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October 11, 2013

Mr. Darrell Nitschke  
Director of Administration/Executive Secretary  
North Dakota Public Service Commission  
State Capitol  
Bismarck, ND 58505

**RE: Montana-Dakota Utilities Co., a Division of MDU Resources Group, Inc.  
Application for Advance Determination of Prudence Big Stone Air Quality Control  
System Project  
Case No. PU-11-163**

**Otter Tail Power Company Application for Advance Determination of Prudence  
Big Stone Air Quality Control System Project  
Case No. PU-11-165**

**Compliance Filing - Report**

Dear Mr. Nitschke:

On May 9, 2012 the North Dakota Public Service Commission issued a Findings of Fact Conclusions of Law and Order Granting Advance Determination of Prudence in the above described cases. In compliance with ordering paragraph 2, Otter Tail Power Company hereby submits the Big Stone Air Quality Control System Project Report. This report has been electronically filed. Enclosed you will find an original and seven (7) copies.

I have been authorized by Montana-Dakota Utilities Co. to file this report in both cases described above.

111 PU-11-165 Filed 10/11/2013 Pages: 9  
Compliance filing - Big Stone Air Quality Control System Project Report  
Otter Tail Power Company  
Mark Rolfes, P.E.

112 PU-11-163 Filed 10/11/2013 Pages: 9  
Compliance filing - Big Stone Air Quality Control System Project Report  
Otter Tail Power Company  
Mark Rolfes, P.E.

Mr. Darrell Nitschke

October 11, 2013

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If you have any questions regarding this report, please contact me at 218-739-8648 or at [mrolfes@otpc.com](mailto:mrolfes@otpc.com).

Sincerely,

*/s/ MARK ROLFES*

Mark Rolfes, P.E.

Manager, Generation Development

wao

Enclosures

By electronic filing and US mail

c: Tamie A. Aberle (by email)

**BIG STONE PLANT  
AIR QUALITY CONTROL SYSTEM PROJECT  
QUARTERLY REPORT**

**TO THE**

**NORTH DAKOTA PUBLIC SERVICE COMMISSION**

**FOR THE**

**PERIOD JULY 1 TO SEPTEMBER 30, 2013**



**October 11, 2013**

Montana-Dakota Utilities Co. and Otter Tail Power Company submit this report on the Big Stone Plant Air Quality Control System (“AQCS”) Project in compliance with the North Dakota Public Service Commission May 9, 2012 Order in Cases No. PU-11-163 & PU-11-165, ordering paragraph 2.

This report describes progress made on the Project during the quarter ending September 30, 2013. Specifically, in compliance with the above-referenced Order, this report includes information on the status of the United States Environmental Protection Agency (“EPA”) review of the South Dakota Regional Haze State Implementation Plan (“SIP”); it describes the types and amounts of costs incurred on the Project to date; and it describes changed circumstances that are expected to affect the cost, schedule or installation of the AQCS Project.

## **Section I**

### **Status of the United States Environmental Protection Agency’s (“EPA”) review of the South Dakota Regional Haze State Implementation Plan (“SIP”)**

On March 29, 2012, the Administrator for EPA Region 8 signed as a final rule the approval of South Dakota’s Regional Haze SIP. The final rule was published in the *Federal Register* on April 26, 2012 and became effective on May 29, 2012.

## **Section II**

### **Types and amounts of Project cost actually incurred**

Actual construction commenced on the Project on March 18, 2013. A groundbreaking ceremony was held on April 26, 2013. Significant construction progress has been made during the third quarter of 2013. Examples of accomplishments include:

- All 305 auger cast piles were completed very early this quarter. These are poured-in-place concrete piles to support the AQCS foundations.
- Almost all of the underground piping has been installed. This includes fire protection, water supply, storm sewer and ammonia piping.
- Boiler building steel modifications are nearly completed.
- The foundation for the waste ash/pebble lime silo, scrubber, baghouse, north Selective Catalytic Reduction (“SCR”), center SCR tower and ID fan foundations have been completed.
- Steel erection on the waste ash/pebble lime building is nearly complete.
- Pebble lime silo is completely installed and the waste ash silo is 90 percent installed.
- Steel erection on the scrubber and baghouse is well underway.
- Approximately 225+ people are currently working on construction at the site (in addition to the regular plant operational staff).
- 5+ semi-loads of steel are being delivered to the site each day.

