Exhibit__(BJL-3)

SOUTH DAKOTA ELECTRIC INTEGRATED RESOURCE PLAN 2012

NorthWestern Energy | ABERDEEN GENERATING STATION

www.northwesternenergy.com

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Preface

The South Dakota Integrated Resource Plan provides a disciplined economic evaluation of supply and demand-side resources that could meet the next 10 years of NorthWestern's forecasted load-serving obligation. The Plan employs quantitative risk analysis to help understand the potential effects from environmental and market uncertainties at a time when utilities, including NorthWestern, are working to minimize consumer rate increases while maintaining reliability, sustaining or enhancing infrastructure, and meeting growing demand. The Plan's conclusions will guide NorthWestern's investments on behalf of customers and shareholders.

This Plan is based on the most current information available. Depending on future events such as legislation, environmental requirements, and market prices, this Plan may need to be modified to reflect those updated requirements.

The Plan's analysis of the best performing portfolios provides valuable insights about desirable portfolio characteristics. NorthWestern will continue to evaluate the needs of its customers in terms of capacity, base-load energy, and energy efficiency while balancing the effects on customer rates and reliability and ensuring regulatory compliance.

I. Executive Summary

This Plan provides a disciplined economic evaluation of supply (energy and capacity) that could meet the next 10 years of NorthWestern's electric load-serving obligation in South Dakota. The Plan analyzes a range of potential environmental and market uncertainties that have the greatest potential to impact customer needs and long-term procurement options. The Plan's conclusions are intended to help guide NorthWestern's investments on behalf of its customers in South Dakota. The reader is cautioned to not extrapolate conclusions from this Plan to other service territories served by NorthWestern, and vice versa. For example, regulatory environments, markets, and portfolios differ and therefore make such extrapolations, in many cases, irrelevant.

This Plan is based on currently available information, and it will be updated from time to time to reflect significant future events, such as new legislation, regional operational/planning needs, or environmental requirements.

A. Load Requirements

1. Energy

NorthWestern expects moderate, but steady load growth over the next 10 years. To meet this additional load, new resources or market purchases will be required.

As the analysis below indicates, even though NorthWestern is expected to depend more and more on the market to supplement additional energy needs, it will continue to evaluate whether the addition of a base-load resource is the best choice for customers, based on reliability, long-term price stability, and cost considerations. It is estimated that NorthWestern could spend over $24 million in market energy purchases by 2022 if the current portfolio is maintained.

2. Capacity

In 2013, NorthWestern will add the Aberdeen peaking unit to its portfolio. The Aberdeen peaker will provide 52 MW of summer capacity and year-round capacity support for our electric system. This will limit NorthWestern's customers' exposure to a significant amount of capacity market risk that would otherwise be acquired through relying on market purchases. In addition, NorthWestern was able to execute a capacity agreement with Basin Electric Power Cooperative to cover the remaining capacity requirements. Prior to the 2015 capacity agreement expiration date with Basin Electric, NorthWestern will again need to evaluate the availability and cost of market capacity versus build.

NorthWestern will evaluate the capacity market as 2016 approaches to determine the most cost effective capacity additions. Projected growth, changes to the planning reserve requirement, and available transmission may also significantly influence the timing for any additional capacity equipment.

The summer peak load obligation (including 7.1% reserves) is expected to be lower than available capacity, including contracts, through 2015. Some form of additional summer capacity will be needed for the spring of 2016 and beyond. This forecast assumes that the new Aberdeen peaking unit will be online in 2013. Without the new Aberdeen peaking unit, it is anticipated that there would be summer and possibly winter capacity deficit occurring as early as 2013.

3. Conclusions

Despite the considerable value of the planning process, modeling inputs have inherent limitations; and, in many instances, conclusions regarding portfolio performance must be tested under market conditions. For example, key inputs to the model, such as price forecasts, are simply an informed estimate of what may happen in the future. Historic market changes have diminished the predictive value of natural gas price forecasts, as actual market prices have far surpassed what best-informed analysts predicted. Other inputs have similar limitations.

The conclusions of this Plan thus should not be viewed as definitive regarding which resource types will be added, but rather the Plan sets the backdrop against which resource options will be considered, based on what we know at this time. Uncertainties discussed in the Plan, such as the status of federal treatment of carbon emissions or other regulatory requirements will likely have a significant influence on future resource choices.

Future electricity supply costs are likely to continue to increase. Ratepayers should take higher future costs into account when they make decisions about home construction, insulation, appliance purchases, and their consumption behaviors.

NorthWestern's continued growth in the demand for energy and capacity will either increase the portfolio's exposure to market purchases or increase the overall generation portfolio. Current forecasted market conditions indicate that NorthWestern should utilize the market for the short term while evaluating the financial and reliability conditions that would drive the addition of new resources.

B. Action Plan

NorthWestern's Action Plan provides specific steps to implement the Plan:

1. The South Dakota Integrated Resource Plan will be presented to the South Dakota PUC on December 19, 2012. NorthWestern welcomes questions and comments from the Commission.

2. *Future Capacity Contracts*. The termination of the agreement with Basin Electric after the summer season of 2015 will leave a capacity short-fall. An RFI or RFP will be

conducted to determine the costs and availability of capacity resources and will be compared to the benefits of developing new generation.

3. *Base-load Energy*. Based on earlier discussions, NorthWestern will continue to evaluate shaped market strips of power versus the addition of base-load resources, and vice versa.

4. *Renewable Energy Resources*. To diversify the renewable resource portfolio and strive to achieve the renewable objective, renewable supply sources including DSM will be identified and, where appropriate, solicited.

5. *Periodic Review*. NorthWestern will continually monitor conditions and update this Plan accordingly.

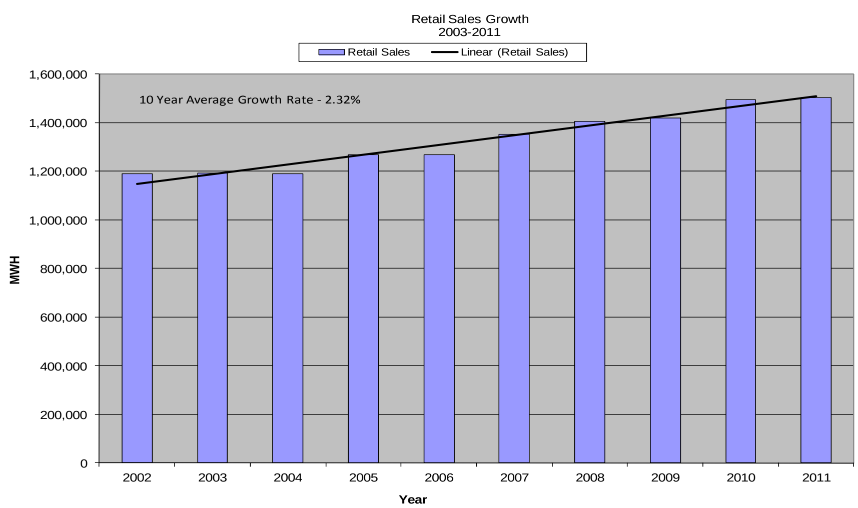
II. Energy and Capacity Picture

A. Historic Growth

1. Energy

NorthWestern's retail sales have grown at a steady rate. Year-over-year adjustments due to economic reasons have had short-term effects, but steady annual growth at about 2.32% has continued over the long term. System energy requirements for 2012 are expected to be around 1.6 million MWH, as seen in Figure 1 below.

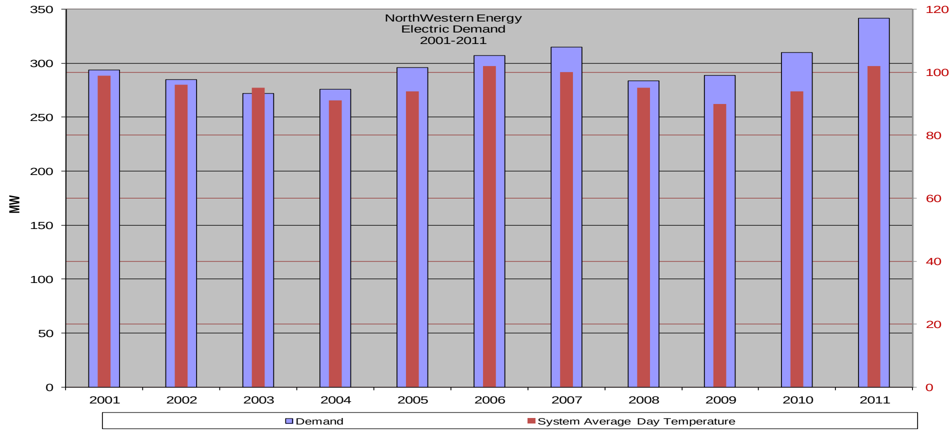
Figure 1: Historical Load - SD Retail Sales



2. Capacity

Likewise, NorthWestern has experienced continued capacity growth over the past 10 years, as represented by Figure 2. During this period, the summer peak load records indicate annual growth ranging from -10 MW to 9 MW primarily driven by weather. Although the year-over-year weather-dependent peaks are variable, the overall growth has been fairly consistent as illustrated below.

Figure 2: Historical Capacity



The NorthWestern electric service territory is characterized by predominantly residential and small commercial customers with a small number of light-industrial customers. This type of retail customer base has a high demand for space heating and cooling relative to their "base" load requirements. As a result, the system annual load profile has significant seasonal variation, with maximum demands occurring during winter and summer extreme temperature periods. Annual load factors are typically in the 50 to 60% range.

Winter space heating is supplied predominantly by natural gas or other non-electric sources; whereas, summer space cooling is electricity-based. In recent years, winter peak loads have been growing faster than summer peaks. During the winter of 2009–2010, NorthWestern established a record winter demand of 278 MW. NorthWestern's winter demand has reached approximately 97% of its capability until the Aberdeen peaking unit, primarily for summer peaking, is commercially available in the second quarter of 2013. The Aberdeen peaking unit will satisfy the need for winter capacity for several years beyond. For the near term, summer peaks are the driver for determining required electric generating capacity.

During the last 10 years, new record summer peak loads have been established on four occasions. These are shown in Figure 3 with the respective system average ambient temperature during the peak load measurement period.

Figure 3: Summer Peak Loads

Year	Peak	Temperature	Date
2005	297.8 MW	98.0° F	August 2
2006	309.4 MW	100.8° F	July 31
2007	315.1 MW	99.9° F	July 23
2011	341 MW	101.5° F	August 1

A new system peak load of 341 MW (unaudited) was established in the summer of 2011 during a period of extreme high ambient temperatures. During that period, the weighted average temperature was an unprecedented 101.5 degrees Fahrenheit. However, for the purposes of peak annual load forecasting for future periods, a “system design” temperature of 100 degrees Fahrenheit will continue to be used, as it more closely reflects the historic average temperature experienced at the times of new peak load records.

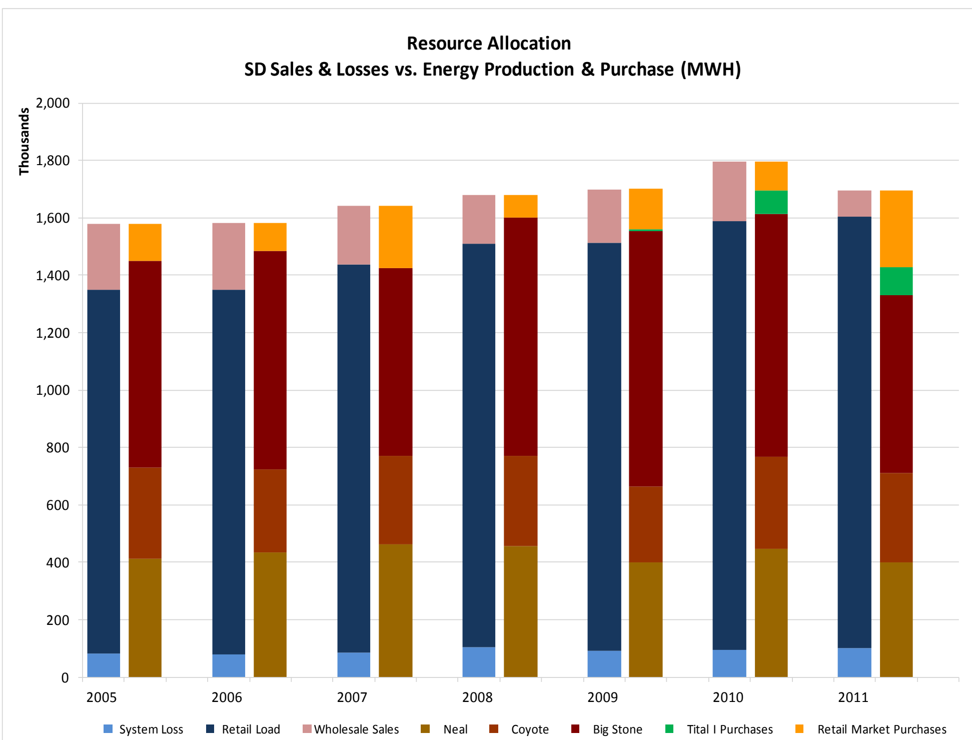
B. Portfolio

NorthWestern uses a mixture of resources to meet the existing energy and capacity needs of its South Dakota customers. As described in this section, the South Dakota portfolio includes base-load coal generation, natural gas and diesel peaking generation, a wind power purchase agreement, capacity and energy purchase agreements, and efficiency programs.

1. Energy Resource Mix

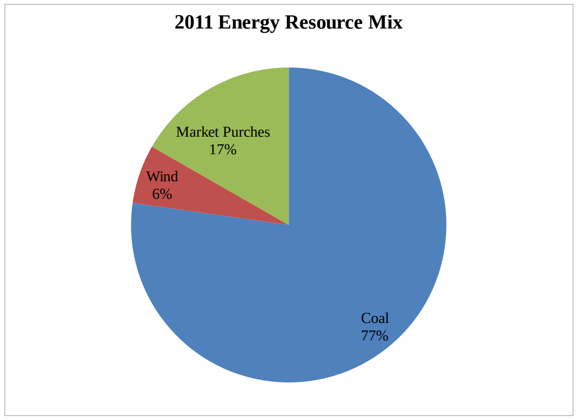
NorthWestern energy requirements have historically been met with its coal resources and market purchases. Recently, a wind PPA has been added to the portfolio which provides for additional energy as shown in Figure 3.

Figure 4: Historical Resource Allocation



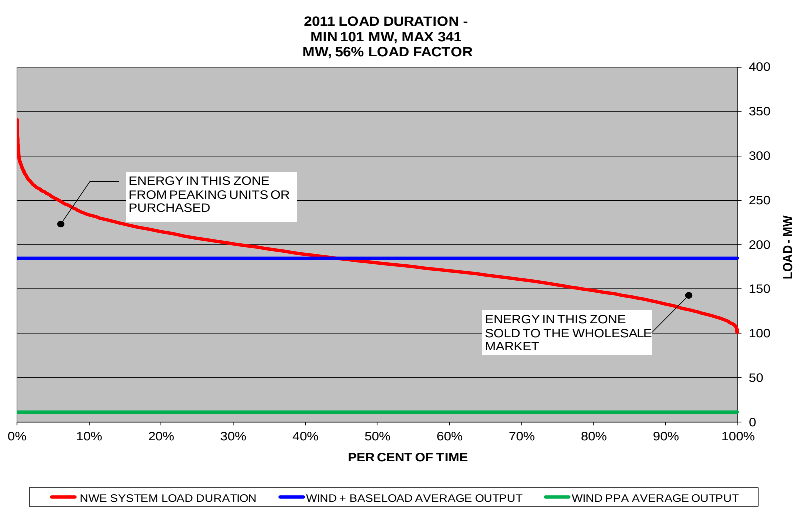
Utilizing the existing portfolio, 77% of the energy resource needs are provided by the base-load coal resources and 6% from a Wind PPA shown in Figure 5. The balance of the energy needs has been provided through market purchase from the WAPA balancing pool.

