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June 30, 2010

Ms. Patty Van Gerpen
Executive Director
South Dakota Public Utilities Commission
State Capitol Building
Pierre, SD 57501

Subject: Otter Tail Power Company's Ten Year Biennial Plan - 2010

Dear Ms. Van Gerpen:

Pursuant to the rules of the South Dakota Public Utilities Commission Energy Facility Plans ARSD 20:10:21 and Guidelines issued October 1977, Otter Tail Power Company hereby files its Biennial Ten Year Plan with the Commission. Ten Copies are being sent to you by U.S. mail.

Notice of Filing of the plan is being sent to each of the state agencies and officers designated in Section 23 of the Energy Facility Plans. If additional copies of the plan are required, please contact me at kkaseman@otpc.com or 218-739-8693.

Very truly yours,

/s/ KERRY KASEMAN
Kerry Kaseman
Resource Planner

wao

Enclosures

By electronic filing

c: Mr. David L. Goodin, MDU
Mr. Robert Rowe, NWPS
Ms. Judy Proferl, XCEL
Ms. Linda Evans, Black Hills Corp.

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June 30, 2010

NOTICE OF FILING

Subject: Otter Tail Power Company's Ten Year Biennial Plan - 2010

Please take notice that on June 30, 2010, Otter Tail Power Company filed its Ten Year Plan with the South Dakota Public Utilities Commission in accordance with ARSD 20:10:21. Pursuant to Section 20:10:21:23 of the South Dakota Public Utilities Commission's Rules Governing Energy Facility Plans, notice of the filing of this plan is given to the following state agencies and officers as designated:

- (1) Aeronautics Commission;
- (2) Department of Agriculture;
- (3) Attorney General;
- (4) Department of Commerce and Regulation;
- (5) Governor's Office of Economic Development;
- (6) Department of Education and Cultural Affairs;
- (7) State Engineer;
- (8) Department of Game, Fish and Parks;
- (9) State Geologist;
- (10) Governor;
- (11) Department of Health;
- (12) Indian Affairs Commission;
- (13) Department of Labor;
- (14) Legislative Research Council;
- (15) Department of Environment and Natural Resources;
- (16) Department of School and Public Lands; and
- (17) Department of Transportation.

Sincerely,

/s/ KERRY KASEMAN
Kerry Kaseman
Resource Planner

**SOUTH DAKOTA
TEN YEAR
BIENNIAL PLAN**



**Report RP10-06
Resource Planning Department
July 2010**

By: Kerry Kaseman

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INTRODUCTION

In accordance with the rules and regulations of the South Dakota Public Utilities Commission Energy Facility Plans ARSD 20:10:21, Otter Tail Power Company (“Otter Tail”), hereby files its Biennial Ten Year Plan with enclosures. This filing is structured to coincide sequentially with the Commission rules as defined in the Form for Plans, ARSD 20:10:21:25 Section 4 through Section 18, therefore, coincide with ARSD 20:10:21:04 to ARSD 20:10:21:18, respectively.

Notice of Filing of the plan is being sent to each of the state agencies and officers designated in Section 23 of the Energy Facility Plans.

SECTION 4 -- EXISTING ENERGY CONVERSION FACILITIES

A. Big Stone Plant

1. The Big Stone Plant is located in Grant County, South Dakota, approximately two miles west-northwest of Big Stone City, 1-3/4 miles from Big Stone Lake, and approximately two miles north of U.S. Highway 12. The site is in the central portion of Section 12, Township 121 N, Range 47 W.
2. The turbine-generator was built by Westinghouse and has a nameplate capacity of 414,590 kW at the generator terminals with inlet steam conditions of 2,400 psig, 1000 degrees F, a condenser pressure of 3.25 inches HgA, and 0% makeup.
3. Big Stone Unit #1 has a cruise rating of 475 MWs using the sub-bituminous coal. Net generation for the year 2008 was 3,574,952 MWh, and for 2009 was 3,101,444 MWh.
4. The Big Stone Plant appropriates its entire supply of water from Big Stone Lake. During calendar year 2008, 3,611 acre-feet of water was appropriated, and during 2009, 3,515 acre-feet was appropriated.
5. The Big Stone Plant continued to burn sub-bituminous coal in 2008 and 2009. The amount of sub-bituminous coal burned in 2008 was 2,250,473 tons and 1,968,293 tons in 2009. Big Stone also supplemented its coal supply by burning alternative fuels totaling about 1% of its annual fuel requirements. Tire-derived fuel (TDF) and renewable resource material (RRM) are burned at Big Stone Plant. TDF consumption for calendar year 2008 was 10,866 tons and for 2009 was 11,203 tons. In addition, 1,237 tons of RRM was burned in 2008 and 4,308 tons of RRM was burned in 2009.

