of the multiple CAA requirements for state regional haze programs, among the most significant requirements is the requirement to procure, install and operate Best Available Retrofit Technology ("BART") on major air emission sources, including existing electric generating units, that were placed into operation between 1962 and 1977.[5] The BART requirement is designed to determine appropriate air pollution control equipment to retrofit major air emission sources that were constructed before the applicability of the New Source Review program in the late 1970s.[6] The Big Stone Plant became operational in 1975 and is among the newer plants subject to the BART requirement.

Because the Big Stone Plant is located in South Dakota, the South Dakota DENR is the agency responsible for developing the SD Haze SIP, which includes the determination of BART emission controls for air emission sources in the state that are subject to the BART requirement. A regional haze SIP includes extensive emission and visibility impact analysis, establishment of goals for reasonable progress in improving visibility, development of a long term strategy, and

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2 42 U.S.C. § 7479 (CAA § 169A).

3 40 C.F.R. §§ 51.300 to 51.309 ("Protection of Visibility") & App. Y ("Guidelines for BART Determinations Under the Regional Haze Rule").

4 For major air emission sources in North Dakota, including electric generating units located in North Dakota, the DOH developed a SIP that determines Best Available Retrofit Technology requirements for multiple facilities, and takes other action to reduce regional haze from North Dakota sources of air pollution.

5 *See* 42 U.S.C. § 7491(b)(2)(A) (CAA § 169A(b)(2)(A)).

6 While emission standards had been applied to electric generating units in other Clean Air Act programs before the late 1970s, the New Source Review program was not yet in place. The New Source Review program initiated the requirement that new major sources of air emissions install Best Available Control technology as part of their construction permit requirements. *See* 42 U.S.C. § 7475(a)(4) (CAA § 165(a)(4)).

determination of BART requirements for individual facilities.[7] The process of preparing the SIP also includes opportunities for public comment, consultation with Federal Land Managers, and review of proposed plans by neighboring states.

At the culmination of work begun in 2007, the DENR determined that Big Stone is both BART-eligible and subject to BART, based upon air dispersion modeling indicating that Big Stone reasonably contributes to visibility impairment in certain Class I areas in South Dakota, North Dakota, Michigan, and Minnesota.[8] The DENR therefore determined that BART must be installed on Big Stone. Section 6.0 of the SD Haze SIP, the section that explains the BART determination made for the Big Stone Plant, is provided as Attachment 1 to this Exhibit.

The Co-owners also assessed other anticipated environmental regulations and the costs that could be expected to be imposed to achieve compliance. That assessment is provided in Attachment 2 to this Exhibit.

Since BART is a case-by-case determination for each unit that is subject to BART, the DENR evaluated available control technology for particulate matter ("PM"), sulfur dioxide ("SO_2") and nitrogen oxides ("NO_X"), based on its technical feasibility, cost, non-air impacts, remaining useful life of the source, and projected reduction of visibility impacts.[9] After considering information on the available control technology options, the DENR assessed the visibility improvement to be expected from the installation of air pollution control technology on the Big Stone Plant, in eight different configurations.[10]

Based on its extensive technical analysis, the South Dakota DENR made a final determination that the following control technology constitutes BART for the Big Stone Plant:

- Selective Catalytic Reduction with Separated Overfire Air ("SCR," "SOFA," and collectively, "SCR/SOFA"), for NO_X, which provides the highest level of control of the control equipment found to be feasible;

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[7] South Dakota's full SIP contains these elements, and may be found online at: http://denr.sd.gov/des/aq/publicnotices/RegionalHazeSIPDraft.pdf.

[8] In 2010 the South Dakota DENR determined that, based on air dispersion modeling results, the Big Stone Plant would be reasonably anticipated to contribute to an impairment of visibility at the following Class I Areas: Badlands National Park in South Dakota, Theodore Roosevelt National Park in North Dakota, Isle Royale National Park in Michigan, and Voyagers National Park and the Boundary Waters Canoe Area in Minnesota. The detailed technical analysis and associated modeling results are fully set forth in the SD Haze SIP, §§ 6.1.3, Otter Tail Power Company-Big Stone I, and 6.2, Otter Tail Power Company's Modeling Results.

[9] *Id.* at §§ 6.3.1, Particulate BART Review, 6.3.2, Sulfur Dioxide BART Review, and 6.3.3, Nitrogen Oxide BART Review.