Figure 5: 2011 Energy Resource Mix



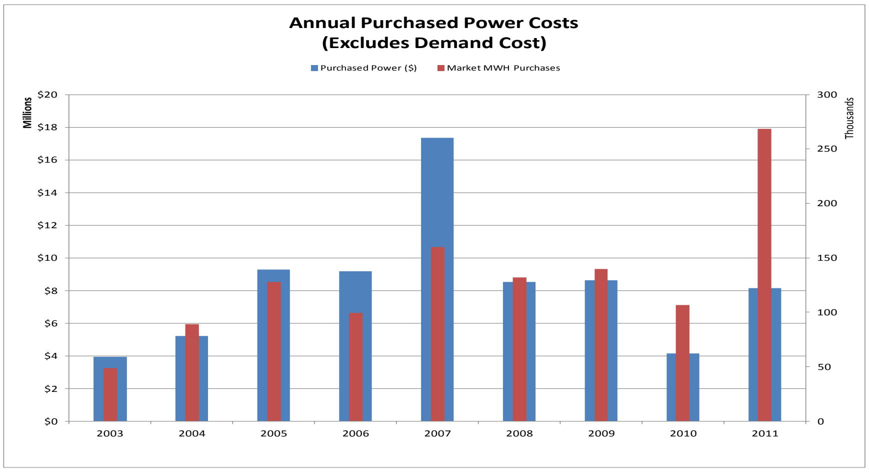
As NorthWestern's load has grown, the capability of internal generation to supply 100% of the NorthWestern load during all hours has been reduced. Although only 17% of the total energy needed was purchase from the market, because of a long baseload plant outage in 2011, NorthWestern purchase power from the market in about 44% of the hours throughout the year. Using average baseload availability the number of hours purchased would have normally been in the 27% range for 2011. As seen in Figure 6 below, NorthWestern's base-load generation provided enough power to supply all of NorthWestern customers' needs 56% of the total hours during 2011.

Figure 6: 2011 Load Duration



Historically, NorthWestern's market purchases are primarily driven by weather and planned or unplanned outages. Shown in Figure 7, in 2007 NorthWestern had an extended outage at one of the base-load units that affected the amount of energy purchased from the market and the market prices at the time drove the overall costs. In 2011, NorthWestern again had an extended outage, but the timing of the outage and the market pricing at the time. NorthWestern's load growth vs. baseload supply trends, outage adjusted, continues to slowly increase the amount and time of purchased energy.

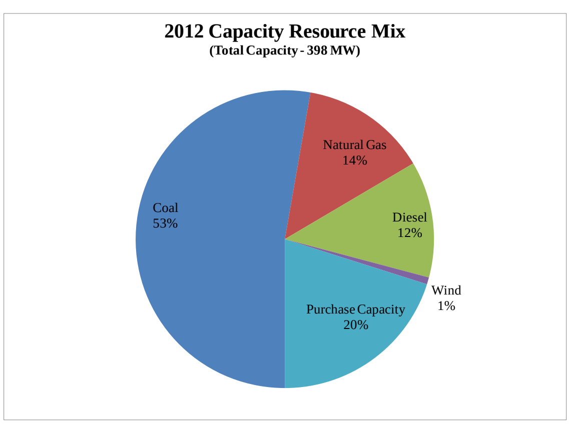
Figure 7: 2003 – 2011 Annual Purchased Power Costs

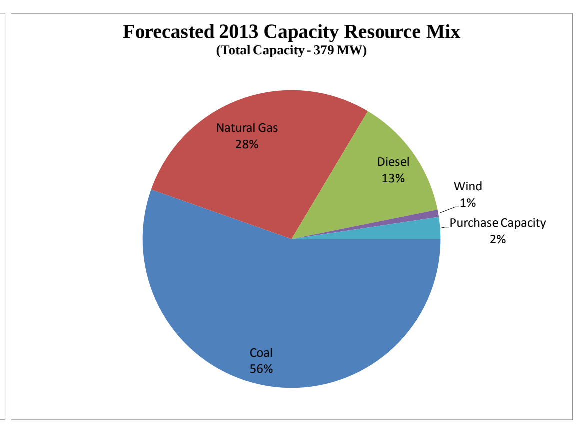


2. Generation Resource Mix

NorthWestern's existing capacity resource mix has been predominately coal for over 30 years. In 2012, NorthWestern's sources for meeting peaking requirements were 53% base-load coal, 14% natural gas, 12% diesel, 20% market, and 1% wind, based on nameplate capacity. The primary purpose of peaking facilities is reliability. With high market exposure for capacity, NorthWestern had concerns for the availability of transmission to bring the market capacity to NorthWestern's system. In 2011, NorthWestern began construction on the peaking unit in Aberdeen and entered into a new capacity agreement from a provider that is connected to NorthWestern's network.

Figure 8: Capacity Resource Mix, 2012 & 2013





3. Generation Assets Summary

A detailed description of the assets is included in Appendix B: Electric Plant Capacities.

Base Load (Summer Ratings, 2011)	Big Stone 111.2 MW Neal 4 56.0 MW Coyote 42.7 MW **Total 209.9 MW**
Peaking These units provide peaking as well as emergency back-up services for various communities.	Existing mixture of 18 diesel engine and combustion turbines at seven locations providing 106 MW. 8 MW of reciprocating internal combustion engines (RICE) planned to be classified as "emergency use only" in 2013. A new 52-MW combustion turbine with commercial operation scheduled for second quarter 2013.
Capacity and Energy Contracts	MidAmerican for up to 80 MW through 2012 Basin Electric for up to 19 MW through 2015
Renewable Capacity and Energy Contracts	Titan I Wind Project PPA for up to 25 MW of wind with a small amount of capacity of about 3 MW that is calculated every year based on performance.
Efficiency	DSM – estimated 0.50 MW per year

4. Base-load Generation Assets

a) Big Stone Plant

The Big Stone Plant is located near Big Stone City, South Dakota. The plant is a joint venture among NorthWestern Energy, Otter Tail Power Company, and Montana-Dakota Utilities Co. NorthWestern's ownership and share of the output of the plant is 23.4% or 111.2 MW (MAPP accreditation). Otter Tail Power Company is the operating agent for the three partners.

Big Stone is a coal-fired, cyclone burner, non-scrubbed base-load plant and was built in 1975. The unit is rated at 475 MW. The fuel source is Powder River Basin sub-bituminous coal delivered by the BNSF Railway.

On May 17, 2012, the Big Stone Coordinating Committee met by conference call to authorize the Air Quality Control System ("AQCS") project. The decision was made to proceed with the Big Stone AQCS Project, consisting of the addition of a flue gas desulphurization (FGD) system (scrubber and baghouse), a selective catalytic reduction (SCR) system, separated over fire air (SOFA) system, and balance of plant changes. The Engineering and Operation Committee took action to approve activated carbon injection (ACI) system to be added to the AQCS project with a budget increase of $2.1 million. The budget authorization for the project is $491 million (without AFUDC). The completion date for the AQCS project is estimated to be December 31, 2015. Because the AQCS will increase the station power, the net output to NorthWestern will be decreased by approximately 2 MW, from 111.2 MW to 109.2 MW, for both capacity and energy.

Regulatory:

- (Minnesota) Advanced Determination of Prudence (ADP): The Minnesota Public Utilities Commission has issued their written order affirming prudency. The ADP process in Minnesota has been satisfactorily completed. The second report to the Commission was filed in July. A third report is expected to be filed in October.
- (South Dakota) EPA Approval of SIP: The South Dakota Board of Minerals and Environment approved rules implementing the State Implementation Plan (SIP) on September 15, 2010. The EPA approved the final rule on March 29, 2012.
- There have been numerous conversations with the Department of Revenue in an attempt to resolve the interpretation of the property tax exemption language. So far little if any progress has been made. It is quite likely that a legislative fix may be required. A meeting is planned with the South Dakota Department of Revenue to discuss further. Work is continuing on Federal tax savings and South Dakota sales tax rebate.
- (North Dakota) ADP: The Public Service Commission held a working session on the ADP request on May 8. The Commission reached a tentative agreement on the order and scheduled a meeting for May 9 to approve the order. As expected, the order was approved at the May 9 meeting. The Order grants the request for advanced determination of prudence with the condition that "No determination is made in this order regarding the prudence of using either SCR or SNCR technology in the AQCS." The first report to the Commission was filed in July. A third report is expected to be filed in October.
- (South Dakota) Construction permit: Permitting activity for the upgrade is complete.

At the end of 2010, the partners in Big Stone evaluated the possible conversion of the Big Stone plant compared to the environmental upgrade. Options for the coal upgrade or natural gas retrofit were reviewed to ensure the upgrade would be practical and feasible. NorthWestern reviewed these findings with and without the effects of carbon legislation utilizing the Burns & McDonnell forecast for coal and natural gas provided in the Big Stone evaluation and the NYMEX pricing from May 2011. As seen in Figure 9 and Figure 10 below, upgrading Big Stone was the most cost-effective option.

Figure 9: Big Stone Upgrade Rate Comparison without Carbon

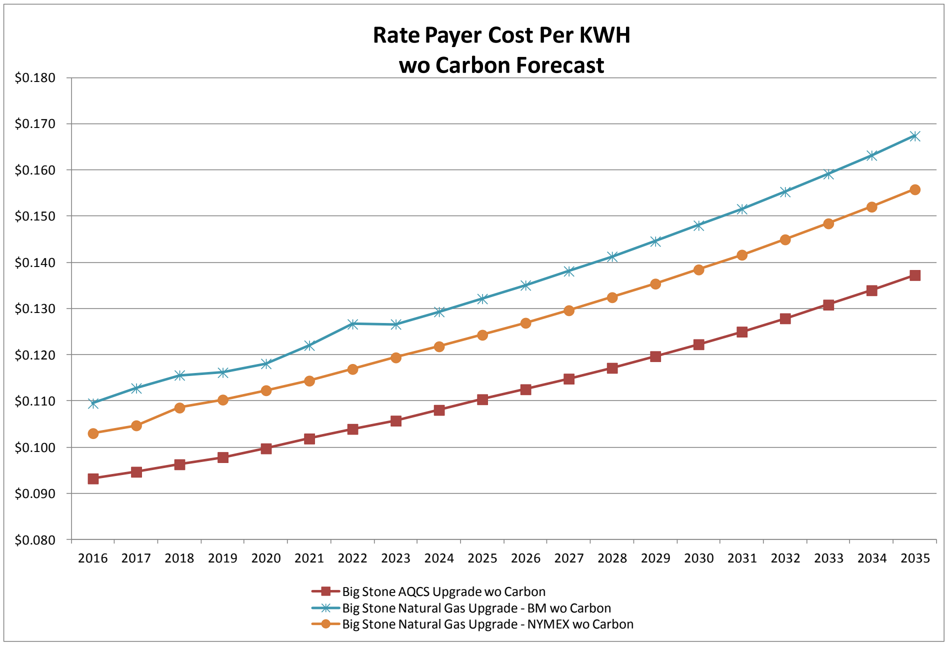
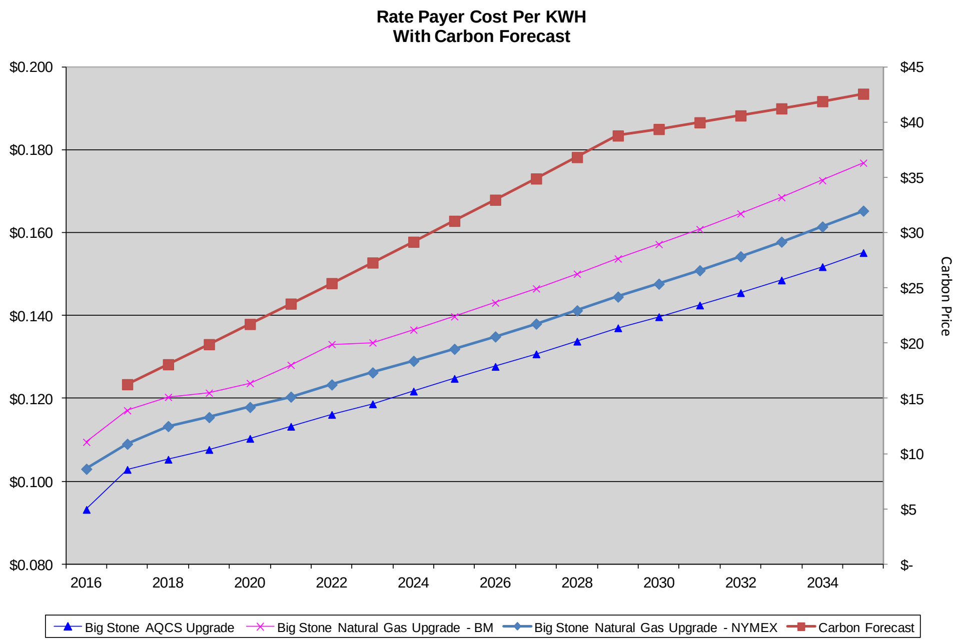


Figure 10: Big Stone Upgrade Rate Comparison with Carbon



b) George Neal Energy Center Unit 4 (Neal 4)

Neal 4 is located near Sioux City, Iowa. This plant is a joint venture among 14 power suppliers. MidAmerican Energy Company is the principal owner and operating agent for the plant. NorthWestern's share of the ownership and capacity entitlement is 8.681%. NorthWestern's portion of the plant is now accredited in MAPP at about 55 MW.

Neal 4 is a pulverized coal, non-scrubbed base-load plant and was built in 1979. It is rated at 656 MW. The fuel source is Powder River Basin sub-bituminous coal delivered by the Union Pacific Railroad. Estimated carbon dioxide (CO_2) emissions are approximately 1.13 tons per MWH. Heat rate is 10,300 BTU/kWh.

The Neal 4 environmental compliance project to add a scrubber and baghouse is underway. The EPC contract for the project was awarded to Neal Station Environmental Partners, a joint venture of Kiewit and Burns & McDonnell. Current site progress includes setting office trailers, site surveys, and installing test pile.

Sulfur dioxide emissions under the NAAQS may also be an issue. However, the planned scrubber is also expected to mitigate this issue.

c) Coyote Station

Coyote Station, located near Beulah, North Dakota, began commercial operation May 1, 1981. The owners of the plant are Otter Tail Power Company (35%), Minnkota Power Cooperative (30%), Montana-Dakota Utilities Co. (25%), and NorthWestern Energy (10%).

Coyote Station is a coal-fired, cyclone burner, dry-scrubbed base-load plant. It is unit rated at 427 MW (transmission limited) with NorthWestern's equity share of 10% or 42.7 MW. The fuel source is North Dakota lignite from an adjacent mine owned by Dakota Westmoreland. Carbon dioxide emissions are estimated to be approximately 1.0 ton per MWH. Heat rate is 11,900 BTU/kWh.

Due to the final MACT Rule, Coyote Station will need activated carbon injection for mercury control plus some supplementary testing to determine if additional controls for particulate are needed. At this point, Coyote Station is planning to add Separated Over Fire Air (SOFA) for nitrous oxide control as required by 2018.

5. Peaking Units

NorthWestern's peaking units are a mix of diesel engine and combustion turbine peaking generators fueled by fuel oil or natural gas located at various points within NorthWestern's South Dakota service territory. The units range in vintage from the late 1940s to 2008. The largest unit is a 44-MW combustion turbine at Huron. Heat rates range from approximately 11,000 to 15,000 BTU/kWh. Regulated emissions are negligible due to the very low number of annual operating hours. The unit mix is identified in Appendix B: Electric Plant Capacities.