Big Stone Plant has burned alternative fuels since 1989. Deliveries of alternative fuels peaked in the mid to late 90's. After a thorough review of the Big Stone Plant use of alternative fuels, the plant decided to end the program at the end of 2009. Several factors led Big Stone to this decision. Capital repairs were required for the handling facility, primarily new walking floors. Supplies of the various fuels have dwindled, with BSP being the outlet of last resort in many cases. Maintenance costs for routine upkeep remain consistent, even with a lower number of tons moving through the facility. Tire derived fuel continues to create problems in the fuel conditioners, resulting in higher than expected maintenance costs. Finally, new EPA requirements for reporting of emissions from biofuels make it nearly impossible to burn these fuels and comply with the reporting needs. The plant intends to mothball the handling system. If other opportunities present themselves in the future, they will be evaluated.

6. Otter Tail does not have a projected date of removal from service for the Big Stone unit.
7. An ethanol plant built adjacent to Big Stone Plant became operational in March 2003. Big Stone Plant provides steam, fire protection, and access to its rail line for transporting the ethanol.
8. Otter Tail has modeled Big Stone Plant emissions to evaluate the impact of plant emissions on Class I air quality areas under the US Environmental Protection Agency's Regional Haze Best Available Retrofit Technology rule. More information can be found under Section 12 of this report.

NOTE: Big Stone Plant is jointly owned by Otter Tail, Montana-Dakota Utilities Co., and Northwestern Public Service. Otter Tail serves as the operating agent for the unit.

B. Lake Preston Peaking Plant

1. The Lake Preston Peaking Plant is located in the city of Lake Preston, South Dakota, west of the intersection of 4th Street NW and Preston Street.
2. The generating unit consists of a G.E. frame 5 fuel oil fired combustion turbine connected to an electrical generator with a rated capacity of 23.95 MW at 59 degrees F. ambient temperature.
3. In 2008 the unit had net generation of 316 MWh and 260 MWh in 2009.
4. Water source does not apply for this unit.
5. In 2008, 61,446 gallons of #2 fuel oil were consumed and in 2009, 50,833 gallons were consumed.
6. Otter Tail does not have a projected date of removal for this unit.

SECTION 5 -- PROPOSED ENERGY CONVERSION FACILITIES

In September 2009, Otter Tail terminated its participation in a proposed second unit at Big Stone Plant near Milbank in Grant County. The project was subsequently cancelled in November 2009.

The Company's 2011-2025 Integrated Resource Plan includes the addition of 50 MW (nameplate) of wind generation in 2012 and up to 250 MW (nameplate) of natural gas-fired simple cycle peaking capacity by 2018. The location of these proposed facilities has not been determined at this time. Copies of Otter Tail's 2011-2025 Integrated Resource Plan will be provided to the South Dakota Commission by July 1.

SECTION 6 -- EXISTING TRANSMISSION FACILITIES

Otter Tail owns four high-voltage transmission line sections described as follows:

1. A section of the Canby-Toronto 115 kV line starting from a point on the South Dakota line in Section 34, Township 114, Range 47, to a substation one mile west of Toronto, a distance of 13.1 miles, all in Deuel County. This is a wood-pole, H-frame line. No date has been projected for the removal of this line.
2. A section of the Big Stone-Gary 230 kV line starting from a point 0.76 miles north of County Road #18 in Section 4, Township 118, Range 47, to a 230 kV substation four miles north of Gary in Section 16, Township 116, Range 47, a distance of 14.96 miles, 5.76 miles in Grant County and 9.2 miles in Deuel County. This is a wood-pole, H-frame line. No date has been projected for the removal of this line.
3. A section of the Big Stone-Hankinson 230 kV line starting at a point on the South Dakota line in Section 26, Township 129, Range 50, to a point 0.3 miles north of the Roberts County Highway #23 in Section 11, Township 127, Range 50, a distance of 22.62 miles, all in Roberts County. This is a wood-pole, H-frame line. No date has been projected for the removal of this line.
4. A 115 kV line from Toronto to Hetland starting at the Toronto Substation in Section 24, Township 113, Range 49 (approximately 1 mile west of Toronto) and continuing generally south and west terminating at the Hetland Substation in Section 28, Township 111, Range 53 (approximately 1 mile east and 1 mile north of Hetland), a total distance of 38.8 miles, with about 3 miles in Deuel County, 32 miles in Brookings County, and 4 miles in Kingsbury County. This is a single pole line composed of both wood and steel structures. No date has been projected for the removal of this line.

SECTION 7 -- PROPOSED TRANSMISSION FACILITIES

In late 2009, the Big Stone II project withdrew from the MISO interconnection queue. Even with this withdrawal, there continues to be strong interest in adding generation in the Big Stone area (1,800 MW's). The Midwest Independent System Operator (Midwest ISO) has studies underway to determine what transmission is necessary to interconnect these projects to the system. The initial Midwest ISO studies indicate the Big Stone – Granite Falls 345 kV line is common to all transmission plans under study. Other transmission lines under consideration in combination with the Big Stone – Granite Falls 345 kV line include:

- Big Stone – Alexandria 345 kV Line; or
- Big Stone – Toronto 345 kV Line; or
- Big Stone – Brookings 345 kV Line

OTP continues to participate in Midwest ISO studies with the interconnection customers in order to determine if some of the transmission development work that was completed as part of the Big Stone II project can be utilized.

Otter Tail is a participant in the CapX 2020 effort that intends to permit and construct major transmission facilities in the region. A small portion of one of the initial projects, a proposed 345 kV transmission line from the White, SD area (Brookings County Substation) to the southern Twin Cities area is located in South Dakota and shown in Figure 1. The current schedule for this facility indicates an in-service date is expected sometime between 2014 and 2016. The CapX utilities have obtained a Certificate of Need for the Minnesota portion of the project and are expecting to receive a Route Permit during the summer of 2010. The CapX utilities will be requesting a Route Permit for the South Dakota portion of the project sometime during the next year. Negotiations among the CapX utilities are still underway, but at this time it appears that Otter Tail will own a portion of this project.

Figure 1 Proposed 345 kV line from White, SD Area to the Twin Cities Area



Otter Tail continues to see a lot of activity within South Dakota related to increased interests in new wind generation development, large load expansions related to the ag-processing industry and energy transport industry. As these projects are further developed, it is possible that additional transmission will be required. Further study will be required to determine the optimum transmission plan and will be coordinated through local and regional transmission planning processes in place at the Midwest ISO, the Midwest Reliability Organization (MRO) and Mid-Continent Area Power Pool (MAPP).

SECTION 8 -- COORDINATION OF PLANS

Otter Tail conducts transmission planning in a coordinated environment, involving neighboring utilities, load serving entities, state regulatory commissions and members of the public to collaborate in the planning process.

Regional Coordination through the MISO Process

As a transmission-owning member of the Midwest ISO, Otter Tail participates in various transmission planning efforts, the most significant of which is the annual Midwest ISO Transmission Expansion Planning (“MTEP”) process. The MTEP process involves a variety of planning analyses to determine the performance of the transmission system for a wide variety of conditions. Through the MTEP process, the Midwest ISO, with input from various stakeholders, evaluates the system for both reliability and economic needs.