Costs incurred through September 30, 2013, can be broken down into the following general categories:

<b>Category</b>	<b>Costs Through September 30, 2013</b>
<b>Equipment/Material Procurement:</b>	\$60.4M
<b>Construction:</b>	\$27.6M
<b>Engineering/Field Engineering Support:</b>	\$15.7M
<b>Owners Cost:</b>	\$5.6M
<b>Total:</b>	<b>\$109.2M</b>

(Project costs identified do not include individual company costs.)

Equipment and Material Procurement: All owner-procured material for the Project, such as the flue-gas desulfurization system equipment, selective catalytic reduction catalyst, induced draft fans and their motors, transformers, structural steel, ductwork, ammonia handling equipment and the Distributed Control System.

Construction: Payments made to Graycor (the General Work Contractor), site preparation work, testing work, surveying work and work to remove equipment that is no longer needed or which needs to be moved.

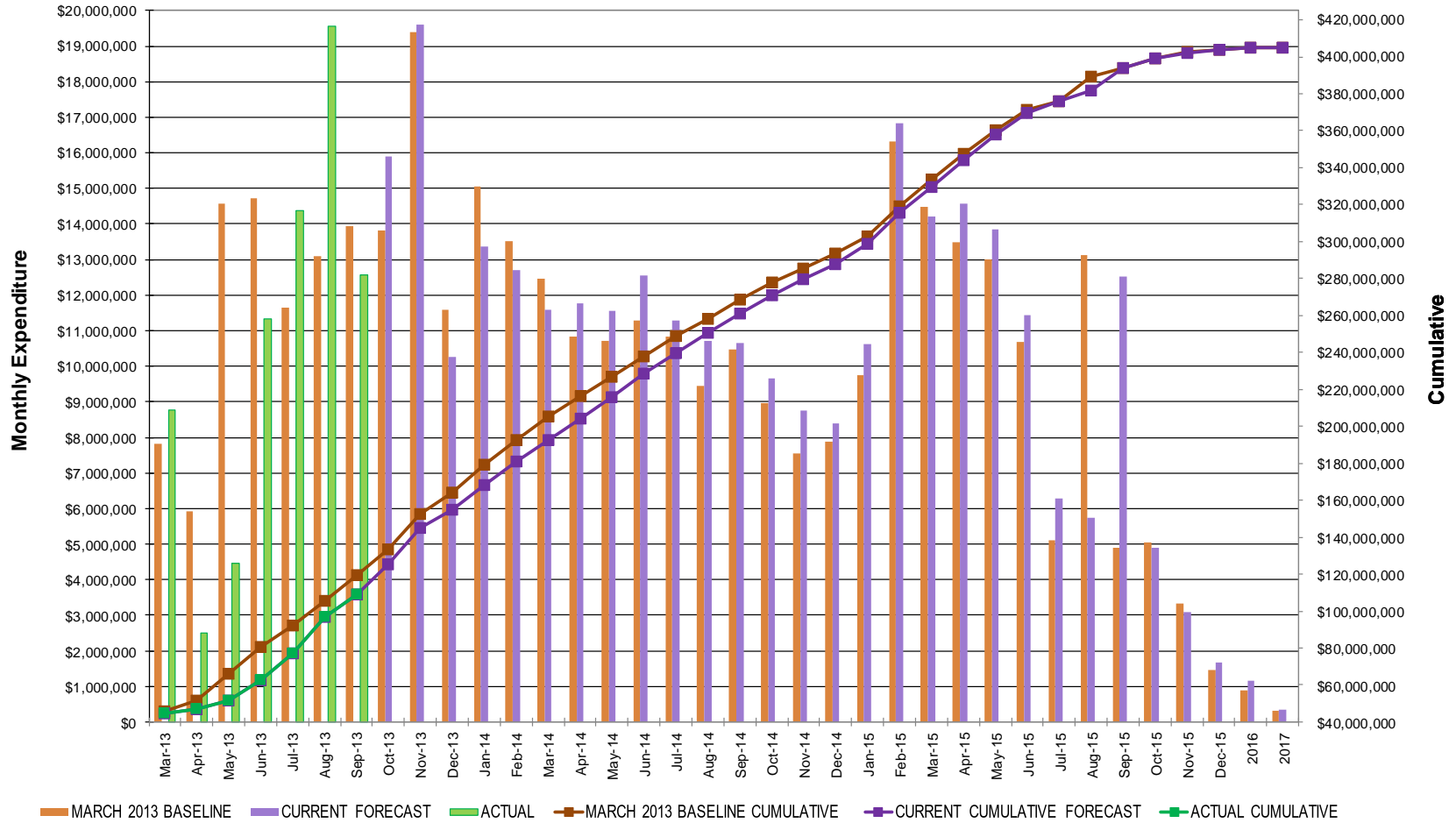
Engineering and Field Engineering Support: Engineering and procurement work done by Sargent & Lundy (Project engineer) and engineering field support for construction and commissioning.