In 2013, NorthWestern will add a 52-MW combustion turbine at Aberdeen which is currently under construction. The addition will increase total available peaking generation capability and improve reliability. NorthWestern identified the need for additional internal generating capacity to satisfy continuing load growth and offset the anticipated lack of purchased capacity (decrease in MidAmerican contract) available in the foreseeable future. This capacity scarcity was brought about by several factors. First, a number of conventional generating projects throughout the region have been delayed or cancelled for a variety of reasons, including environmental regulations. And, even though a large amount of mandated renewable energy generation project investment has been made, these projects typically carry very little capacity accreditation. Furthermore, requests for firm transmission service for the delivery of generating capacity purchased under an agreement with MidAmerican Energy Company for the 2012 summer season were hindered by MISO due to a lack of available transmission capacity. This problem is expected to continue beyond 2012, thereby effectively eliminating the possibility of purchasing capacity from the MISO region.

6. Capacity and Energy Agreements

NorthWestern has entered into four energy and capacity agreements: (1) a balancing agreement with WAPA; (2) a capacity agreement with Basin Electric Power Cooperative; (3) a capacity agreement with MidAmerican Energy Company; and (4) a purchase power agreement (PPA) for energy from the Titan 1 Wind Project. The WAPA agreement is primarily used for any shortage or surplus energy on NorthWestern's South Dakota system. To date, NorthWestern has not purchased energy under the Basin Electric or MidAmerican contract. Titan 1 went online in 2010 and produced 82,443 MWH of wind energy. NorthWestern will have additional options for wind as projects develop.

1) Service Agreement for Network Integration Transmission Service between Upper Great Plains Region of Western Area Power Administration (Transmission Provider) and NorthWestern Energy (Transmission Customer)

    - Energy: Non-firm Market Pricing
    - Term: January 1, 2011, through December 31, 2020

2) NAEMA Schedule Q, MAPP Product K: System Participation Power Agreement between NorthWestern Energy, Inc. and Basin Electric Power Cooperative

    - Term: Summer Season of 2012, 2013, 2014, and 2015
    - Capacity: Summer Season (April 1 – September 30)
        - 2012: 5 MW
        - 2013: 11 MW
        - 2014: 15 MW
        - 2015: 19 MW
    - Energy: negotiated with Basin Electric

3) Confirmation Agreement between NorthWestern Energy Corporation and MidAmerican Energy Company (and subsequent Amendment No. 1)

- Term: Summer of 2010, 2011, and 2012
- Capacity: summer (June 1 – September 30)
  - 2010: 74 MW
  - 2011: 77 MW
  - 2012: 80 MW
- Energy: negotiated with MidAmerican

4) Power Purchase Agreement (PPA) with Rolling Thunder I Power Partners, LLC, for energy from the Titan 1 Wind Project

- Wind Energy: up to 25 MW for 20 years
- Capacity
  - Calculated in accordance with MISO guidelines
  - Estimated to be between 2 and 3 MW

7. Demand-Side Management (DSM)

NorthWestern plans to implement a DSM program in 2013 with final approval. NorthWestern estimates that DSM will reduce the current load by approximately 0.25 to 0.50 MW per year beginning in 2013. The DSM program includes:

- Residential and small commercial energy audits
- Inspection, education, and direct installation of some measures
- Trained personnel
- Residential natural gas retrofit program
- Measures
- Rebates
- Fall events
- Residential and commercial lighting rebate programs
- Multiple methods to deliver prescriptive rebates
- Partnerships with retailers

The early stages of the DSM program are focused solutions with available technology that are more affordable for the customers. At this point, residential reductions may be saturated, so additional annual savings beyond 0.50 MW per year are not anticipated.

Residential

- Energy-efficient fluorescent lighting (CFLs) & insulation (ceiling, wall, floor, tank, & pipe)
- Programmable thermostat
- Low-flow faucets, showerheads, and aerators Commercial
- High-efficiency heat pump
- Energy management system
- Energy-efficient fluorescent lighting (T8, T5)

Sometime after 2016, the commercial large building packages will be targeted. These packages are more costly for the customer and require additional planning and budgeting for implementation and cost recovery.

Future Programs – Commercial

- HVAC
- Variable air volume
- Variable speed drives
- Controls, sensors, sweep controls & photocells
- LED exit signs
- Motors and much more …
- Customized incentive program for commercial/small industrial
- New construction
- Demand Response … many variants

NorthWestern has submitted a revised DSM plan to the PUC for its approval and will proceed with the following steps introducing the program in 2013.

- Receive final PUC approval of DSM plan.
- Initiate contracts with service providers.
- Service providers establish and build presence in South Dakota service territory.
- Program support materials, marketing plan, and outreach plan are finalized.

C. Load Forecast

NorthWestern has been able to meet much of the energy and capacity needs of its customers over the last several years with internal base-load resources. Continued growth in energy and capacity will require the expansion of NorthWestern's portfolio to meet customer needs.

1. Energy

The historical energy annual growth remains relatively steady at approximately 2% per year. There still seems to be continued growth in new residential construction with a steady interest from the commercial sector within NorthWestern's service region. Considering a continuation of the historical steady growth rate, the forecasted system energy requirements for 2022 are expected to be near 2 million megawatt-hours. An increase in industrial activity or increased energy conservation within NorthWestern's service territory can significantly affect the forecasted usage.

Figure 11: Forecast Load - SD Retail Sales

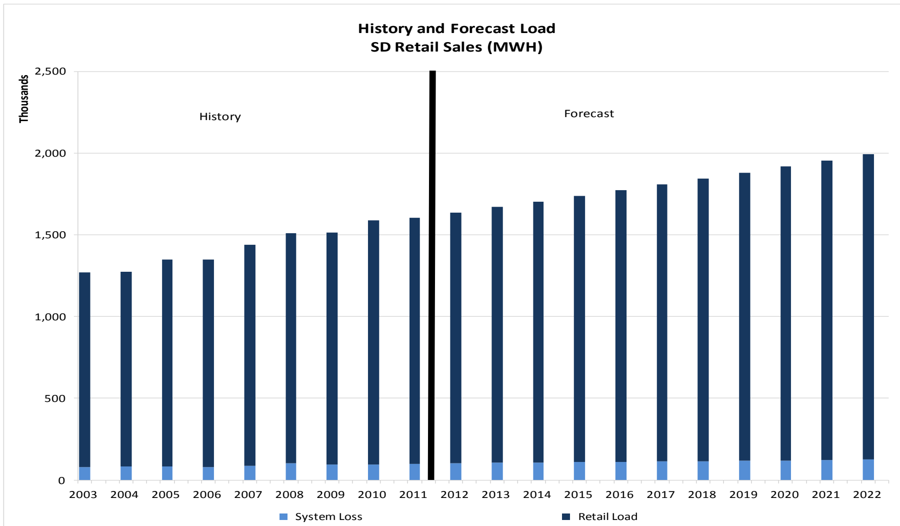
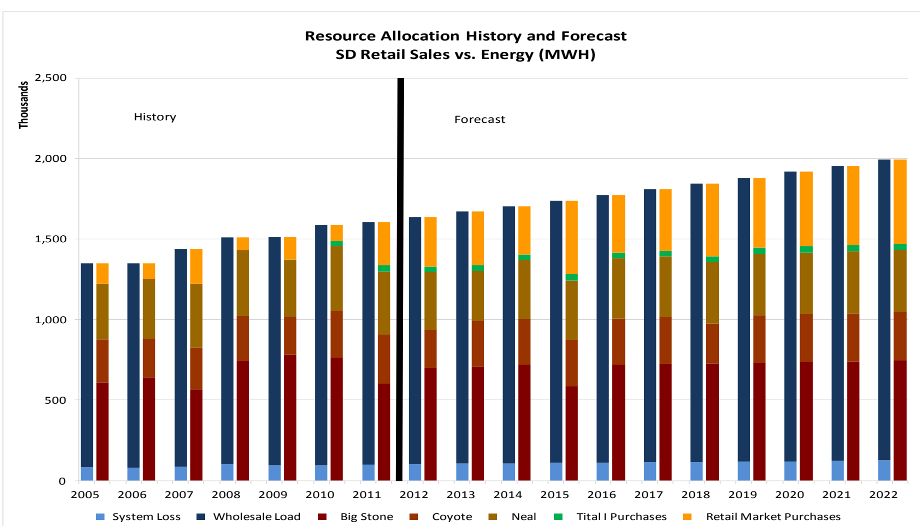


Figure 12 compares NorthWestern's retail energy sales requirements with available resources. The baseload production remains fairly constant while load growth continues to increase. As shown for future periods, NorthWestern is expected to have an energy load requirement of close to 2 GW in 2022. Assuming maintaining the existing profile, an increased amount of market purchases will be needed to meet the forecasted energy needs.

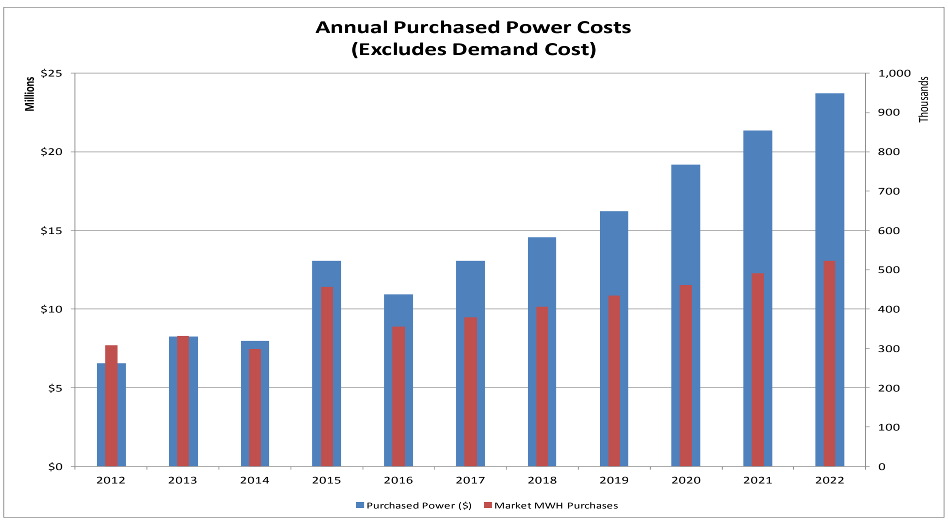
Figure 12: SD Retail Sales v. Energy



NorthWestern will continue to evaluate, including availability of transmission, when the addition of a base-load resource is most cost effective or needed for reliability. NorthWestern will also evaluate the availability of load shaped supply available in the region and the cost effectiveness of operating internal gas generation to fulfill the energy shortfall.

Figure 13 represents the forecast for total purchased power costs (with existing generating resources only) and the amount of forecasted MWHs purchased. Forecasted assumptions used in developing Figure 13 include planned and typical unplanned generation outages and about a 2% annual growth combined with forecast market price trends. Forecasted market prices were provided by Lands Energy Consulting. It is estimated that NorthWestern could spend over $22.5 million in market energy by 2022 if the current portfolio is maintained.

Figure 13: Annual Purchased Power Cost[1]



Current forecasts indicate that load growth will continue to outstrip internal generation capability. Without additional capital investment in internal generation, the most likely means to meet these growing needs will be through market purchases.

2. Capacity

NorthWestern is currently required to carry 7.1% of capacity in excess of its peak load under MISO LEO study. Historic peak load patterns indicate fairly close correlation to a 1.0 to 1.1% per year average growth rate at the 100 degrees Fahrenheit system design temperature. For the purposes of this forecast, a growth rate of 1.05% per year has been chosen. In summary, the 2012– 2021 peak load forecast is shown in Figure 14 along with the total obligation, including a 7.11% planning reserve requirement[2]. These levels also reflect the termination of NorthWestern's 3-MW obligation for the Northern Lights Ethanol plant after 2012.

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[1] Note: 2013 and 2015 include planned plant outages of Neal 4 and Big Stone, respectively, for environmental upgrades.
[2] This is the MISO-prescribed level for this region.

Figure 14: Summer Peak Load 10-Year Forecast

Year	Summer Peak Load	Obligation with Reserves
2012	342.1 MW	366.4 MW
2013	342.7 MW	367.0 MW
2014	346.3 MW	370.9 MW
2015	350.0 MW	374.8 MW
2016	353.7 MW	378.8 MW
2017	357.4 MW	382.8 MW
2018	361.2 MW	386.9 MW
2019	365.0 MW	391.0 MW
2020	368.9 MW	395.1 MW
2021	372.8 MW	399.3 MW

Figure 15 and Figure 16 display NorthWestern's forecasted future capacity deficits and surpluses, based on predicted future capacity obligations compared to existing capacity commitments (existing generation plus third party capacity contracts). These forecasts include the termination of the existing MidAmerican capacity contracts after 2012, the addition of a new Basin Electric capacity and energy contract starting in 2012, the addition of a 52-MW combustion turbine in 2013, and the relegation of 8 MW of small diesel generators to "emergency use only" status after 2012 for economic reasons (related to new EPA rules).

Figure 15: Forecasted Summer Capacity

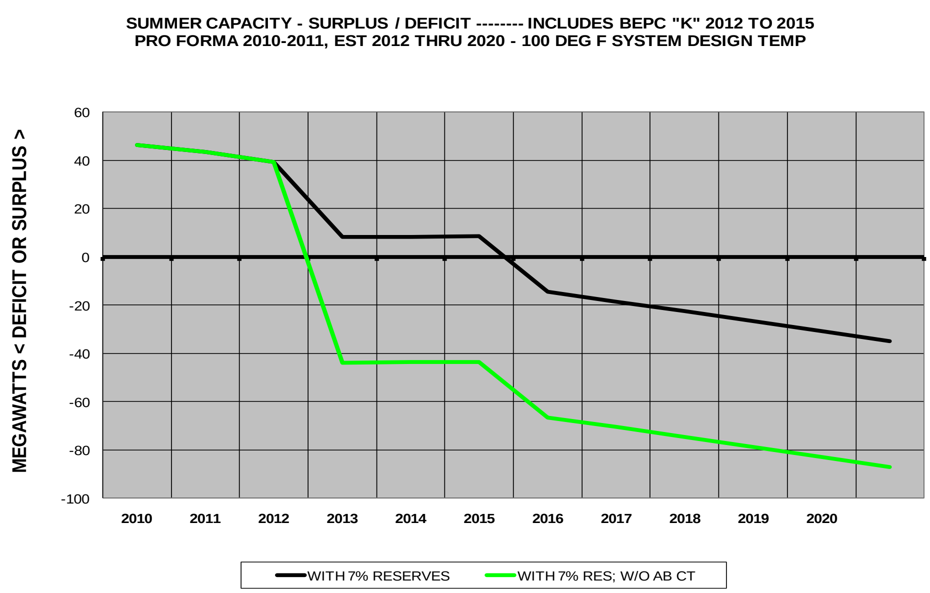
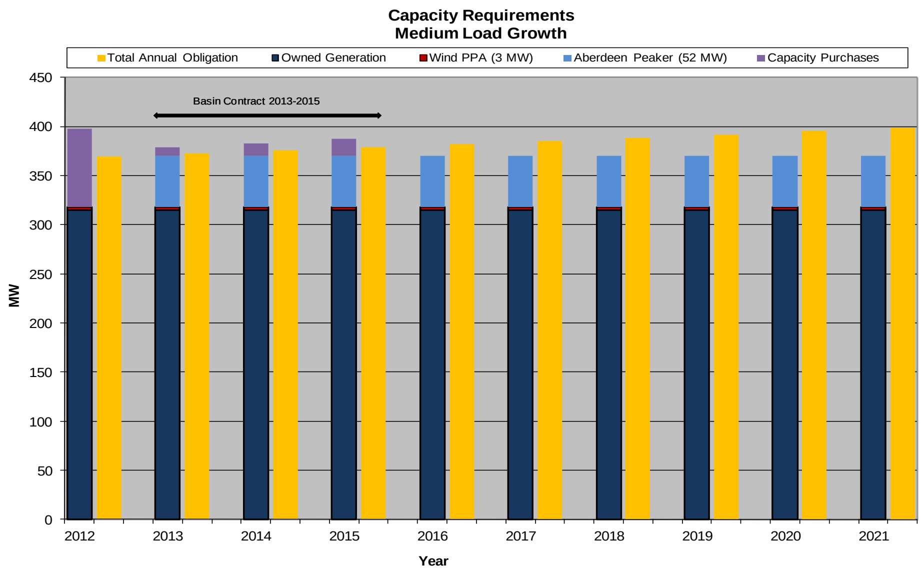


Figure 16 compares NorthWestern's capacity obligation and available resources to meet those needs. The planning reserves required for the MISO LOLE study is 7.1% above system peak demand. Beginning in 2016, NorthWestern is forecasting that it will need to obtain additional capacity either through internal generation additions or third-party contracts, in order to meet its system capacity obligation unless additional resources are added to the portfolio. This is primarily due to the expiration of the Basin Electric capacity contract in the third quarter of 2015.