Local planning of the Otter Tail facilities less than 100 kV is primarily coordinated on a subregional level. Otter Tail’s locally planned projects are then reviewed by the Midwest ISO and may become part of the MTEP. Developing local transmission plans at a subregional level and rolling them up to the Midwest ISO provides for regional coordination of local transmission plans, which leads to transmission projects being built in a coordinated manner to address the transmission needs of the larger region. This coordination for identifying new transmission projects also augments the larger region by providing for a transmission plan that maximizes the benefits of the new projects and in many cases reduces the number of new transmission projects that are needed than if transmission planning was done solely on an individual basis. Regional coordination of local transmission plans also results in study efficiencies by keeping a broader group of utilities, states, and stakeholders informed through the transmission planning process. During the course of the MTEP process, the Midwest ISO seeks opportunities to coordinate or consolidate, where possible, individually defined transmission projects into more comprehensive cost-effective developments. The Midwest ISO coordinates with Transmission Owners, and considers the input from various stakeholder groups (through Subregional Planning Meetings, Planning Subcommittee Meetings, and Planning Advisory Committee Meetings) to develop expansion plans to meet the needs of the transmission system. This multi-party collaborative process allows for all projects with regional and inter-regional impacts to be analyzed for their combined effects on the transmission system. Moreover, this collaborative process is designed to ensure the most efficient and cost-effective transmission expansion is developed, while giving consideration to the inputs from all stakeholders.

Additionally, subregional, state, and non-Midwest ISO coordination is necessary because the Otter Tail transmission system is highly interconnected with neighboring non-Midwest ISO/MAPP transmission owners. The Otter Tail transmission system is nearly the farthest, most western border of the Midwest ISO footprint; therefore, it is interconnected with several transmission-owning utilities that are not members of the Midwest ISO, but instead remain members of MAPP.

Regional Coordination through the MAPP Process

Otter Tail continues to coordinate with the non-MISO parties in our region that are still a part of the MAPP Regional Transmission Committee (RTC).

We accomplish this coordination through participation in several working groups and committees. Some of these groups and committees include:

- Northern MAPP Subregional Planning Group (NM SPG)
- Missouri Basin Subregional Planning Group (MB SPG)
- Northern MAPP Operating and Review Working Group (NMORWG)
- Transmission Reliability Assessment Working Group (TRAWG)

The NM SPG and MB SPG typically meet every other month to discuss members' planned projects (including the identification of member-system enhancements that could relieve congestion or integrate new resources), share study results, and establish ad-hoc study groups for regional and local concerns at all voltage levels. The SPGs provide forums for the coordination of individual utility transmission plans, coordination with other SPGs, and coordination with neighboring non-MAPP utility systems. SPG meetings are open to all interested parties who have a signed Non-Disclosure Agreement with MAPP.

Otter Tail is also actively engaged in NMORWG. This working group performs seasonal operating studies for the Northern MAPP region and defines specific operating guides relevant to different operating conditions. The NMORWG meetings provide a forum for exchanging information with neighboring transmission owners regarding projects that are being built and operated in the near-term operating horizon.

The TRAWG performs transmission system assessments for MAPP members that are required by the reliability standards defined by the North American Electric Reliability Corporation (NERC). Given that the Otter Tail system is highly integrated with MAPP members, it is required that we stay actively engaged in these studies in order to coordinate these system assessments with our neighboring transmission owners. This coordination also eliminates any duplication that may occur if each transmission owner would be performing their own assessments individually.

Regional Coordination Through the Local Process

Otter Tail also participates in CapX 2020 (Capacity Expansion by 2020) effort, which is a joint initiative of transmission-owning electric utilities in Minnesota and the surrounding region created on the basis of expanding the electric transmission grid to ensure electric reliability for several years into the future. The CapX 2020 utilities (including cooperatives, municipal utilities and investor-owned utilities) collaboratively assess the current transmission system and plan for the necessary future transmission infrastructure investments. This collaborative process and the planning studies performed as part of this effort are coordinated with the Midwest ISO.

In addition to the CapX 2020 effort, Otter Tail also has Integrated Transmission Agreements (ITA) with Central Power Electric Cooperative, Missouri River Energy Services, Minnkota Power Cooperative, and Great River Energy. These agreements provide for joint use of transmission facilities in common areas of service and require that the utilities jointly plan and coordinate additional facilities required for the common service area. Furthermore, Otter Tail has agreements for joint use of transmission and interconnection with Xcel Energy (formerly Northern States Power), East River Electric Cooperative, Montana-Dakota Utilities Co., Manitoba Hydro, Northwestern Energy, and Western Area Power Administration. These agreements were all precipitated through joint studies and coordination of facilities required to provide high reliability of service at the minimum cost. Facilities proposed and committed through this local process become part of the MTEP and are also coordinated with the MAPP.