[10] *Id.* at § 6.3.4, Visibility Impact Evaluations.

- Semi-Dry Flue Gas Desulfurization (FGD), for SO_2,[11] which provides slightly less than the highest level of SO_2 control of the control equipment found to be feasible, but which SD DENR found to have less visibility impact than the top-ranked option for SO_2, when modeled in combination with the selected NO_X and PM BART controls; and

- Baghouse, for PM, which provides the highest level of control of the control equipment found to be feasible.[12]

The emission limitations represented by installation of the above-listed control technologies on Big Stone were determined to constitute BART, and are required by the SD Haze SIP to be installed and operational as expeditiously as practicable but not later than five years from EPA's approval of the SD Haze SIP. The SD DENR submitted its SD Haze SIP to EPA on January 21, 2011. As part of the SD Haze SIP, South Dakota implemented its BART determination by placing the related emission limitations into its state rules.[13] Administrative Rules of South Dakota Chapter 74:36:21, provided as Attachment 3 to this Application, requires these controls to be installed on existing coal-fired power plants that are subject to BART by establishing the related emission limitations for SO_2, NO_X and PM that reflect the installation of the BART control technology.[14] The Big Stone Plant is the only plant in South Dakota to which this rule applies.[15]

The EPA could require changes in aspects of the SD Haze SIP as part of its review although the EPA has reviewed and provided comments to the South Dakota DENR throughout the development of the SD Haze SIP. EPA's latest comments to the DENR related to the form of the final emission limitations and their associated compliance monitoring requirements, and other parts of the SD Haze SIP not related to the Big Stone AQCS. The EPA did not disagree with the control technology chosen as BART for the Big Stone Plant, and adjustments to the

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[11] The most common semi-dry FGD system is the lime Spray Dryer Absorber (SDA) using a baghouse for downstream particulate collection. This Petition addresses the spray dryer FGD process. Two other variations, the Novel Integrated Desulfurization (NIDTM) and Circulating Dry Scrubber are similar technologies that achieve similar levels of control effectiveness. They primarily differ by the type of reactor vessel used, the method in which water and lime are introduced into the reactor and the degree of solids recycling. Due to the similar nature of the different semi-dry technologies and the similar levels of control efficiency achieved by all the technologies, semi-dry technologies are grouped together for purposes of this Petition.

[12] While the current baghouse represents BART, the baghouse will have to be replaced to accommodate the additional flue gas draft requirements that will be caused by the upstream installation of the semi-dry FGD and SCR/SOFA systems.

[13] *See* SD Haze SIP, § 6.4, BART Requirements.

[14] S.D. Admin. R. 74:36:21:06, BART Determination for a BART-eligible Coal-fired Power Plant, establishes the emission limitations for particulate, sulfur dioxide and nitrogen oxides. The rules were approved by the South Dakota Board of Minerals and Environment on September 15, 2010, and by the South Dakota Interim Rules Review Committee on November 17, 2010. The rules were filed with the South Dakota Secretary of State on November 17, 2010, and became effective twenty (20) days later, on December 7, 2010.

[15] *See* SD Haze SIP, § 6.2, concluding that the Big Stone Plant is "the only source subject to BART in South Dakota."

form of final emission limits and compliance monitoring requirements would be extremely unlikely to change the determination of the control equipment required by the DENR under BART. This is especially the case given that the DENR chose the combination of controls predicted by air dispersion modeling to provide the greatest degree of visibility improvement of the options available.

The comparison of emission limitations in the Big Stone Plant's current South Dakota DENR air quality permit with the emission limitations that represent the DENR's BART determination are shown in Table 1.