Figure 16: Capacity and Obligation, 2012–2021



NorthWestern will evaluate capacity options as 2015 approaches to determine the most cost effective capacity additions. Along with projected growth, changes to the planning reserve requirement and available transmission may significantly influence the timing for any additional capacity equipment.

The summer peak load obligation (including 7.1% reserves) is expected to be lower than available capacity through 2015. Therefore, some form of additional summer capacity will be needed for 2016 and beyond. This forecast assumes that the new Aberdeen peaking unit will be on line in the second quarter of 2013. Without the new Aberdeen peaking unit, it was anticipated that there would be summer capacity deficit occurring as early as 2013.

D. 2009 vs. 2012: What has changed?

In reviewing the 2009 Integrated Resource Plan (2009 IRP), the focus and themes are consistent and similar. However, there have been several changes resulting from changes in internal activities since 2009 and market changes that affect the availability and affordability of resources.

1. Energy

In the 2009 IRP, NorthWestern was evaluating an opportunity to expand its base-load coal resource at Big Stone. The analysis provided favorable overall costs, even when considering a possible carbon tax at $28, due to the abundance and price of coal in the region. However, the project was eliminated because of regulatory hurdles in other states.

The evaluations of the 2009 IRP also reflected the 2009 forecasts of electric and natural gas prices. As the market price of natural gas has shifted based due to new reserves and future availability, the evaluation of natural gas generation reflects these market changes in this Plan. Resulting price signals have reduced current and forecasted energy costs, which may affect the timing and cost justification of other resource builds.

2. Capacity

In the 2009 IRP, NorthWestern identified a need for additional capacity to ensure reliability for our customers. This Plan assumes that the installation of the Aberdeen peaking facility, which will allow the bulk of our needed capacity that are being procured from the market to be replaced by the new unit.

E. Planning Considerations

In determining future generation resources, availability, reliability, and cost effectiveness will be top considerations. Balancing these considerations against one another to achieve the optimum benefit for customers and meet the needs of the company will be a delicate dance. Renewable energy resources have a role to play along with more traditional fuel sources, such as natural gas and coal. This region's dependence on coal provides a significant cost benefit to customers, as it has been cheap and readily available. However, recognition must be given to changing public sentiment regarding coal. How this changing sentiment may ultimately influence national policy remains to be seen, as the economic advantages of coal to this region are important and need to be considered.

As discussed below, NorthWestern will explore adding wind generation or other renewable resources to its portfolio as it identifies cost-effective projects. This can be accomplished as a company-owned venture or through a power purchase agreement with an independent developer. Either way, the addition of renewable resources to our generation mix must prove to be cost effective for our customers and make sense from a business development perspective.

Changing customer demands will also greatly influence how NorthWestern plans for energy and capacity needs. Traditionally, NorthWestern has been a summer peaking utility, but we are seeing a significant shift in winter peaking events. NorthWestern will consider how to best meet the changing needs through the possible addition of peaking generation or possibly converting existing peaking plants to be used on a more full-time basis. Again, each option will need to be evaluated for its effectiveness in meeting the utility's needs while being the most cost-effective solution for our customers.

Finally, NorthWestern's ability to use contractual agreements with our neighboring utilities to assist us in meeting capacity needs is slowly evaporating. This diminishing availability of regional cooperative agreements will drive NorthWestern towards finding solutions on a more internal and permanent basis.

F. Factors

In this section, NorthWestern discusses the various external drivers that may influence decision-making regarding planning for future energy and capacity needs (identified above).

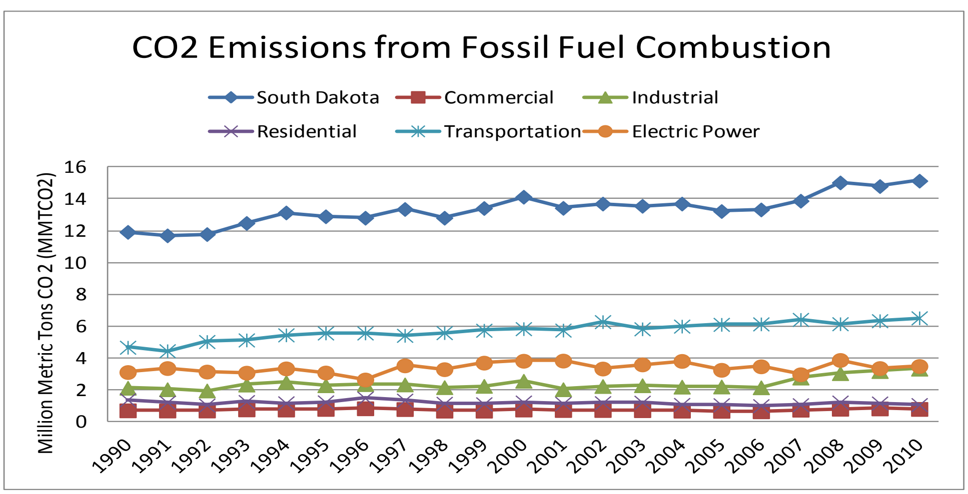
1. Environmental Planning

Numerous environmental policies potentially influence decision-making about generation planning to meet future resource portfolio needs. For example, a subset of these issues includes land use and water issues, impacts on wildlife and plants, and air emissions (including greenhouse gases (GHGs), mercury, particulates, sulfur oxides (SO_x), and mono-nitrogen oxides (NO_x), all potentially influence the type and location of future generation resources. NorthWestern actively participates in the appropriate permitting for land and water issues and studies associated with impacts on wildlife and plants where applicable; nevertheless, there are numerous policy changes (either planned or potential) that could influence the type and location of future generation resources.

a) Carbon Dioxide

South Dakota carbon dioxide emissions increased during 1990 to 2010 more slowly than the national average. Transportation continues to be the largest contributor to carbon dioxide emissions in South Dakota.

Figure 17: SD Carbon Dioxide Emissions 1990–2010[3]



[3] EPA - http://www.epa.gov/statelocalclimate/documents/pdf/CO2FFC_2010.pdf

The Environmental Protection Agency (EPA) proposed the first carbon standard for new fossil-fueled power plants on March 27, 2012. The new standard limits carbon dioxide emissions to 1000 lb/MWh. New coal plants will require carbon capture and sequestration. It sets natural gas combined-cycle as equivalent standard, effectively establishes a moratorium on new coal plant construction. Expect proposed carbon standard for existing fossil-fueled power plants. The when and what are unclear with current political climate. NorthWestern believes it is prudent to consider the effect of possible carbon costs when evaluating options for its portfolio.

b) Mercury and Air Toxics Standards (MATS)

On May 3, 2011, the EPA proposed the Mercury and Air Toxics Standards (MATS) for power plants. These rules finalize standards to reduce air pollution from coal and oil-fired power plants. Emissions standards set under the toxics program are federal air pollution limits that individual facilities must meet by a set date. Since proposing this rule, the EPA has updated some of the mercury emissions data used to develop the proposed standards. The EPA does not expect the update, which corrects a calculation error found a small amount of the data, to change the types of pollution controls necessary to comply with the rule.[4]

The MATS final rule[5] was published on February 16, 2012, and took effect April 16, 2012. Compliance is required by April 16, 2015. Rule requires emission controls on each unit for acid gases (scrubber), mercury, and other metals (baghouse and ACI) and good combustion for organic hazardous pollutants. Litigation was filed immediately after MATS publication in February.

c) Clean Air Interstate Rule (CAIR)

On March 10, 2005, the EPA issued the Clean Air Interstate Rule (CAIR). This rule provides states with a solution to the problem of power plant pollution that drifts from one state to another. CAIR covers 27 eastern states and the District of Columbia. The rule uses a cap and trade system to reduce the target pollutants—sulfur dioxide (SO_2) and nitrogen oxides (NO_x)—by 70 percent.[6] South Dakota is not covered by CAIR.

On July 6, 2011, the EPA finalized a Cross-State Air Pollution Rule (CSAPR) that requires 27 states to significantly improve air quality by reducing power plant emissions that contribute to ozone or fine particle pollution in other states. This rule replaced CAIR. It did not include South Dakota and North Dakota. To comply with CSAPR, Neal 4 needs to be scrubbed and selective non-catalytic reduction (SNCR) installed by 2014.

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[4] http://www.epa.gov/ttn/atw/utility/utilitypg.html (last visited Oct. 18, 2012).
[5] National Emission Standards for Hazardous Air Pollutants from Coal- and Oil-Fired Electric Utility Steam Generating Units and Standards of Performance for Fossil-Fuel-Fired Electric Utility, Industrial-Commercial-Institutional, and Small Industrial-Commercial-Institutional Steam Generating Units, 77 FED. REG. 9304 (Feb. 16, 2012).
[6] http://www.epa.gov/cair/ (last visited Oct. 22, 2012).

In a separate but related regulatory action, the EPA finalized a supplemental rulemaking to require five states—Iowa, Michigan, Missouri, Oklahoma, and Wisconsin—to make summertime NO_X reductions under the CSAPR ozone-season control program. CSAPR requires 28 states to reduce annual SO_2 emissions, annual NO_x emissions, or ozone-season NO_X emissions to assist in attaining the 1997 ozone and fine particle and 2005 fine particle National Ambient Air Quality Standards (NAAQS). On February 7, 2012, and June 5, 2012, the EPA issued two sets of minor adjustments to CSAPR.

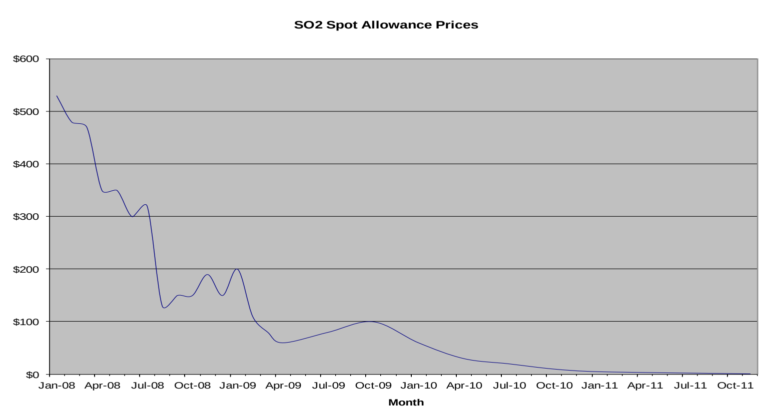
CSAPR was finalized in July 2011, effective January 1, 2012—but stayed in December 2011. The EPA then reinstated CAIR. On August 21, 2012, the U.S. District Court of Appeals vacated CASPR.[7] The EPA is reviewing the court's decision. CAIR remains in place.

d) Sulfur Dioxide (SO_2)

On June 22, 2010, the EPA finalized the new 1-hour National Ambient Air Quality Standards for sulfur dioxide. The new rule revised the primary standard for sulfur dioxide to 75 ppb (1-hour). States are required to make adjustments to existing monitoring network design regulations for the one-hour standard by January 1, 2013.

Currently, NorthWestern is entitled to sufficient sulfur dioxide allowances[8] to meet NorthWestern's requirements for the foreseeable future. Allowance market values for sulfur dioxide have declined to a level below $50 per ton. Figure 18 displays the historical annual allowance price for sulfur dioxide. Future trends appear relatively flat.

Figure 18: SO_2 Spot Allowance Prices



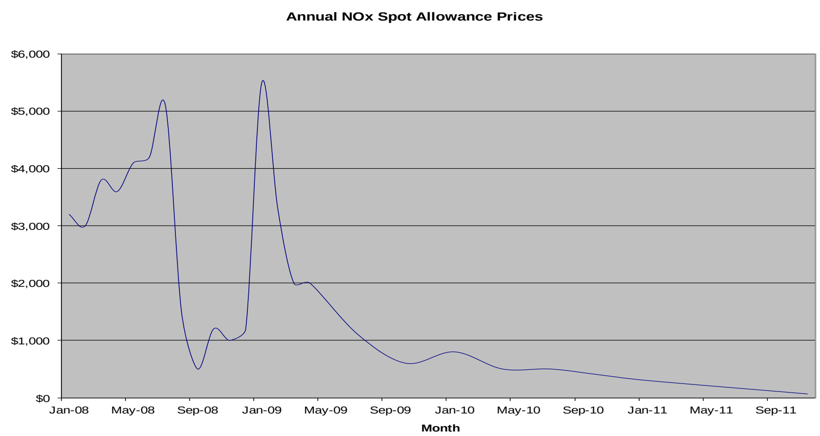
[7] *EME Homer City Generation, L.P. v. EPA*, 2012 WL 3570721 (D.C. Cir. Aug. 21, 2012).

[8] An allowance authorizes a utility to emit one ton of SO_2 during a given year or any year thereafter. At the end of each year, the utility must hold an amount of allowances at least equal to its annual emissions. However, regardless of how many allowances a source holds, it is never entitled to exceed the limits set under the Clean Air Act. Allowances are fully marketable commodities. Once allocated, allowances may be bought, sold, traded, or banked for use in future years. Allowances may not be used for compliance prior to the calendar year for which they are allocated. http://www.epa.gov/airmarkets/trading/factsheet.html (last visited Oct. 22, 2012).

e) Nitrogen Oxide (NO_x)

The forward price forecast for nitrogen oxide is on a downward curve. Current allowance prices for nitrogen oxide are at about $500 per ton and are forecasted to decline below $100 per ton. Figure 19 displays the historical annual allowance prices for nitrogen oxide. Future trends appear relatively flat.

Figure 19: NO_X Spot Allowance Prices



2. Regulatory Environment

The PUC has supported the use of diverse fuel mixes to meet future generation needs for South Dakota customers. They have supported coal-fired base-load options, internal-combustion peaking facilities, intermediate natural gas combined-cycle plants, and renewable resources, including wind, hydro, solar, alternative power generation, and demand-side management. Through its support of diverse portfolio options, the PUC has provided specific guidance concerning renewable energy. Guidance from the PUC regarding qualifying facilities is anticipated in the near future.

The 2008 South Dakota Legislature established statewide policy regarding renewable energy development when it passed a renewable, recycled, and conserved energy objective.

> There is hereby established a state renewable, recycled, and conserved energy objective that ten percent of all electricity sold at retail within the state by the year 2015 be obtained from renewable, recycled, and conserved energy sources. In the case of renewable and recycled energy, the objective shall be measured by qualifying megawatt hours delivered at retail or by certificates representing credits purchased and retired to offset non-qualifying retail sales. In the case of conserved energy, the objective shall be measured by methods established by rules promulgated by the commission pursuant to chapter 1-26. This objective is voluntary, and there is no penalty or sanction for a retail provider of electricity that fails to meet this objective. The objective applies to

> each retail provider of electricity in the state, regardless of the ownership status of the electricity retailer. Any municipal or cooperative utility that receives wholesale electricity through a municipal power agency or generation and transmission cooperative may aggregate the utility's renewable, recycled, and conserved energy objective resources to meet this objective.[9]

NorthWestern will continue to evaluate possible renewable, recycled, or conserved energy resources for addition to its portfolio. The cost-effectiveness of these resources and the timing of their availability will play a significant factor in the evaluation process.