Summary of Regional Coordination

As discussed above, Otter Tail coordinates extensively with its neighboring utilities to share system plans and identify system enhancements through the Midwest ISO, the MAPP, and through local participation in coordinated transmission planning (such as CapX 2020 and the ITAs). Otter Tail's participation in the Midwest ISO study process provides coordinated planning for the entire 15-state Midwest ISO footprint while participation in various working groups and committees within MAPP provides for coordinated planning within the historic 7-state MAPP region, which includes both utilities that are Midwest ISO members and utilities that are not Midwest ISO members.

SECTION 9 -- SINGLE REGIONAL PLANS

The proposed facilities mentioned in Sections 5 and 7 comprise a part of the MAPP Regional Plan and the Midwest ISO Transmission Expansion Plan.

SECTION 10 -- SUBMISSION OF REGIONAL PLAN

The RTC, through the Transmission Planning Subcommittee (TPSC), publishes a Regional Plan every even-numbered year with updates to the Regional Plan in the odd-numbered years. The Regional Plan for 2010 is expected to be released in November. MAPP staff classifies the Regional Plan as Critical Energy Infrastructure Information (CEII) and therefore requires a MAPP CEII Non-Disclosure Agreement to obtain the document.

Likewise, the Midwest ISO compiles a MTEP on a regular basis. The regional planning process within the Midwest ISO concludes with a final report that is ultimately approved by the Midwest ISO Board of Directors. Currently, MTEP10 is underway with MTEP-09 being the last approved report available on the Midwest ISO website for public viewing at:

http://www.midwestiso.org/publish/Folder/254927_1254c287a0c_-7e5f0a48324a?rev=1

SECTION 11 -- UTILITY RELATIONSHIPS

Refer to Section 8 for a listing of the coordinated efforts in which Otter Tail is involved.

As mentioned previously, Otter Tail has Integrated Transmission Agreements (ITA) with several utilities. These agreements provide for joint use of transmission facilities in common areas of service. These agreements require joint studies and coordination of facility additions to provide high reliability of service at the minimum cost. Otter Tail has interconnections and transmission agreements in South Dakota with the following utilities: Northwestern Energy, Montana-Dakota Utilities Co., East River Electric Cooperative, Missouri River Energy Services, and Western Area Power Administration.

SECTION 12 -- EFFORTS TO MINIMIZE ADVERSE EFFECTS

As reported in the July 2008 South Dakota Ten Year Biennial Plan, the Advanced Hybrid™ system was deemed unacceptable for particulate emissions control, and it was replaced with a conventional pulse-jet fabric filter in 2007. The pulse jet fabric filter continues to operate successfully. The Big Stone Plant is currently operating within all presently applicable federal and state air quality and emission standards.

On June 15, 2005 the United States Environmental Protection Agency (EPA) signed the Regional Haze Best Available Retrofit Technology (BART) rule. The rule requires emissions reductions from designated sources that are deemed to contribute to visibility impairment in Class I air quality areas. At the request of the South Dakota Department of Environment and Natural Resources (DENR), Otter Tail agreed to model Big Stone Plant emissions to evaluate the impact of plant emissions on Class I air quality areas. On September 18, 2009 DENR approved the modeling protocol and on November 2, 2009 Otter Tail submitted to DENR its analysis of what control technology should be considered BART for NO_x, SO₂, and particulate matter for the Big Stone Plant. In that filing, Otter Tail estimated the cost of BART technologies to be approximately \$146 million for the Big Stone Plant (Otter Tail's share would be 53.9%).