Owners Cost: Items such as labor for Project development and construction management, and such things as insurance, legal costs, permitting, office space and equipment; also spare parts and consumables used during testing and commissioning.

As described in the last report, the overall Project budget was reduced from \$489M to \$405M.

Actual Project cash flow and spending through September 2013, and forecast through Project completion, is illustrated on the following page.

**Big Stone Plant AQCS  
Cash Flow & Spending Analysis  
(Including Contingency & Escalation)  
(Excluding Retention until it is paid)**



The following photographs illustrate various construction activities on the Project during the quarter.



07-08-13 Baghouse & absorber bldg. 1<sup>st</sup> concrete pour



08-17-13 Baghouse-west top pour



09-14-13 Absorber & baghouse structural steel erection



08-05-13 East & south fab areas



07-10-13 WA & PI stair tower erection



09-09-13 Waste ash & pebble lime silo erection



08-15-13 North SCR concrete pour



09-07-13 Prepping South SCR piling



08-23-13 North SCR tower foundation



09-17-13 Site overview to south



08-15-13 Low quality water line



09-04-13 ID Fan 1B foundation – concrete

Safety is emphasized on this Project. The table below is included to provide information on recordable and lost-time injuries and near miss incidents for the total labor hours worked on the Project through September 2013:

	<b>Hours</b>	<b>Recordable</b>	<b>Lost Time</b>	<b>Near Miss</b>	<b>First Aid</b>
Graycor	220,033	0	0	2	6
Project Team & Contractors	46,537	0	0	0	0
Engineering	132,918	0	0	0	0
<b>Totals</b>	<b>399,788</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>6</b>

### **Section III**

#### **Any changed circumstances that will affect cost or Project installation**

The EPA has issued the Mercury and Air Toxic Standards (“MATS”) rule, also known as the utility Maximum Achievable Control Technology (“MACT”) rules, which require control of hazardous air pollutants. While the final rule has been issued, several petitions for review have been filed in United States Court of Appeals for the D.C. Circuit which could ultimately delay its effective date. The rule as issued requires the Big Stone Plant to reduce mercury emissions, which can be controlled by adding ACI to the project. The estimated cost to add ACI as a standalone project is \$5M. Because of the synergies of installing the system at the same time as the AQCS, the owners have decided to include the ACI system as part of the scope of the AQCS Project. Because of the synergies captured by doing construction at the same time as the AQCS Project, we have only increased the projected cost of the AQCS Project by \$2.1M to account for the ACI system. Although the standard MATS rule compliance date is April 16, 2015, on August 27, 2013 the South Dakota Department of Environment and Natural Resources granted a one year compliance extension for Big Stone Plant, such that the new compliance date is April 16, 2016.

Procurement activity is nearing completion for the Project. At this time 99.8 percent of the Project’s direct procurement costs are under contract.

The first 2013 quarterly report, filed on April 12, documented the reevaluation of the Project cost after all of the major contracts were completed. Last quarter’s report explained why the owners were able to reduce the overall Project cost projection by approximately \$86M dollars. Construction has now been underway for six months and no unforeseen issues have arisen to alter projections.

### **Summary**

The Big Stone AQCS Project is currently on schedule and on budget.