3. Qualifying Facilities (QFs) & Small Generators

NorthWestern currently has two small generating facilities providing energy to the system, and a large QF request is pending before the PUC.[10] NorthWestern is under federal mandate to accept purchases from QFs within certain conditions. However, for planning purposes it is far too unpredictable to include any such purchases in this Plan, whether for energy or capacity, since such purchases are largely out of NorthWestern's control.

[9] SDCL § 49-34A-101.
[10] Docket No. EL11-006.

G. Assumptions

NorthWestern made the following assumptions in developing this Plan.

General	• Wholesale energy pricing is forecasted by Lands Energy Consulting as of May 2012. • Annual peak load growth is assumed at 1.05% per year. • Wholesale margins from the proxy base-load plant are assumed to be 100% ratepayer.
Financial	• Return on equity for rate cases is conservatively assumed at 10% based on recent rate case outcomes. • Debt–equity ratio is 51:49.
Peaking Unit	• 52-MW peaker (location to be determined) • Online in 2016 • Peaker plant cost: $1250 per kW of installed capacity • No net energy is assumed to be produced by peaking plants
Base-load Unit, Natural Gas	• 95 MW • Online in 2016 • Assumes sale of excess supply to other users. • Estimated at $1,500 per kW of installed capacity. • Annual O&M of $3.8 million • Heat Rate – approx 7,000 BTU/kWh • Life Expectancy – 34 years • Natural gas assumption base on Lands Energy Consulting May 2012 estimate
New Wind	• 25 MW • Online in 2015 • Energy with PPA at $60.19 per MWH escalated by 2.44% • 3 MW of accredited summer capacity is assumed for this project.

H. Other Considerations

For regional transmission planning, NorthWestern contracts with the Western Area Power Administration (WAPA) for various services concerning its portfolio, with input from the Midwest Reliability Organization (MRO), Midwest Independent System Operator (MISO), Mid-Continent Area Power Pool (MAPP), Southwestern Power Pool (SPP), and North American Electric Reliability Corporation (NERC).[11]

[11] Descriptions of these planning organizations are located in Appendix A: Organizations.

The NorthWestern integrated resource plan is affected by region planning group relationships. As the regional planning landscape changes, NorthWestern will need to choose to align itself with a planning group that provides the best reliability and affordability. NorthWestern's most significant relationship for Midwest planning and system support is the Western Area Power Administration (WAPA). NorthWestern has 10 interconnection points with WAPA. WAPA provides service to NorthWestern under several contracts, including line dispatching at 115 kV and above, daily load dispatching, wholesale marketing, spinning reserves, transmission interconnection contracts, annual Loss of Load Expectations (LOLE) study from MISO, and Network Integrated Transmission System (NITS) agreement.

If WAPA chooses an RTO strategy, their decision may influence NorthWestern's planning strategy. Costs associated with NorthWestern's membership in a planning group will vary according to our system connectivity with each planning group. On- and off-system transmission costs, capacity reserve requirements, available capacity, market availability, provided services, and system integrations all play a role in determining the membership costs when selecting a planning group.

NorthWestern will continue dialogue with WAPA regarding options they are reviewing and will provide input as to NorthWestern's views on what should happen to meet everyone's best interests. Planned Reserve Sharing Groups (PRSG) in Midwest Independent System Operator (MISO) and Southwest Power Pool (SPP) vary from the Mid-continent Area Power Pool (MAPP) procedures regarding reserves. This could have an impact on capacity requirements. Late this summer, WAPA had a study conducted for the integrated system that explored three options: 1) join MISO; 2) join SPP; or 3) develop a hybrid that puts generation in MISO and SPP as a way to cover their loads in each ISO but not join either as a member. At this point, WAPA is leaning toward the second option. A consultant is doing a study evaluation on power flows, which will be completed by February 2013. WAPA plans to go through a public process after the study is complete. WAPA will then make a decision on which of the three options is best for them. NorthWestern will continue to follow this.

I. Summary

In summarizing the status of the utility landscape in the upper Midwest, the overriding theme is the uncertain environment in which resource decisions and acquisitions are currently taking place. There is significant risk and uncertainty confronting utilities and regulators. In regards to future regional load and resource conditions, the apparent difficulty in deciding whether to construct new base-load resources to serve load or find alternative solutions to meet load growth raises the specter of energy and capacity shortfalls in the future. This will exacerbate an already volatile energy market. In the event utilities do manage to construct new base-load plants, it is assumed that some form of carbon assessment—either in the form of a carbon tax or a cap-and-trade process—will make up a portion of the resources cost. Deriving a reasonable estimate of these cost adders and their resulting impact on the market and other resource costs is nearly an impossible task. As a result of the high level of uncertainty, regional utilities appear to be focused on the development of smaller scale renewable resources, DSM, and planned reliance on the wholesale market, although significant investments in new thermal generation are being considered. NorthWestern approaches this uncertain environment as a utility with a recognized capacity resource deficit that starts in 2016 and looking to identify opportunities to meet specific load-shaped supply needs.

Much of what NorthWestern will consider for future energy and capacity needs will be dictated by what happens at the federal agency and legislative levels. Great uncertainty remains over what direction environmental, taxation, and energy policies will take. Potential costs associated with these policy decisions will affect not only NorthWestern from a business perspective, but will also have a direct bearing on what our customers will pay to receive their utility services.

III. Modeling

A. Description of Available Future Resources

In the development of this Plan, NorthWestern considered a number of possible resource options for inclusion in its supply portfolio. Typically, a given resource can be described by the fuel source (e.g., natural gas, coal, nuclear, wind) and the technology utilized to convert the raw fuel source into electricity. This section contains qualitative descriptions of each resource considered in developing this Plan. Note that a few of these resources, such as base load, solar, and nuclear, were not ultimately included in the modeled portfolios based on their current lack of availability. Future procurement plans will continue to evaluate advances in generation technology and will modify the resources evaluated as appropriate.

1. Base-load Facilities

The following descriptions provide basic information about available generating resources for consideration that may satisfy NorthWestern Energy's forecasted need for base-load energy and peaking reserve capacity requirements in concert with existing resources. Some of the generating resource options listed below are previously planned projects that served as proxies for what could be available in the market.

a) Coal

Although coal remains one of the least-cost dispatch options, uncertain environmental regulations and a continued push by the federal agencies to increase regulations of new and existing coal-fired generation has significantly slowed growth in new capacity from coal-fired facilities.

In order to satisfy NorthWestern's load requirements in comparison to costs associated with building a new coal plant at the size that would provide the proper economies of scale, any new build may need to be a joint effort with other utilities.

While the Big Stone II project has been cancelled, the economic studies related to it are still representative of the projected costs for such a facility in this region. Therefore, that data will continue to be used as a benchmark for evaluating such resources.

b) Generation Construction (National)

A report by the National Energy Technology Laboratory[12] provides an overview of proposed new coal-fired power plants that are under development. The report does not represent all possible plants under consideration, but was intended to illustrate the potential that exists for installing new coal-fired power plants. Actual plant capacity commissioned has historically been significantly less than new capacity announced. A summary of the report is listed below:

- Eleven new plants (6,682 MW) have become operational in 2010; the most in 25 years.
- “Progressing/Commissioned” projects have had a net increase of 1 plant; a net change in capacity of 3,712 MW (+21%) over progressing projects in January 2010.
- 1,599 MW of new capacity have been announced and 6,418 MW have been canceled maintaining approximately 20,000 MW of progressing projects.
- Of 6,418 MW canceled plants, 85% were in the announced phase and 15% were progressing phase.
- Compared to previous years, fewer projects are being announced to offset the recent de-commissioning activities.

c) Natural Gas Base-load Generation

Natural gas has not been used as a base-load fuel in the MAPP region due to price and availability of supply compared to regional coal supplies.

Without the development of economic coal or other new technologies, the most likely option for NorthWestern would be to install a combined-cycle combustion turbine power plant that burns natural gas for fuel. The unit would consist of three combustion turbines and one steam turbine. Any of the three combustion turbines could be used for peaking duty. NorthWestern would need to contract out the excess capacity. Options for use as an intermediate duty generator are discussed in the next section.

d) Nuclear

Although the possibility of nuclear power may still be a few years out, a focus on smaller modular units is moving forward. Several of these technologies are scheduled to be in service over the next 10 years. Appendix C: Nuclear summarizes several nuclear technologies that have continued to move forward with more efficient, safer, and scalable nuclear solutions.

e) Natural Gas Intermediate Generation

NorthWestern is constructing a 50+ MW peaking power supply plant near Aberdeen. The power plant will use natural gas from NorthWestern Energy’s distribution system via the Northern

[12] Erik Shuster, *Tracking New Coal-Fired Power Plants*, National Energy Technology Laboratory (Jan. 13, 2012), *available at* http://www.netl.doe.gov/coal/refshelf/ncp.pdf.

Border Pipeline. This facility could be upgradeable to a combined cycle 3-on-1 plant for future use with service from the same upgraded natural gas facilities. This conversion would provide NorthWestern a 95-MW to 175-MW intermediate power supply.

2. Other Generation Resources

a) Wind Turbine Farms

Commercial wind generators currently range in size from around 1 to 3 MW per unit. Wind generators are generally arranged in a series of farms to capture economies of scale, with some farms having total installed capacity of several hundred megawatts.

While not technically a dispatchable “base-load” technology due to the variable nature of wind, these facilities may offer solutions to a portion of base-load energy requirements. However, relatively low capacity factors limit their contribution as solutions to capacity requirements. They have the advantages of zero fuel cost and zero air emissions and the disadvantage of requiring load-balancing reserves due to their intermittent nature. To date, the ancillary service cost of regulation for wind has not been specifically identified or filed as a tariff within the immediate WAPA balancing authority, but this is likely to change as saturation of wind resources increases. MAPP accredits monthly capacity from these facilities based on a three-year running average output history. Typical accredited monthly capacity factors in this area range from a low of less than 10% to more than 20% of design rating depending on time of year. Summer ratings are usually the lowest, with highest ratings during winter and spring months.

A number of wind energy developers have shown interest in locating facilities in or near the NorthWestern service area with either equity partnership or PPA arrangements. NorthWestern’s first experience with a wind resource is a PPA for 25 MW of wind from the Titan 1 project near Ree Heights. This facility provides approximately 5% of the NorthWestern annual retail sales energy requirement.

b) Small Alternative and Other Renewable Generators

Each alternative generation has different characteristics and applications. These units are typically small (between 100-kW and 5-MW generators using various fuel sources, including hydro, solar, gas, and others. Due to their smaller size they offer the advantage of smaller investments and varied resources. However, they generally exhibit higher construction costs, and non-fuel O&M costs per megawatt than combustion turbines due to controls, maintenance, communications, and economies of scale. NorthWestern currently is exploring options to look at alternative generation in various locations in South Dakota.

c) Purchase Power Contracts

NorthWestern has historically utilized a balancing agreement with WAPPA to satisfy energy shortfalls from the existing portfolio. Although NorthWestern has several negotiated index PPA associated with the capacity agreements that are in place, NorthWestern has never utilized them. Continuing to evaluate the market for available short-term, long-term, and load shaped fixed and index purchase power agreements will help NorthWestern meet the future power needs and determine the economic viability of adding resources.

3. Peaking Capacity Facilities

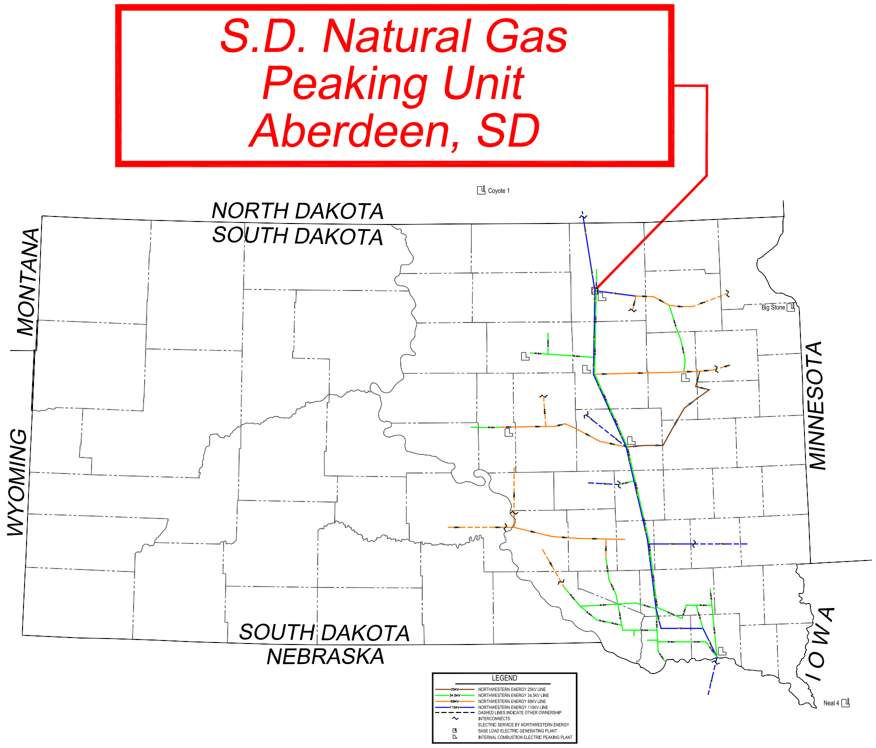
NorthWestern's annual load profile has the characteristic of a relatively low load factor that historically falls between 50% and 60%. In other words, the annual average system demand is typically about one-half of the annual peak hourly demand. This is due primarily to a high saturation of residential and commercial air conditioners that are used only during the summer. The net result is the need for peaking resources to satisfy high demand for only a very few number of hours during the summer months and year.

a) Simple-Cycle Combustion Turbines

This technology uses either natural gas or fuel oil as the fuel source and can be readily located within NorthWestern's service area. (NorthWestern currently has approximately 75 MW of combustion-turbine capacity). These units have relatively low capital and fixed operations and maintenance (O&M) requirements compared to base-load units, but have higher fuel cost due to the use of distillate or gas fuels. Heat rates are in the range of 10,000 to 11,000 BTU/kWh. They offer remote control and provide area protection for increased system reliability as well as satisfying the need for required reserve capacity.

NorthWestern currently has a 52-MW combustion turbine unit under construction that is scheduled to be installed during the second quarter of 2013 in Aberdeen. The location of the generator ties directly to the 115 kV transmission line that is the backbone to NorthWestern's system as shown in Figure 20.

Figure 20: South Dakota Transmission System



b) *Small Distributed Generators*

Having much the same resource characteristics as combustion turbines, these units are typically small (between 1 and 5 MW) diesel engine generators generally using fuel oil as the fuel source. (NorthWestern currently has 32 MW of distributed diesel units.) Due to their smaller size, they offer the advantage of providing area protection in distant, lower-load areas and can help defer transmission upgrades that otherwise would be required solely to cover short duration peak loads. However, they generally exhibit higher non-fuel O&M costs per megawatt than combustion turbines due to controls, maintenance and communications. NorthWestern currently is exploring options to look at distributed generation in three possible locations in South Dakota.

c) *Capacity Purchase Contracts*

Capacity purchase contracts have historically offered cost-effective peaking reserve capacity for the summer months. In addition to the capacity cost, firm transmission service must also be purchased. Based on responses to RFPs in recent years, the availability of summer capacity contracts in this region appears to be decreasing. The magnitude of megawatts purchased each year has grown to represent nearly 25% of NorthWestern's current annual peak demand and is now purchased for four months per year. Also, recent NorthWestern system load trends indicate that additional reserve capacity beyond owned assets may be needed during winter months for the first time in company history. This resource should continue to be considered, but it may be best used as “filler” between steps in acquiring new owned assets. The addition of the Aberdeen peaking unit will help reduce our overall need for capacity and take away the need to look for capacity during the winter months for the next few years. Nevertheless, NorthWestern will continue to evaluate these contracts as the need for additional capacity increases in future years.