On January 15, 2010, the DENR provided Otter Tail with a copy of South Dakota's draft proposed Regional Haze State Implementation Plan (SIP). South Dakota's draft proposed Regional Haze SIP recommended the sulfur dioxide and particulate matter emission control technology and emission rates that generally followed Otter Tail's BART analysis. The DENR recommended a Selective Catalytic Reduction (SCR) technology for NO_x emission reduction instead of the Otter Tail-recommended separated over-fire air. Otter Tail estimates the cost of the BART technologies based on the DENR proposal to be approximately \$223 million for Big Stone Plant (OTP's share would be 53.9%). The DENR proposes to require that BART be installed and operating as expeditiously as practicable, but no later than five years from EPA's approval of the South Dakota Regional Haze SIP, which is expected no later than January 15, 2011.

By monitoring programs, Otter Tail is able to identify any adverse environmental effects at Big Stone Plant. Although not required to do so by any federal, state, or local governmental bodies,

Otter Tail engaged in pre-operational and post-operational air, water, and soil monitoring programs at Big Stone Plant. The purpose of these programs is to provide information to determine any effects of Big Stone Plant on the surrounding environment and to provide an "early warning" system should any of the effects of the plant be adverse.

Condenser cooling at Big Stone is accomplished by using a 340-acre closed-cycle cooling pond. Use of such a pond eliminates any potential problems created by plant thermal discharges to public bodies of water.

In 1980, construction was completed on the \$13.5 million Big Stone Plant wastewater management project, including a brine concentrator. The purpose of the brine concentrator is to remove the accumulated dissolved solids from water recycled in the closed-cycle cooling pond by a process similar to that employed in a distillery. Benefits of the brine concentrator include reduced disposal volume of plant wastewater and improved cooling pond water quality.

Dikes surround oil storage tanks and larger chemical storage facilities to prevent contamination of large areas of soil or water should rupture of a storage tank occur. All underground petroleum storage tanks have been removed and replaced where necessary with above ground storage tanks. All above ground tanks are in compliance with existing requirements of the DENR.

Otter Tail will continue to cooperate with the South Dakota Public Utilities Commission and the DENR in an effort to site and operate future power plants and transmission lines in an environmentally acceptable manner, contingent with the needs of a reliable supply of electrical energy.

Social and Economic Effects

Social and economic effects are very closely related. In fact, they are often referred to as "socioeconomic" effects. Because of their close relationship, the socioeconomic effects will be discussed jointly.

From experience gained in past construction projects, such as Big Stone Plant, and Coyote Station located near Beulah, North Dakota, Otter Tail has been made aware of the socioeconomic effects of large construction projects. Pre-construction and post-construction socioeconomic monitoring was conducted in the vicinity of Big Stone in order to evaluate the effect of a large construction force on such things as the business community, housing, and essential services such as hospital and dental care. This type of monitoring was employed in conjunction with the construction of Coyote Station. Socioeconomic effects were evaluated as part of the Big Stone II Energy Conversion Facility Site Permit application process. Otter Tail agreed to implement the recommendations of the Local Review Committee if construction of Big Stone II had proceeded.

In order to aid the economy in the area of construction, it has been Otter Tail's policy to utilize the local labor force and local contractors as much as possible. Local contractors also provide essential services during plant operations.

Health Effects

Various governmental regulations, including, for example, primary and secondary ambient air quality standards and water quality standards, have been promulgated to protect the public health and welfare. Otter Tail will comply with these regulations. In addition, Otter Tail contributes to organizations, such as the Edison Electric Institute, which work to identify potential health and environmental problems as they relate to the electric utility industry.

Public Safety

Otter Tail is very concerned about public safety. All readily accessible substations and major plant sites are fenced to prevent unescorted access by the public who might be unfamiliar with electric energy or associated generation facilities.

In addition, Otter Tail complies with all applicable construction codes for the construction of electrical transmission lines and generation facilities.

Otter Tail also inspects its facilities periodically to help safeguard against failures of vital components and prevent any unnecessary exposure to the general public. Included in the inspections are electric transmission lines, circuit breakers, capacitors, and transformers.