Table 1 – Big Stone Emission Limits

	Current Permit	BART Rule
SO_2	3.0 lb/mmBtu	0.09 lb/mmBtu
PM_{10}	0.26 lb/mmBtu	0.012 lb/mmBtu
NO_X	0.86 lb/mmBtu	0.10 lb/mmBtu

According to South Dakota DENR's BART determination, the suite of control technologies to be implemented in the Big Stone AQCS reduce emissions to a level at which the Plant would not reasonably contribute to visibility impairment in the Boundary Waters and Voyager's Class I areas in Minnesota, Isle Royale National Park in Michigan, the Badlands National Park in South Dakota, and the Theodore Roosevelt National Park in North Dakota.[16]

C. Detailed Description of the Big Stone AQCS Project

The Big Stone AQCS Project consists of a semi-dry FGD system with a new baghouse, anhydrous-based SCR, SOFA, Activated Carbon Injection ("ACI"), and the associated ancillary balance-of-plant systems. The Plant's Co-Owners have included in the AQCS the design and installation of an ACI for control of mercury emissions in anticipation that such requirements will be imposed by the EPA within the timeframe of the AQCS Project construction schedule.[17] At OTP's request on behalf of the Co-Owners, Sargent & Lundy, LLC ("Sargent & Lundy") conducted a conceptual design study and prepared estimated costs for the AQCS needed to comply with the South Dakota DENR BART determination. The conceptual design is attached to this Exhibit as Attachment 4, and an updated cost estimate is included as Attachment 5. This section of the Exhibit describes the AQCS in detail, while the implementation schedule and cost of the AQCS Project are discussed in the sections that follow.

1. Semi-Dry Flue Gas Desulfurization

The semi-dry FGD system is focused on the control of SO_2 emissions, and includes spray dryer absorbers, a baghouse, lime and recycle preparation, and solid waste handling. The spray dryer absorbers and baghouse are installed on the Plant downstream of the air heater. In a semi-dry

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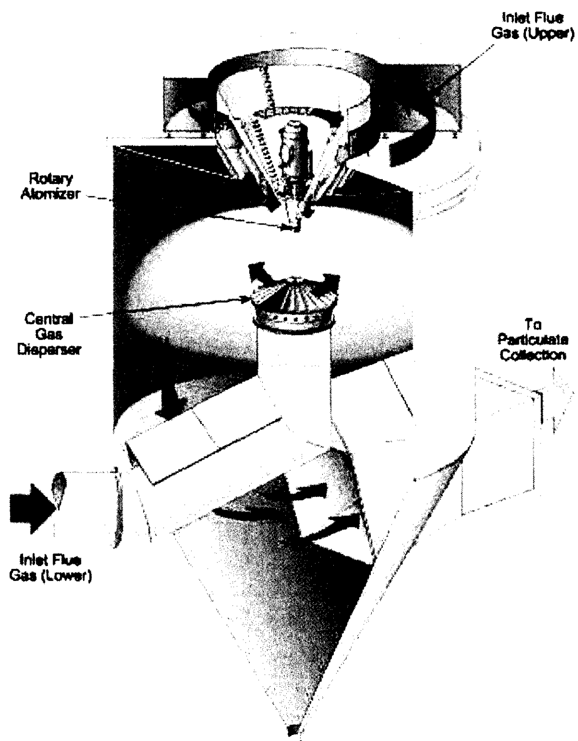
[16] *See* SD Haze SIP, § 6.3.4, Visibility Impact Evaluations.

[17] Because installation of the ACI system is proceeding in anticipation of the future requirement to control mercury emissions, the ACI system is part of Montana-Dakota's and OTP's requests for an ADP.

FGD system, flue gas is brought into contact with lime slurry in a spray dryer absorber (SDA) vessel. This process uses pebble quicklime (CaO) that must be hydrated before use. Pebble lime is delivered to the Plant site via truck and stored in a silo. Lime would then transfer to a slaker where the hydration (water mixed with lime) occurs. SO_2 absorption takes place in the SDA. Additional SO_2 removal takes place in the baghouse, downstream of the SDA. Calcium reacts with the SO_2 to form two waste solids, sulfate ($CaSO_4$) and sulfite ($CaSO_3$).

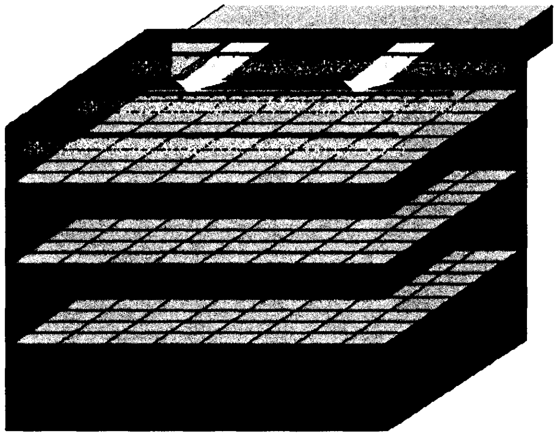
The dried solids are entrained in the flue gas, exit the SDA along with the fly ash from the boiler, and are then collected in a baghouse. Waste collected in the baghouse is pneumatically transported to either a waste storage silo or a recycle silo. The recycle silo is located above the waste slurry preparation area. From the recycle silo, the dry waste flows to a premix tank where it is combined with water. The slurry overflows to a recycle holding tank, which then overflows into a recycle slurry storage tank. This recycle system allows the lime to be passed through the SDA several times, mainly to reduce lime consumption. Semi-dry FGD waste not utilized in the recycle silo will be sent to a waste storage silo then loaded into trucks and sent to a landfill for disposal.