B. Additional Risks and Considerations

1. Base Load Availability

There are no planned base-load plants in the region. If NorthWestern is unable to build base-load or intermediate generation capacity, continued increases in energy purchases from the open market will be required.

2. Future Capacity Contract Availability

A risk that also needs to be considered is available future contract capacity described above in the Purchase Power Contracts section. Until NorthWestern ultimately determines whether it will participate in a planning reserve sharing group following MAPP’s termination, long-term capacity purchase arrangements are difficult to identify. In the event that NorthWestern were to join the planning reserve sharing groups of MISO or SPP, capacity-import limitations will also have to be considered. Right now we are contracting with WAPA, as our balancing authority, to do a yearly LOLE study with MISO. This places our current planning reserve requirement at 7.1 % year.

3. Carbon Tax

NorthWestern will continue to monitor legislative developments at the national and state levels. Until some clearer direction is given, the short-term effects of carbon dioxide regulations are not expected, but most of the long-term evaluations expect to have an effect on utility portfolios and generation costs. The value of that future effect is very unclear.

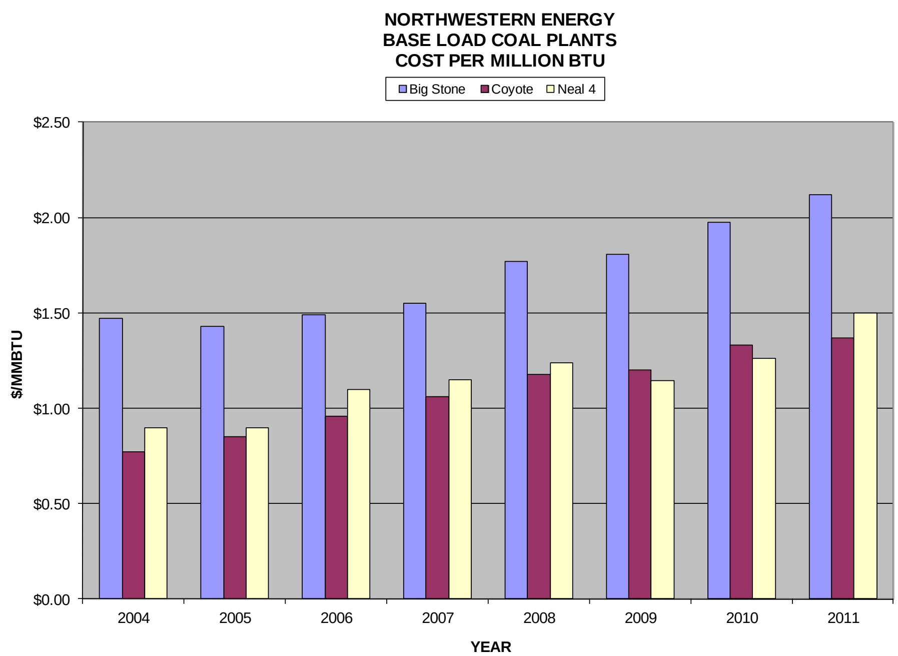
4. Load Regulation with WAPA for Wind

To date, a discrete ancillary service charge for load regulation of wind has not been identified within the WAPA balancing authority, but this may change as saturation of wind resources develops. The effect of any such change could result in increased transmission charges

5. Coal Price

Jointly owned coal-fired plants are used to generate most of the electric energy utilized for South Dakota operations. The remaining balance is mostly supplied by power purchased from the open market. Fuel for NorthWestern’s jointly owned base-load generating plants is provided through several coal supply contracts of varying lengths. Coyote Station is a mine-mouth generating facility. Neal 4 and Big Stone I receive their fuel supply by rail. Environmental factors addressed above are causing upward pressures on coal and transportation costs, which can result in increased costs to customers through fuel cost recovery mechanisms in rates. The average cost, inclusive of transportation costs, by type of fuel burned is shown below for the periods indicated:

Figure 21: Coal Plant Fuel Costs



The average cost by type of fuel burned and the delivered cost per ton of fuel varies between generation facilities due to differences in transportation costs and owner purchasing power for coal supply.

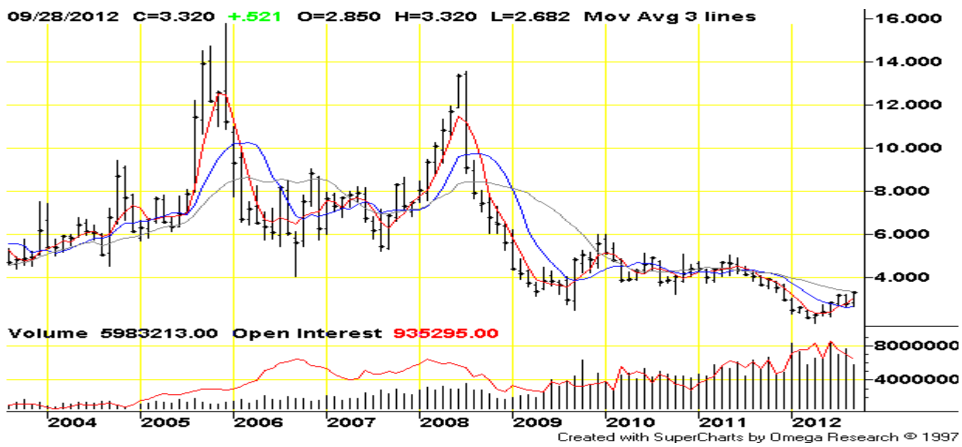
A contributing factor in future coal-based energy pricing involves the potential implementation of regulatory regime for carbon emissions. While the outcome of federal activities is still uncertain, any federally mandated costs related to carbon emissions are very likely to increase retail energy rates.

Due to the abundance of coal-based electric generation in the upper Midwest, viable alternatives to coal are few. Natural gas-based generation would be subject to a carbon charge, albeit at a reduced rate, and would be subject to the higher volatility of the natural gas commodity price. Limited availability and higher, more volatile pricing of natural gas and fuel oil reduces the desirability of these fuels for large base-load generation.

6. Fuel Price Volatility

Figure 22 displays the historical First of Month (FOM) natural gas prices at NYMEX. Since 2003, the natural gas FOM prices have ranged from under $3 to over $15.

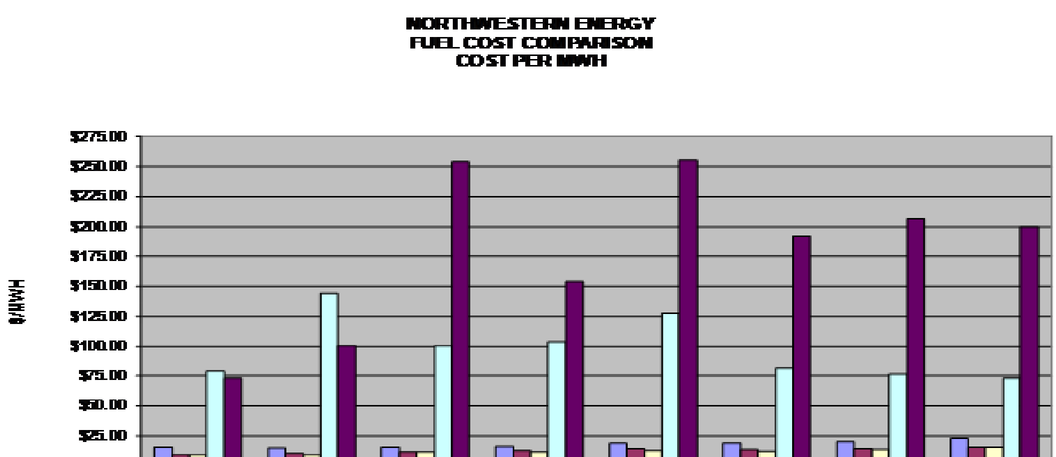
Figure 22: Natural Gas Volatility - Monthly Commodity Futures Price Chart[13]



7. Fuel Price Comparison

Figure 23 shows the relative price rank of fuels used by NorthWestern for generation. Historically, coal has much better price stability and overall lower cost when compared to natural gas or fuel oil.

Figure 23: Generation Fuel Costs Comparison



	2004	2005	2006	2007	2008	2009	2010	2011
Big Stone	$15.44	$15.02	$15.65	$16.28	$18.59	$18.90	$20.24	$22.98
Coyote	$9.16	$10.12	$11.42	$12.61	$14.04	$13.34	$14.46	$15.34
Neal 4	$9.27	$9.27	$11.33	$11.85	$12.77	$12.10	$13.36	$15.51
Natural Gas	$79.35	$144.33	$100.38	$103.74	$127.80	$81.60	$76.80	$73.35
Fuel Oil #2	$73.02	$100.45	$254.08	$154.17	$255.56	$191.70	$206.45	$199.46

[13] http://futures.tradingcharts.com/chart/NG/M

8. Purchase Power Price

Market prices during peak periods can be very volatile and can be dictated by current and future market conditions such as supply and demand, gas prices, and oil prices. With the national and regional economies currently struggling, overall power demand has not yet recovered. At present, energy is available on the market at lower prices compared to historic levels. For example, natural gas prices over the past 12 months have shown continued weakness, and based on current supply forecasts, future natural gas price forecast strips remain near $5. Oil pricing has seen some volatility over the same time frame. Purchased power costs for NorthWestern tend to follow the natural gas markets. Regional market prices continue to be somewhat lower than the last few years.

NorthWestern Energy's need for purchased power is also higher during the time periods when one or more of its jointly owned coal-fired units are off-line for maintenance. Unplanned outages lead to higher replacement power costs than planned outages due to market timing.

C. Model Options

Based on NorthWestern's expected future needs described above, below are six different modeling options that compare the various resources that could be available to meet future needs. The options are offered for comparison purposes, taking into account the various risk factors described in this plan, so that the Commission and the public can better understand how NorthWestern may best meet growing energy and capacity needs over the next 10 years.

No.	Option	Comments
1	**Existing Resources and Supplemental Wholesale Purchases**	This option includes existing resources of 209.9 MW of base load, 102 MW of internal peaking capacity including the Aberdeen peaking facility, 25 MW from Titan I, and 80 MW provided through a capacity agreement with MidAmerican through only 2012. The model includes the planned environmental upgrades to the Big Stone and Neal base-load power plants. The model also includes the Aberdeen 52-MW peaking unit being online in 2013 and capacity from the Basin Electric agreement. Future capacity requirements beyond 2015 are assumed available, deliverable, and at forecasted rates based on NorthWestern's current contracts.
2	**Peaker Only (52 MW)**	This option includes existing resources and adding 52 MW from a combustion turbine peaking plant in 2016 in the Yankton area. Pricing and rates were

No.	Option	Comments
		based on the Aberdeen peaking unit and an estimate for natural gas infrastructure.
3	**Intermediate/Base-load Combined-Cycle Turbine (95 MW)**	This option includes existing resources and upgrading the Aberdeen peaking unit to a combined-cycle turbine adding 95 megawatts of base-load natural gas generation in 2016.
4	**New Wind Only (25 MW)**	This option includes existing resources and 25 MW of new wind generation priced as a PPA with similar pricing of the Titan 1 wind project online in 2015.
5	**Peaker (52 MW) *plus* New Wind (25 MW)**	This option includes existing resources and adding 52 MW from a combustion turbine peaking plant in 2016 in the Yankton area and 25 MW of new wind generation obtained through a PPA with similar pricing as the Titan 1 wind project.
6	**Intermediate/Base-load Combined-Cycle Turbine (95 MW) *plus* New Wind (25 MW)**	This option includes existing resources and upgrading the Aberdeen peaking unit to a CCT adding 95 MW of base-load natural gas generation in 2016 and 25 MW of new wind generation in 2015.

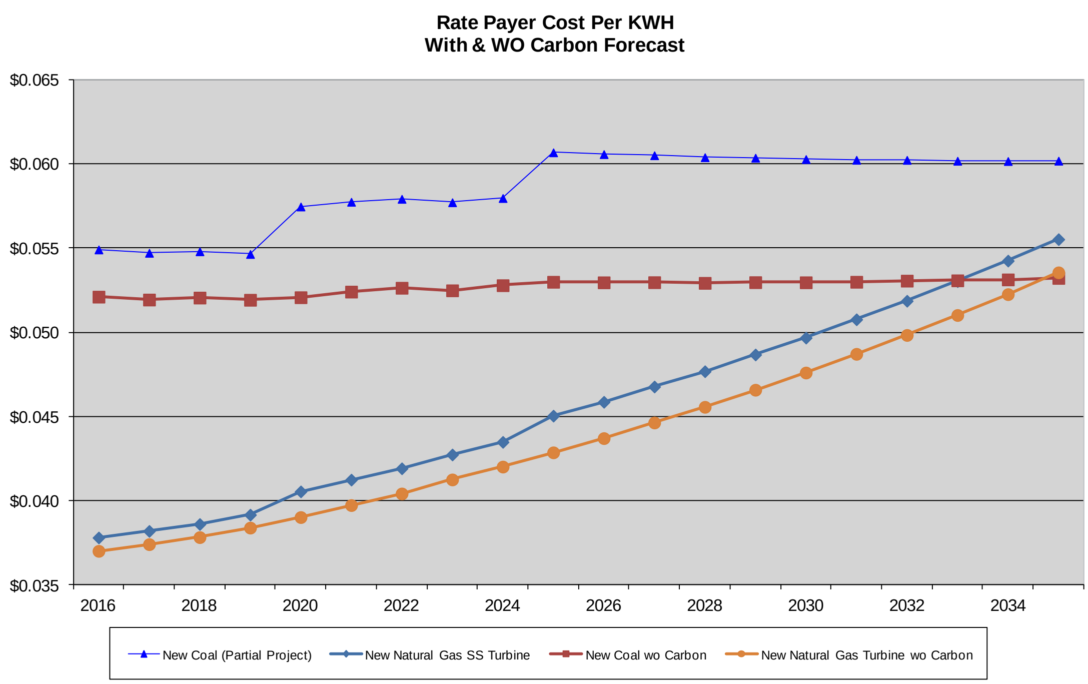
D. Results Summary

1. New Base-load Coal vs. Natural Gas Intermediate Generation Comparison

Because of NorthWestern's load profile and the relative availability of natural gas generation, natural gas intermediate power supply was used to compare with base-load coal below. For several reasons, options for base-load generation are expected to be limited in the MAPP region. The construction of a new coal plants appear unlikely because ofthe current risk related to environmental requirements. Plants that are being considered are mostly natural gas intermediate power supply. Figure 24 assumes a production of 718,000 MWh annually with a 2016 natural gas supply cost of $4.14 per MMBtu using a market forecast provided by Lands Energy Consulting from May 2012. This comparison includes a carbon dioxide cost adder based on a carbon tax of $5, $10, and $15 in 2015, 2020, and 2025 respectively. Currently there are no credible proposals for a carbon tax or cap and trade in front of the legislature or in Congress.

The results of this high-level comparison show the difference between a natural gas intermediate generation plant and a base-load coal plant for ratepayer costs in Figure 24. Due to fluctuation in natural gas pricing, electric rates to customers appear to have an upward risk. And, any carbon regulation would have an upward push on natural gas prices, too. Continued increased regulations from the EPA for environmental controls on new coal generating facilities will push the cost of coal generation higher. Our forecasts indicate, however, that with current natural gas pricing, natural gas generation remains favorable to new coal generation.