Historic or Aesthetic Preservation Effects

A Programmatic Agreement (PA) had been developed for the proposed Big Stone II Project and Big Stone Transmission in accordance with the stipulations of Section 106 of the National Historic Preservation Act. It was developed by Western Area power Administration and was completed after consultation with the Minnesota and South Dakota State Historic Preservation Officers (SHPO), the Big Stone II Co-owners, interested tribes, cooperating agencies, and other interested parties. Mitigation measures as well as stipulations outlined in the PA were intended to eliminate or minimize adverse affects to cultural resources.

The PA outlined the steps to be taken to identify cultural resources and to: evaluate them to determine eligibility for listing on the National Register of Historic Places (NRHP); identify potential adverse effects; to develop measures to avoid, reduce or mitigate adverse effects; and address inadvertent discoveries of cultural and paleontological resources. It also assigned roles and responsibilities for implementation of the PA, which ensured that all interested parties are involved in decisions regarding the treatment of historic and traditional cultural properties (TCPs) that would have been affected by the proposed Project.

Aesthetic effects have been considered in the design of transmission lines and power plants and will be considered in the design of future facilities. Transmission line routing considerations include visual effect on surrounding terrain. The design of Big Stone Plant included the choice of a color scheme that would blend with the surrounding countryside.

SECTION 13 -- EFFORTS RELATING TO LOAD MANAGEMENT

The main objective of the Otter Tail's "Load Management System" is to turn off a variety of selected customer loads at times when our system is experiencing peak or near peak loads. This system has allowed Otter Tail to delay the need for the addition of new generating facilities and to permit the power system to be more efficiently operated.

Otter Tail began the development of a load management program and control system in September of 1975. The Company investigated and tested several control systems and, in 1980, started the installation of the FM Radio Load Management System. In 1992 the new PC Based Automated Control System was completed. Over a 4 year period from 2003 to the summer of 2007, Otter Tail replaced all of our load management equipment. This included over 40,000 radio receivers on customer's premises along with software and hardware to allow the secondary use of the office to truck and truck to truck voice radio system for load management transmissions.

The update of the radio load management system was necessary since our existing system was based on over 20 year old technology and thus difficult to find replacement receivers. We had also experienced a continued reduction in the overall effectiveness of the system, thus a reduction in the total megawatts of controlled load.

Control of residential central air conditioners is now possible since the new system has the ability to cycle loads automatically in short duration (15 minutes on, 15 minutes off,). Otter Tail continues to promote this new program in order to increase the number of air conditioners available for summer control. Total controlled air conditioner installations as of May 2010 include 617 across the Otter Tail system with 19 of these installed by our customers in South Dakota.

The load management system replacement has improved the amount of controllable load and thus given us the confidence in the system needed to accredit this load modifying resource with Midwest ISO as of June 1, 2010.

Winter season manageable loads are in several categories and can reach as high as 130 MW. These tariffs include electric water heaters, thermal storage, RDCs (residential demand controllers), commercial time of use, small dual fuel heating systems, and large dual fuel (industrial and bulk interruptible loads).

The radio load management system also has the capability of interrupting as high as 20 MW of summer peak load. These summer loads consists primarily of water heaters, irrigation, the large dual fuel industrials and residential air conditioning.

Total installations of the load management system as of May 2010 include 41,067 radio receivers on the Otter Tail system with 4,055 of these radio receivers located on our customer's premises in the state of South Dakota.

Otter Tail has registered its load management system with the Midwest ISO as a Demand Response Resource. The Midwest ISO has certified Otter Tails load management system for 105 MW during the winter season and 25 MW during the summer season.

SECTION 14 -- LIST OF REPORTS

Otter Tail is not aware of any reports or studies filed or proposed to be filed with federal or other state agencies relating to proposed energy conversion or transmission facilities.

SECTION 15 -- CHANGES IN STATUS AT FACILITIES

There is no change in the Big Stone Plant status. The unit continues to be operated as a base-loaded unit for Otter Tail system load. Lake Preston continues to be operated during peak demands and line stability conditions. In the summer of 2001 an inlet fogging system was added at Lake Preston to increase monthly summer ratings.

SECTION 16 -- PROJECTED ELECTRIC DEMAND

For the 2009 winter season, Otter Tail had an unmanaged system peak of 818 MW on January 8, 2010 for the hour ending at 12 p.m. The projected unmanaged winter season demand for the Otter Tail system is shown in Table 1. Winter data reflects the MISO planning year in which the winter season begins in November of the listed year and extends through April of the following year.