2. Selective Catalytic Reduction with Separated Overfire Air

SCR/SOFA technology is focused on the control of NO_X emissions. SCR is a post-combustion technology that uses catalyst elements, which are housed in a reactor that is installed in the flue gas stream upstream of the air heater. The process utilizes ammonia, which reacts with NO_X in the presence of a catalyst to reduce the NO_X to nitrogen and water.

Ammonia is injected into the flue gas stream well ahead of the catalyst, so the ammonia and NO_X are uniformly distributed as they reach the catalyst. The target temperature window for the flue gas is 625°F ± 25°F to 750°F ± 25°F. Flue gas exiting the SCR reactor will contain low concentrations of unreacted ammonia (called ammonia slip). Slip is limited to 2 ppmvd (parts per million, volumetric, dry) (at 3% O_2) at the SCR outlet. A higher slip value usually indicates that catalyst is beyond its life and is losing effectiveness at reducing NO_X.



The SOFA system is designed to provide optimum mixing of the balance of combustion air with the main combustion zone flue gas during the second stage of combustion within the furnace region of the Plant's cyclone boiler. The unique combustion characteristics of a cyclone furnace allow excellent NO_X reduction to be achieved while maintaining the balance of separated overfire air entry point into the boiler at close proximity to the cyclones themselves.

3. Activated Carbon Injection

ACI technology is focused on the control of mercury emissions. ACI uses powdered-activated carbon ("PAC"), which is pneumatically injected into the flue gas stream prior to the particulate collection equipment, to capture both elemental and ionic mercury ("Hg"). PAC is delivered to the Plant site by truck and pneumatically unloaded into a silo by a blower located on the truck. PAC is blown into the top of the silo and then settles to fill the vessel. Fluidized PAC is then transferred from the silo cone through a rotary airlock feeder into a gravimetric feeder. After the gravimetric feeder, the PAC is blown through a piping system and distributed to an array of injection lances that disperse the PAC into the cross-section of the flue gas ductwork upstream of the particulate control device. In the ductwork, PAC mixes with flue gas and the vapor-phase Hg is adsorbed on the surface of the PAC particle. The PAC particles then are captured in the particulate collection device.