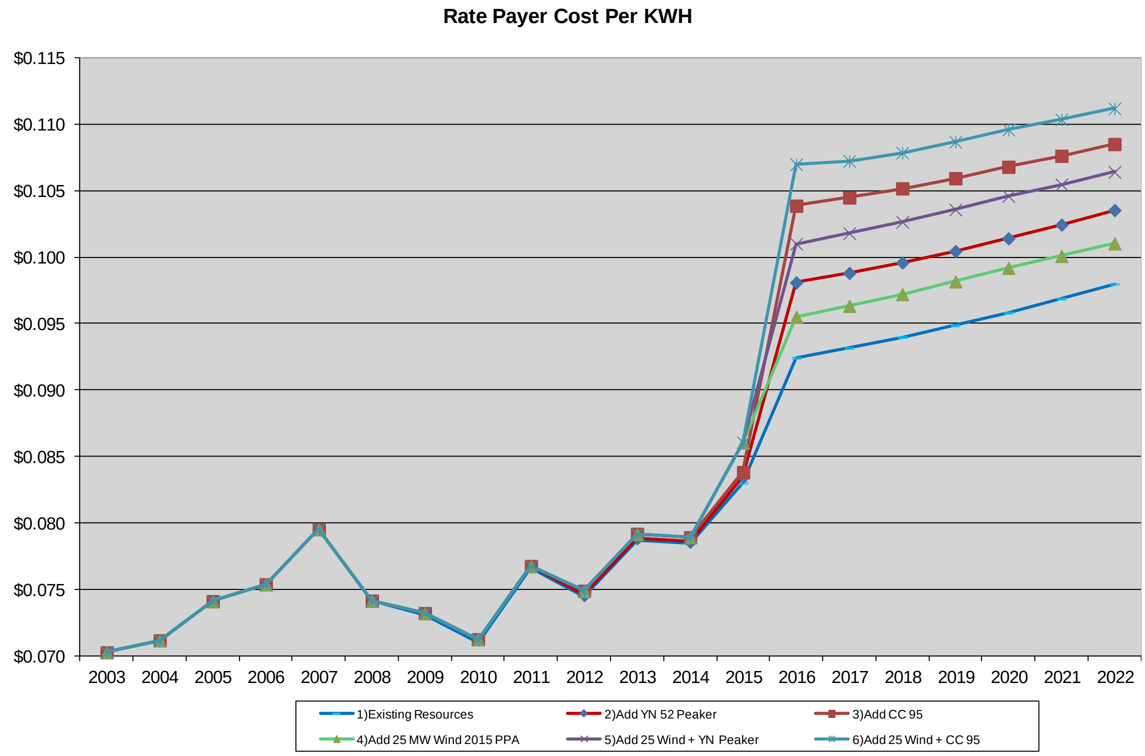
Figure 24: Coal vs. Natural Gas - Rate Payer Cost per kWh



2. Rate Payer Cost per kWh

The cost per kilowatt-hour shown in Figure 25 reflects the effect of each portfolio option on NorthWestern's customers. Figure 25 below indicates that the existing resource mix is to be the most cost-effective alternative, taking into account forecasted electricity prices and moderate load growth. This assumes no additional coal regulation, and no changes in capacity requirements. Changes in the inputs to the model may yield different results. NorthWestern will continue to evaluate the model and inputs.

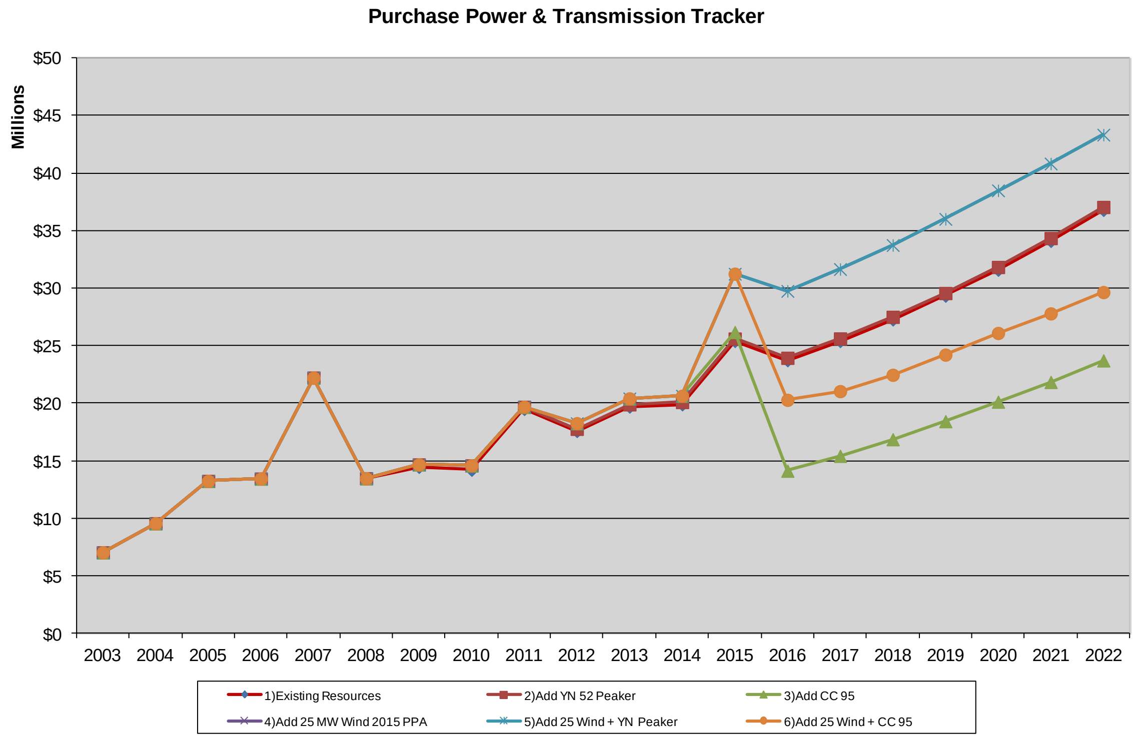
Figure 25: Rate Payer Cost per kWh



3. Purchased Power

NorthWestern purchases additional power from the market during periods when demand exceeds base-load capacity, when such resources are temporarily off-line, and when market prices are at or below the cost of peaking generation, which generally happens in light load hours. As base-load needs grow, the amount of purchased power required to serve base load may increase, unless alternative resources are procured or built.

Figure 26: Purchased Power



4. Planned Retirements: 2012 – 2021

There are no planned generating unit retirements throughout the 2012 – 2021 planning period. However, six small diesel engine-driven peaking generators totaling 8.3 MW at two locations will be reclassified as "emergency only" beginning in 2013. As "emergency only" units, they can no longer be deemed to be accredited capacity in the MRO. This action is thought to be necessary and appropriate in order to comply with provisions of the EPA Reciprocating Internal Combustion Engines (RICE) NESHAP rules that become effective in 2013. While these units could be retrofitted with appropriate emission controls, that action is deemed uneconomic for these units due to their small individual size (as small as 0.5 MW), age (as old as 63 years) and high-cost fuel type (diesel fuel only). With the "emergency only" classification (as defined in EPA rules), these units will be allowed to continue to provide system reliability in the event of local area transmission or distribution outages.

The effect of this reduction of 8.3 MW of accredited capacity in 2013 was included in developing the capacity additions discussed above.

IV. Conclusions

A. Load Requirements

1. Energy

NorthWestern's load growth is expected to continue to outstrip existing base-load generation. As a result, market purchases may increase in the short term, which would cause a decrease in off-system market sales.

Despite our expectation to meet short-term growth with market purchases, NorthWestern will continue to evaluate when the addition of a base-load resource is most cost effective or needed for reliability. It is estimated that NorthWestern could spend over $24 million in market energy by 2022 if the current portfolio is maintained.

2. Capacity

NorthWestern will add the Aberdeen peaking unit to the portfolio in the second quarter of 2013, providing 52 MW of summer capacity and year round capacity support for the system, which will greatly improve our short-term capacity outlook. To cover remaining short-term needs, NorthWestern was able to execute a capacity agreement with Basin Electric, eliminating the need to secure additional capacity from other entities. Prior to the 2015 expiration of the capacity agreement with Basin Electric, NorthWestern will again need to evaluate the availability and cost of market capacity. This forecast assumes that the new Aberdeen peaking unit will be online in early 2013. Without the new Aberdeen peaking unit, it is anticipated that there would be summer and possibly winter capacity deficits occurring as early as 2013.

NorthWestern will evaluate the capacity market as 2016 approaches to determine the most cost effective capacity additions. Along with projected growth, changes to the planning reserve requirement and available transmission may significantly influence the timing for any additional capacity equipment.

3. Conclusions

This Plan should not be viewed as definitive regarding the resource types that will be added, but rather the Plan sets the backdrop against which any future resource decisions may be considered. Uncertainties discussed in the Plan, such as the regulation of carbon emissions or other regulatory considerations, could have a significant influence on future resource choices. Transmission availability, or the lack thereof, could also influence resource decisions. Furthermore, historic market changes have demonstrated the limited predictive value of natural gas price forecasts, as actual market prices have far surpassed what best-informed analysts predicted. Other inputs have similar limitations.

Nevertheless, we expect future electricity supply costs to continue to increase in the long term. As a result, ratepayers should take higher future costs into account when they make decisions about home construction, insulation, appliance purchases, and their consumption behaviors.

NorthWestern's expected growth in energy and capacity are likely to increase the portfolio's exposure to market purchase or increase the portfolio. Current forecasted market conditions indicate that NorthWestern should utilize the market for the short term while evaluating the financial and reliability conditions that could influence the decision to add additional generation resources.

B. Action Plan

NorthWestern's Action Plan provides specific steps to implement the Plan:

1. The South Dakota Integrated Resource Plan will be presented to the South Dakota PUC on December 19, 2012. NorthWestern welcomes questions and comments from the Commission.

2. *Future Capacity Contracts*. The termination of the agreement with Basin Electric after the summer season of 2015 will leave a capacity short-fall. An RFI or RFP will be conducted to determine the costs and availability of capacity resources and will be compared to new generation.

3. *Base-load Energy*. Based on earlier discussions, NorthWestern will continue to evaluate shaped market strips of power versus the addition of base-load resources, and vice versa.

4. *Renewable Energy Resources*. To diversify the renewable resource portfolio and strive to achieve the renewable objective, renewable supply sources including DSM will be identified and, where appropriate, solicited.

5. *Periodic Review*. NorthWestern will continually monitor conditions and update this Plan accordingly.

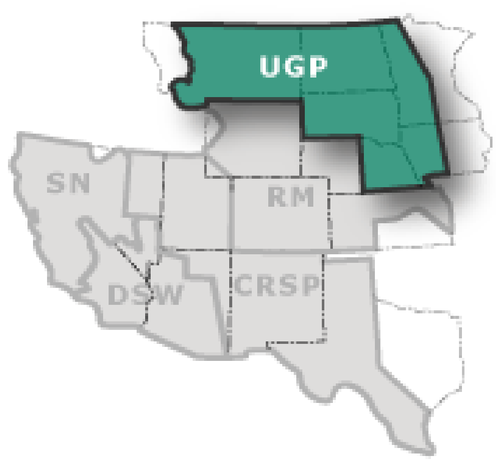
Appendix A: Organizations

A. Western Area Power Administration (WAPA)[14]

WAPA markets and delivers reliable, renewable, cost-based hydroelectric power and related services within a 15-state region of the central and western United States. WAPA is one of four power-marketing administrations within the U.S. Department of Energy whose role is to market and transmit electricity from multi-use water projects. WAPA's transmission system carries electricity from 56 power plants operated by the Bureau of Reclamation, U.S. Army Corps of Engineers, and the International Boundary and Water Commission, and one coal-fired plant. Together, these plants have an installed capacity of 10,505 megawatts.

The Upper Great Plains Region[15] carries out WAPA's mission in Montana, North Dakota, South Dakota, Nebraska, Iowa, and Minnesota. WAPA sells more than 9 billion kilowatt-hours of firm power generated from eight dams and power plants of the Pick-Sloan Missouri Basin Program-Eastern Division. WAPA delivers this hydropower through nearly 100 substations and across nearly 7,800 miles of federal power lines, which are connected with other regional transmission systems and groups.

Figure 27: WAPA Upper Great Plains Region



B. Mid-Continent Area Power Pool (MAPP)[16]

MAPP is an association of electric utilities and other electric industry participants operating in all or parts of the following states: Iowa, Minnesota, Montana, North Dakota, and South Dakota.

[14] http://ww2.wapa.gov/sites/Western/about/Pages/default.aspx (last visited Oct. 17, 2012).
[15] http://www.wapa.gov/ugp/aboutus/default.htm (last visited Oct. 17, 2012).
[16] http://mapp.org/DesktopDefault.aspx?Params=454b040717565c7d00000001e1 (last visited Oct. 17, 2012).

The MAPP organization has three primary functions: regional transmission planning, reliability planning and coordination, and transmission tariff services coordination. These functions support the provision of reliable, efficient, and economical power in the upper Midwest.

The regional transmission planning function includes development of an annual MAPP regional transmission plan consistent with applicable standards and requirements established by the MAPP Transmission Planning Committee, the North American Electric Reliability Corporation (NERC), the Federal Energy Regulatory Commission (FERC), and the applicable Regional Entity. The regional plan is developed by MAPP Members and coordinated with adjacent transmission service providers. The regional planning activity includes stakeholder involvement to provide an open and transparent planning process.

The reliability planning and coordination function includes the facilitation of compliance requirements of MAPP Members with the NERC Reliability Standards applicable to the MAPP Planning Authority and additional standards as specified by the Reliability Planning and Coordination Committee.

The transmission tariff services coordination function facilitates open access of the regional transmission system under the Open-Access Transmission Tariffs of the MAPP Tariff Services Committee members.

C. Regional Transmission Operator (RTO)

A regional transmission operator (RTO) provides tariff administration and design, congestion management, ancillary services, OASIS and transmission capability calculations, market monitoring, planning and expansion, and interregional coordination.[17] NorthWestern does not belong to an RTO. NorthWestern continually evaluates the costs and benefits of joining an RTO rather than continuing its current relationship with MAPP and WAPA. One big benefit provided by an RTO is its reserve-sharing groups, which are set up for spinning and planning reserves. NorthWestern does not have access to a generation planning reserve at this time. NorthWestern maintains generating reserves at a level consistent with MISO and SPP policy guidance. NorthWestern belongs to the MRO and follows their guidance on reserves. Guidance from MISO is provided through WAPA from a LOLE study performed each year.

D. Midwest Reliability Organization (MRO)[18]

The MRO provides the planning reserve requirements for NorthWestern. The MRO also coordinates all NERC regulations and monitors compliance through audits. The MRO has the power to assess fines for violations for NERC and planning reserves.

[17] Regional Transmission Organizations, Order No. 2000, 65 FED. REG. 809 (January 6, 2000), FERC STATS. & REGS. ¶ 31,089 (1999), *order on reh'g*, Order No. 2000-A, 65 FED. REG. 12,088 (March 8, 2000), FERC STATS. & REGS. ¶ 31,092 (2000).
[18] http://www.midwestreliability.org/about_mro.html (last visited Oct. 17, 2012).

The MRO is one of eight regional entities in North America operating under their delegated authority from regulators in the United States and Canada. In their respective regions, each regional entity is responsible for: 1) developing and implementing reliability standards; 2) enforcing compliance with those standards; 3) providing seasonal and long-term assessments of the bulk power system's ability to meet demand for electricity; and 4) providing an appeals and dispute resolution process.