During the time since Otter Tail last filed its South Dakota Ten-year Biennial Plan, the Midwest ISO has replaced the MAPP as Otter Tail's resource adequacy authority. Under MAPP, the load forecast was prepared to a statistical probability that the actual peak load would exceed the projected peak load 95% of the time. Under MISO, the load forecast is prepared to a statistical probability that the actual peak load will exceed the projected peak load 50% of the time. Therefore, the projected winter season demand shown in table 1 is significantly lower than the projected winter season demand shown in previous reports.

Table 1 Projected Unmanaged Winter Season Peak Demand¹ for Otter Tail System

Year	Unmanaged Peaks (MW)
2010	776
2011	787
2012	799
2013	817
2014	839
2015	860
2016	885
2017	915
2018	928
2019	940

¹ Peak values are prior to new conservation program impacts.

Table 2 shows the projected unmanaged winter season peak demand for the South Dakota portion of Otter Tail's system. Again, in Table 2, winter data reflects the Midwest ISO planning year in which the winter season begins in November of the listed year and extends through April of the following year.

Because the South Dakota portion of the Otter Tail system demand is not metered, Table 2 unmanaged peak demand was estimated by applying the ratio of projected South Dakota energy sales and projected system energy sales to projected system peak demand.

Table 2 Projected Unmanaged Winter Season Peak Demand¹ for SD Portion of Otter Tail System

Year	Unmanaged Peaks (MW)
2010	73.7
2011	74.0
2012	75.9
2013	76.8
2014	77.2
2015	77.4
2016	78.8
2017	80.5
2018	78.9
2019	80.8

¹ Peak values are prior to new conservation program impacts.

Otter Tail has registered its load management system with the Midwest ISO as a Demand Response Resource. The Midwest ISO has certified Otter Tails load management system for 105 MW during the winter season and 25 MW during the summer season.

As a company, Otter Tail will continue to use a combination of load management and purchase agreements with other utilities to meet any future deficits. Otter Tail also continues to study and assess the potential for future additions to its generation resources.

Otter Tail has purchased summer and winter season peaking capacity for the year 2010. A capacity and energy purchase from Manitoba Hydro Electrical Board expired April 30, 2010. A comparable contract for summer and winter capacity and energy from Minnesota Power will extend from May 1, 2010 through May 31, 2013. The Company has capacity contracts with Wisconsin Electric Power Company totaling 35 MW from June 1, 2010 through May 31, 2011, and 50 MW from June 1, 2011 through May 31, 2013. Otter Tail has also purchased 50 MW of capacity from Great River Energy from December 1, 2010 through December 31, 2014. Further detailed information may be obtained from Otter Tail's Resource Plan documents that are filed with the Minnesota Public Utilities Commission. Copies of the Company's Resource Plans are provided to the North Dakota Public Service Commission. The Company's next Resource Plan will be filed July 1, 2010.

SECTION 17 -- CHANGES IN ELECTRIC ENERGY

The projected increase of winter season unmanaged peak demand for Otter Tail's system and South Dakota is shown in Table 3.

Table 3 Projected Increase of Winter Season Unmanaged Peak Demand¹ for Otter Tail System and South Dakota Portion

Year	Unmanaged System Load Increase (MW)	Percent Increase of System	South Dakota Load Increase (MW)	Percent Increase of South Dakota
2011	11	1.4%	0.3	0.4%
2012	12	1.5%	1.9	2.6%
2013	18	2.3%	0.9	1.2%
2014	22	2.7%	0.4	0.5%
2015	21	2.5%	0.2	0.3%
2016	25	2.9%	1.4	1.8%
2017	30	3.4%	1.7	2.2%
2018	13	1.4%	-1.6	-2.0%
2019	12	1.3%	1.9	2.4%

¹ Load values are prior to new conservation program impacts.

SECTION 18 -- MAP OF SERVICE AREA

A map of the Otter Tail service area is shown in Figure 2 below.

Figure 2 Otter Tail Service Area