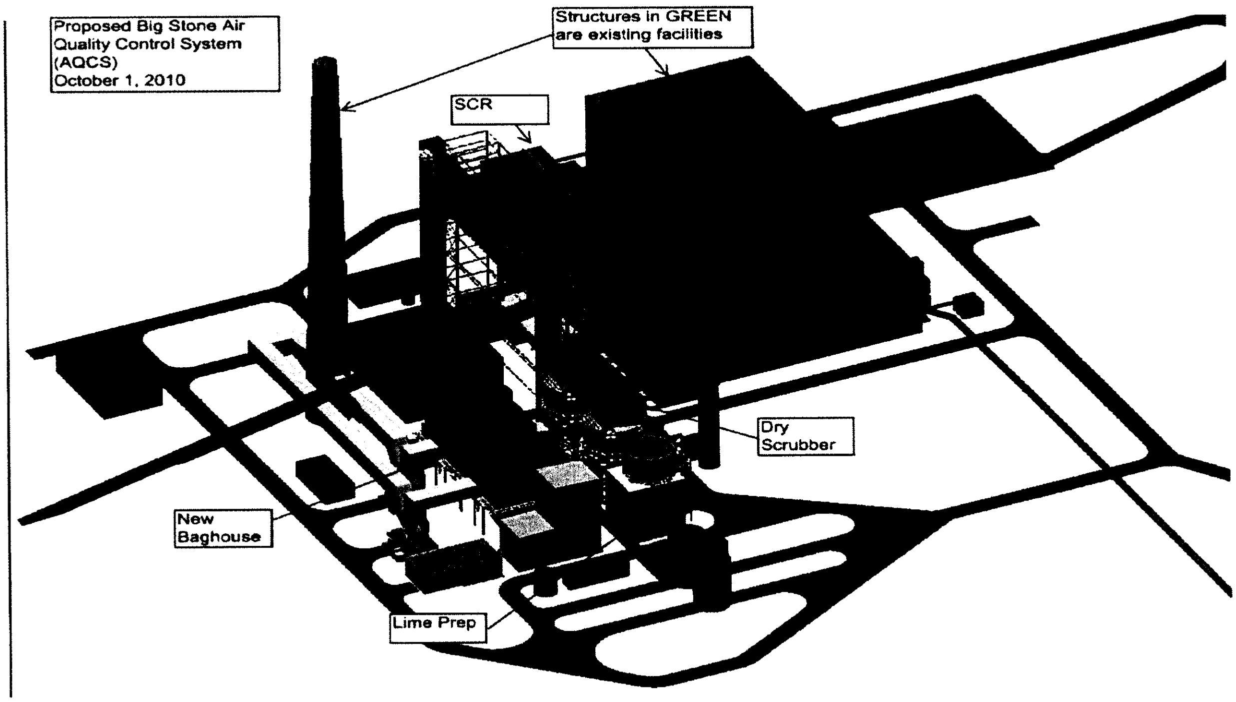
4. Balance of Plant Modifications

In order to install and successfully operate the control technologies that are part of the AQCS Project, the Co-Owners also must make the following balance of plant modifications at Big Stone:

- Modify the boiler to deliver flue gas at the required temperature for operation of the SCR and to maintain or improve boiler efficiency;

- Replace the existing baghouse;
- Replace the ID fans;
- Reinforce the boiler and duct work; and
- Modify the plant electrical infrastructure.

The following schematic depicts the AQCS system as it would be installed at the Plant.



D. Implementation Schedule

The SD Haze SIP and its implementing rules require that the Big Stone AQCS be installed, operated and shown to comply as expeditiously as practicable, but not later than five years from the EPA's approval of the SD Haze SIP.[18] As a result, if the EPA approves the SD Haze SIP in 2011, the Big Stone AQCS may be required to be installed and operational by 2016. To be in compliance by 2016, OTP must finalize the AQCS Project design and start procurement of major elements of the AQCS in early 2012.

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[18] S.D. Admin. R. 74:36:21:07, Installation of Controls based on Visibility Impact Analysis or BART Determination; SD Haze SIP § 6.4, BART Requirements. The SD DENR submitted the SD Haze SIP to EPA on January 21, 2011.

The final deadline for BART compliance will be set by the EPA's approval date. In addition, EPA has the discretion to partially approve a SIP submittal, so there is also the possibility that EPA could decide to approve the Big Stone BART determination in advance of other elements of the SD Haze SIP. This leaves the Co-Owners under the obligation to proceed with the AQCS Project as expeditiously as practicable, and within the timeframe needed to meet a five year compliance deadline that could end by 2016.

The exact compliance deadline is not now known, and is not in the Co-Owners control to determine. The Big Stone AQCS is a large undertaking that will take several years to complete. The main implementation steps, if regulatory approval is received to proceed, include detailed engineering work in 2011, with procurement of major components of the AQCS starting in early 2012. The construction phase will continue into 2015. Once constructed, the AQCS would need to be tied in to the Plant, which would best be done during a scheduled outage of the Plant in 2015. Testing to demonstrate the compliance of the AQCS with the BART emission limits will need to occur within six months of the tie in of the AQCS with the Plant, and in time to start compliant operation before the final compliance deadline.

Attachment 5 to this Application includes a cost estimate and implementation schedule for the Big Stone AQCS Project which provides considerable detail on the steps and time periods involved in completing the project. This implementation schedule shows that the Big Stone AQCS is a five year project, not considering schedule slippage that could occur for a variety of reasons as a complex series of tasks are performed and coordinated over a substantial period of time.[19]

E. Cost Estimate

The estimate of the capital costs to install the AQCS Project at Big Stone, including the semi-dry FGD scrubber, SCR/SOFA, new baghouse and balance of plant changes, escalated to an in-service date of late 2015, is $489,397,400, with an accuracy of +/-20%. Installation of mercury control equipment on the Plant is estimated to cost an additional $5,012,700. The Co-Owners are recommending installation of the mercury control equipment at the time of the AQCS project as the requirement to control mercury emissions is anticipated to become effective within the time frame of the AQCS project. The EPA recently proposed National Emissions Standards for Hazardous Air Pollutants for Coal-Fired Utilities which requires mercury emissions reductions that would apply to the Plant. The rule was proposed on March 16, 2011, and is projected to be final by November 16, 2011. The compliance timeline of the proposed rule requires utilities with coal-fired units to install mercury controls to comply with the rule's established mercury emission limits by early 2015.

The capital cost estimate was prepared for the Plant's Co-Owners by Sargent & Lundy.[20] Sargent & Lundy was selected as the engineering firm for the AQCS Project as part of a request for proposal process that considered cost, experience and expertise. Sargent & Lundy was both

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[19] Attachment 5 (Big Stone Plant AQCS Project Cost Estimate).

[20] Attachment 5.

the lowest cost firm and the firm that has performed the engineering on more projects like the AQCS Project than any other firm in the country. In particular, Sargent & Lundy has been involved with 57% of the dry FGD projects, 46% of the wet FGD projects and 30% of the SCR projects in the industry.

Sargent & Lundy's detailed explanation of the basis for the capital cost estimate was based on a conceptual design of the project and Sargent & Lundy's experience with similar projects.[21] Because OTP is at the early stages of the engineering process (only 2% of the engineering work has been completed), the estimate includes a contingency range of +/-20%.

The cost estimate has been compared to similar projects that Sargent & Lundy have completed, as adjusted for plant size and year in-service. The results on an equalized basis show that the cost estimate is consistent with other comparable projects. Large retrofit projects such as the AQCS Project at Big Stone typically contain very unique features that result from physical or operating constraints present at the existing plants. These unique conditions often make comparing one project to the other difficult. For example, some plants have considerable space available for new equipment while others are limited in space, and some plants have design margin in their auxiliary power systems, draft systems, etc., while other plants have no or limited available design margin in their existing systems. Consequently, the cost data from projects completed by Sargent & Lundy, as well as, publicly available data from semi-dry FGD and SCR projects completed in the years 2006 to 2010, fall within a fairly wide range of values from \$525/kw_g to \$850/kw_g in 2010\$. Using this cost range as a benchmark, the AQCS Project at Big Stone is consistent with other comparable projects in that the AQCS Project falls near the midpoint of the range of historical costs at a value of approximately \$617/kw_g.[22] In addition to the capital cost, there will be an additional ongoing cost to operate and maintain the AQCS equipment. It is estimated that in 2016, the expected first full year of operation, the additional cost to operate the equipment would be approximately \$11 million (including escalation).[23] The additional operating and maintenance cost would add approximately \$3.50 to the cost to produce a MWh of energy, or \$.0035 per kWh, based on the Plant's net dispatchable energy generation of 3,120,750 MWh. The total annual operating and maintenance costs for the Plant in 2016 with an AQCS will be \$27.3 million,[24] with the share to be borne by Montana-Dakota's North Dakota customers of approximately \$4.0 million and the share borne by OTP's North Dakota customers of approximately \$5.9 million. The biggest operational cost increase (approximately two-thirds

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[21] The cost estimate provided in Attachment 5 is a revision to an earlier less detailed cost estimate included in Attachment 4 (SO_2, NO_X, and Mercury Reduction Study) and reflects a substantial reduction in estimated costs for the AQCS Project due to a series of cost optimization decisions about the basic project design. The cost optimizations are summarized in a table describing 14 changes to reduce the estimated capital cost of the AQCS Project from that portrayed in Attachment 4.

[22] The cost range and the \$617/kw_g estimate for the Big Stone AQCS Project do not include escalation beyond 2010 and AFUDC. Additionally, the Big Stone AQCS estimate does not include the substantial boiler modifications that are considered to be very unique to the Big Stone AQCS Project.

[23] Attachment 6 (Big Stone AQCS Project Operating and Maintenance Cost Calculations).

[24] *Id.*

of the operational cost increase) is caused by the lime and ammonia necessary to operate the SCR and semi-dry FGD, as well as the addition of employees at the Plant.[25]

The addition of control for mercury, which is likely to occur in the same timeframe, would add an operating and maintenance cost of approximately $2 million per year.[26] This would add approximately $0.65 to the cost to produce a MWh of energy, or $.00065per kWh.

F. Efforts to Insure Lowest Reasonable Costs

To ensure the lowest reasonable cost, the Co-Owners will: (1) use a request for proposal to select the lowest evaluated cost; (2) use a single erection contractor to manage installation to insure coordinated site work; (3) use separate requests for proposal for each major portion of the AQCS Project to allow for competition in the bidding process; and (4) aggressively manage the project to assure lowest reasonable cost.[27]

OTP on behalf of the Co-Owners, requested recommendations from Sargent & Lundy on how to manage the contracting process for the AQCS Project to insure that the project is implemented at lowest reasonable cost. Sargent & Lundy has a record of engineering and delivering AQCS projects at a lower cost than its competitors, and has worked on over half of the projects in the country that are similar to the AQCS Project. The analysis Sargent & Lundy provided is included as Attachment 7 to this Application.

Sargent & Lundy recommended an approach to managing the AQCS Project that will attempt to take advantage of favorable market conditions, but which will ensure the lowest reasonable cost if market conditions become more adverse as the AQCS Project is implemented. Under the recommended approach, the Co-Owners plan to solicit bids from suppliers for each major portion of the AQCS pollution control systems (the semi-Dry FGD, the SCR and the balance of plant modifications). This approach will allow the Co-Owners to go to the market sooner than is possible if the entire project must be developed as part of an Engineer Procure Construct solicitation. In addition, the Co-Owners plan to contract with a single erection contractor, to minimize the problems that can occur from multiple interfaces between numerous contractors. This approach will improve scheduling, resulting in better utilization of resources that will assist in achieving the lowest reasonable cost for the AQCS Project.

The Co-Owner's approach will avoid the potentially adverse costs of a date certain/price certain turnkey project, which could cost +/-10% or more (+/- $50 million). A turnkey approach, in addition to being too costly, would constrain the Co-Owners' ability to use the advantage to schedule early in the project through the procurement of equipment under current favorable market conditions, restrict the ability to select individual contractor combinations, disqualify potentially more cost-effective regional contractors who would not have the ability to bid on the

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[25] Attachment 6; Attachment 4, Section 6.

[26] Attachment 6.

[27] If market conditions change greatly, this could result in changes in the contracting approach currently contemplated for the project.

project as a whole, restrict the Co-Owners' input during design development, and increase contingencies because the contractor's bid is based on less-developed engineering. Similarly, a contract approach using multiple suppliers and contractors managed by the Co-Owners has risks due to the complexity of interfaces between too many entities.

The Co-Owners' proposal strikes the proper balance by breaking the project into its fundamental building blocks: the different suppliers of pollution control systems and the erection work. Issuing requests for bids with more developed designs minimizes costs by reducing the contingencies that bidders would otherwise need to work into their proposed prices. The Co-Owners believe that this approach is the best approach to ensure that the AQCS Project is implemented at the lowest reasonable cost.

To keep interested parties and the Commission apprised of the implementation and costs of the AQCS Project, OTP and Montana-Dakota propose to set up a quarterly reporting mechanism with the Commission that would identify if there are any changed circumstances that will materially affect the cost of the AQCS Project.

G. Alternatives to Big Stone AQCS Project

The Co-Owners are proposing to undertake the Big Stone AQCS Project in order to comply with the SD Haze SIP and its associated implementing rules in order to continue operating a Plant representing a significant baseload resource for each utility. The SD Haze SIP specifies the control technology that represents BART for the Big Stone Plant and establishes emission limitations to reflect installation of the BART technology. The emission limitations reflect the emissions expected from installation and proper operation of an AQCS at the Big Stone Plant consisting of a semi-dry FGD, SCR/SOFA and baghouse. Because the BART requirement is a direct requirement that has been individually determined for Big Stone, the only alternative to installing the AQCS and achieving regulatory compliance is to cease operations at the facility. The Co-Owners have considered alternatives to the AQCS Project, including the costs and benefits of retirement or repowering of the Plant with natural gas. The analysis of alternative response scenarios is provided in Joint Exhibit 2.