The MRO region covers roughly one million square miles spanning the provinces of Saskatchewan and Manitoba, the states of North Dakota, Minnesota, Nebraska, and the majority of the territory in the states of South Dakota, Iowa, and Wisconsin. The region includes more than 100 organizations that are involved in the production and delivery of power to more than 20 million people. These organizations include municipal utilities, cooperatives, investor-owned utilities, a federal power marketing agency, Canadian Crown Corporations, independent power producers, and others who have interests in the reliability of the bulk power system.

Figure 28: MRO

The forecasted 2010–2019 Non-Coincident Peak Net Internal Demand for the MRO Region shows an increase at an average rate of 1.37 percent per year as compared to 1.60 percent predicted last year for the 2009–2018 period. The Total Internal Demand for 2019 is projected to be 54,392 MW. The Net Internal Demand is projected to be 51,113 MW. These projected demands are slightly lower than the 2018 demand projections due to the economic downturn. The Existing capacity resources for 2010 are 65,508 MW. The Existing-Certain resources for 2010 are 58,006 MW. This is 1,573 MW higher than the Existing-Certain resources reported for the 2009 (56,433 MW). The Future (Planned and Conceptual) capacity resources that are projected to be in service by end of 2019 is 19,164 MW. Approximately 1,600 MW of additional nameplate wind generation and 480 MW of hydro generation are projected to be placed in service in 2010 summer since 2009 summer. The projected Adjusted Potential Resources Reserve Margin for the MRO Region ranges from 29.0 percent to 22.7 percent for the 2010−2019 period, which is above the various target reserve margins established by the MRO Planning Authorities.

	2010	2019
Total Internal Demand	48,430	54,392
Total Capacity	65,508	67,629
Capacity Additions	0	121
Demand Response	3,199	3,279

A number of transmission reinforcements and various transformer and substation expansions and upgrades are projected to be completed during the 2010-2019 planning horizon. The MRO Transmission Owners estimate that 833 miles of 500 kV DC circuit, 31 miles of 500 kV AC circuit, 894 miles of 345 kV circuit and 570 miles of 230 kV circuit of planned facilities could be installed in the MRO Region over the next ten years.

The MRO Region is projected to have approximately 23,663 MW of nameplate wind generation by end of 2019, which includes Conceptual wind resources based on a 35 percent confidence factor. The simultaneous output of wind generation within the MRO Region has historically reached 75 percent or more of nameplate rating for extended periods of time, and this may occur during off-peak hours and minimum load periods. At the present time, ramp rates, output volatility, and the inverse nature of wind generation with respect to load levels have been manageable. However, the Reliability Coordinator and Operators in the MRO Region closely monitors the ramp-down rate of wind generation during the morning load pickup period. Extensive analysis is being performed on wind generation, in areas such as: regulation, load following, ramp rates, managing minimum load periods, forecasting, equitable participation during curtailments and re-dispatch. In addition, addressing future aspects of wind such as establishing appropriate capacity credits, day-ahead participation in market processes, and energy storage are being analyzed.

E. Midwest Independent System Operator (MISO)[19]

MISO is an independent, nonprofit organization that supports the constant availability of electricity in 12 U.S. states and the Canadian province of Manitoba.

This responsibility is carried out by ensuring the reliable operations of nearly 53,203 miles of interconnected high voltage power lines that support the transmission of more than 146,000 MW of generating capacity and 629 MWH annual billing in the Midwest, by administering one of the world's largest energy markets, and by looking ahead to identify improvements to the wholesale bulk electric infrastructure that will best meet the growing demand for power in an efficient and effective manner.

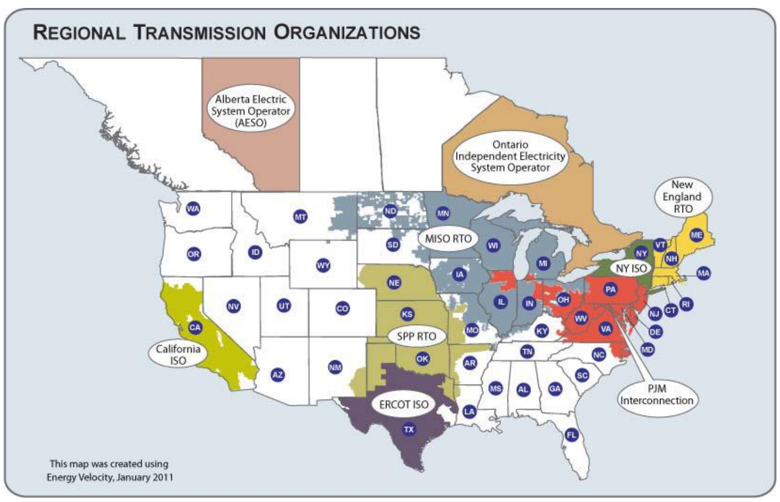
[19] https://www.midwestiso.org

The Midwest ISO was approved as the nation's first regional transmission organization (RTO) in 2001. The organization is headquartered in Carmel, Indiana with operations centers in Carmel and St. Paul, Minnesota.

MISO manages one of the world's largest energy and operating reserves markets using security-constrained economic dispatch of generation. The Midwest Energy and Operating Reserves Market includes a Day-Ahead Market, a Real-Time Market, and a Financial Transmission Rights (FTR) Market. These markets are operated and settled separately.

- $27.5 billion annual gross market charges (2010)
- 1,966 pricing nodes
- Five-minute dispatch
- Offers locked in 30 minutes prior to the scheduling hour
- Spot market prices calculated every five minutes
- 368 Market Participants who serve 40+ million people
- 815 full-time employees (December 2010)

Figure 29: MISO Regional Market Area



F. Southwestern Power Pool (SPP)[20]

SPP dates to 1941, when 11 regional power companies joined to keep an Arkansas aluminum factory powered around the clock to meet critical defense needs. After the war, SPP's Executive Committee decided the organization should be retained to maintain electric reliability and coordination. After the Northeast power interruption in 1965, other reliability councils were organized.

In 1968, SPP joined 12 other entities to form what became the North American Electric Reliability Corporation (NERC). SPP incorporated as an Arkansas not-profit organization in 1994.

[20] http://www.spp.org/section.asp?pageid=1 (last visited Oct. 17, 2012).

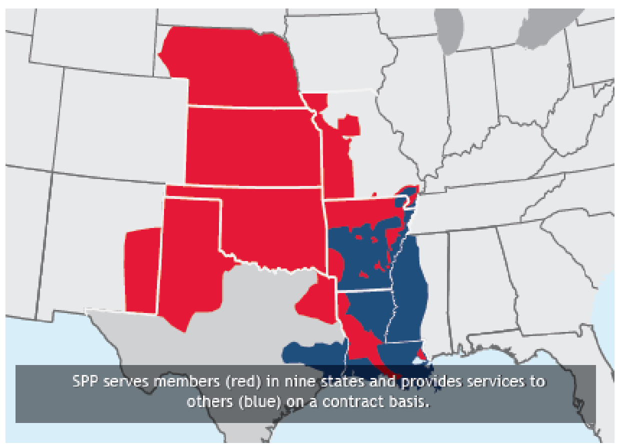
The Federal Energy Regulatory Commission (FERC) approved SPP as a Regional Transmission Organization in 2004 and a Regional Entity in 2007.

In North America, SPP is one of nine Independent System Operators/Regional Transmission Organizations (ISOs/RTOs) and one of eight NERC Regional Entities. SPP is mandated by FERC to ensure reliable supplies of power, adequate transmission infrastructure, and competitive wholesale prices of electricity.

ISOs/RTOs are the "air traffic controllers" of the electric power grid. ISOs/RTOs do not own the power grid; they independently operate the grid minute-by-minute to ensure that power gets to customers and to eliminate power shortages.

SPP is based in Little Rock, Arkansas, and has more 500 employees. SPP provides services to members in nine states: Arkansas, Kansas, Louisiana, Mississippi, Missouri, Nebraska, New Mexico, Oklahoma, and Texas.

Figure 30: SPP Market Area[21]



G. North American Electric Reliability Corporation (NERC)[22]

NERC's mission is to ensure the reliability of the bulk power system. As part of its mission, NERC develops and enforces reliability standards. The MRO is one of the arms of NERC today. NorthWestern must comply with 70 NERC standards related to resource and demand balancing; communications; critical infrastructure protection; emergency preparedness and operations; facilities design, connections, and maintenance; interchange scheduling and coordination; interconnection reliability operations and coordination; modeling, data, and analysis; protection and control; transmission operations; and voltage and reactive. Each standard has a different number of requirements, and those requirements are based on how NorthWestern is registered with the MRO.

[21] Southwest Power Pool, Inc. 2011 Annual Report, *available at* http://www.spp.org/publications/2011%20SPP%20Annual%20Report%20-%20FOR%20WEB.pdf.
[22] http://www.nerc.com/page.php?cid=1 (last visited Oct. 17, 2012).

NERC is a non-government organization which has statutory responsibility to regulate bulk power system users, owners, and operators through the adoption and enforcement of standards for fair, ethical, and efficient practices.

NERC develops and enforces reliability standards; assesses adequacy annually via a 10-year forecast and winter and summer forecasts; monitors the bulk power system; and educates, trains, and certifies industry personnel. NERC is a self-regulatory organization, subject to oversight by the U.S. Federal Energy Regulatory Commission and governmental authorities in Canada.

As of June 18, 2007, the U.S. Federal Energy Regulatory Commission (FERC) granted NERC the legal authority to enforce reliability standards with all users, owners, and operators of the bulk power system in the United States, and made compliance with those standards mandatory and enforceable. Reliability standards are also mandatory and enforceable in Ontario and New Brunswick, and NERC is seeking to achieve comparable results in the other Canadian provinces. NERC will seek recognition in Mexico once the necessary legislation is adopted.

NERC works with eight regional entities to improve the reliability of the bulk power system. The members of the regional entities come from all segments of the electric industry: investor-owned utilities; federal power agencies; rural electric cooperatives; state, municipal and provincial utilities; independent power producers; power marketers; and end-use customers. These entities account for virtually all the electricity supplied in the United States, Canada, and a portion of Baja California Norte, Mexico.

Figure 31: NERC Regions

Appendix B: Electric Plant Capacities

NORTHWESTERN ENERGY - SD/NE
ELECTRIC PLANT CAPACITIES
AS OF DECEMBER 31, 2011

Updated by Cory Huber 1/24/12

LOCATION	TYPE	GENERATOR NAME PLATE RATING (KW)	2011 CAPABILITY SUMMER (5/11-10/11)	2011 CAPABILITY WINTER (11/10 - 4/11)	2011 CAPABILITY AT TIME OF PEAK	INSTALL DATE
Aberdeen, SD**						
Aberdeen	Combustion Turbine	28,800	20,520	28,000	20,520	1978
Clark, SD**						
Unit #1	Internal Combustion	2,750	2,600	2,720	2,600	1970
Faulkton, SD**						
Unit #1	Internal Combustion	2,750	2,500	2,500	2,500	1969
Highmore, SD**						
Unit #1	Internal Combustion	675	560	600	560	1948
Unit #2	Internal Combustion	1,360	1,250	1,330	1,250	1960
Unit #3	Internal Combustion	2,750	2,630	2,750	2,630	1970
Huron, SD*						
Unit #1	Gas Turbine	15,000	11,030	14,500	11,030	1961
Unit #2	Gas Turbine	42,925	43,700	49,000	43,700	1991/92
Redfield, SD**						
Unit #1	Internal Combustion	1,360	1,300	1,320	1,300	1962
Unit #2	Internal Combustion	1,360	1,300	1,320	1,300	1962
Unit #3	Internal Combustion	1,360	1,300	1,320	1,300	1962
Yankton, SD*						
New Plt. #1	Internal Combustion	2,276	2,170	2,170	2,170	1974
New Plt. #2	Internal Combustion	2,750	2,750	2,750	2,750	1974
New Plt. #3	Internal Combustion	6,500	6,500	6,500	6,500	1975
New Plt. #4	Internal Combustion	2,000	2,000	2,000	2,000	1963
Mobile Unit**						
Unit #2	Internal Combustion	1,750	1,750	1,750	1,750	1991
Unit #3	Internal Combustion	2,500	2,000	2,000	2,000	2009

* Manned less than 24 hours
** Unmanned

LOCATION	TYPE	GENERATOR NAME PLATE RATING (KW)	SUMMER	WINTER	AT TIME OF PEAK	INSTALL DATE
Big Stone, SD						
Unit #1	Steam	122,850 *	111,150	111,150	111,150	1975
*Name Plate	525,000 NWPS Share 23.4% = 122,850					
Summer Capacity	475,000 NWPS Share 23.4% = 111,150					
Big Stone, SD						
Diesel	Diesel	269 *	269	269 #	269	1975
*Name Plate	1,149 NWPS Share 23.4% = 269					
Summer Capacity	1,149 NWPS Share 23.4% = 269					
Sioux City, IA						
Neal #4	Steam	55,558 *	56,110	56,110	56,110	1979
*Name Plate	639,996 NWPS Share 8.681% = 55,558					
Summer Capacity	646,354 NWPS Share 8.681% = 56,110					
Beulah, ND						
Coyote I	Steam	45,578 *	42,700	42,700	42,700	1981
*Name Plate	455,780 NWPS Share 10% = 45,578					
Summer Capacity	427,000 NWPS Share 10% = 42,700					
TOTAL CAPACITY (kw)	Steam	223,986	209,960	209,960	209,960	
	Other	119,135	106,129	122,799	106,129	
		343,121	316,089	332,759	316,089	

2011 Summer Peak was 341,079 on August 1, 2011.
2010-2011 Winter Peak was 280,503 on February 8, 2011

2011 Capability: Summer (5/1/11-10/31/11)
Winter (11/1/10-4/30/11)

Page 1

Appendix C: Nuclear

A. New Generation Reactors[23]

Starting around 1950 the United Kingdom and the United States created the first nuclear reactors. Despite an overwhelming advance in technology, nuclear reactor technology has remained ultimately unchanged. New age nuclear reactor types fall into three categories: new light water reactors, small modular reactors, and the Generation IV Industries.

B. Next Generation Light Water Reactors

There are two main types of light water reactors: pressurized water reactors (PWR) and boiling water reactors. PWRs currently control the nuclear reactor landscape.

Westinghouse is currently building four AP1000s in China. The Sanmen 1, which will be finished in 2013, will be the first operating AP1000. The U.S. plans to build six units which, pending the approval of the NRC, will be unveiled in 2016.

The Evolutionary Power reactor (EPR) is similar in nature to the PWR but is substantially larger. The EPR turbines can be maintained while it is functioning which will result in little downtime during its 60-year lifespan. The EPR is considerably safer against potential attacks than today's PWRs. The EPR has the highest efficiency, 36 percent, of converting thermal energy into electricity.

Four EPRs are currently under preliminary construction, one in both Finland and France, and two in China. The Finnish reactor is scheduled to be the first completed EPR. The U.S. plans to build a minimum of four EPRs pending the NRC reviews.

C. Small Modular Reactors

As opposed to the traditional nuclear power plants, which had a large focus on the mass amount of energy converted from single large plants, small modular reactors provide a more sizable and less financially risky personalized reactor. These reactors have the capabilities of using remote locations that are off the grid as a destination to create energy for the much larger metropolises. Small modular reactors allow for one of the modules to be closed for maintenance while the other modules generate energy, thus avoiding costly, long periods of down time designated to revamping already existing reactors. Two of the leading small modular reactors are continuing development over the next several years.

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[23] http://mainland.cctt.org/istf2011/pages/Background/NewGenerationReactors.asp (last visited Oct. 17, 2012).

The NuScale reactor[24] is a modular light water reactor that is geared toward replacing coal- and gas-fired plants. The NuScale reactor has many features that prove to be advantageous to the ever-growing nuclear renaissance.

NuScale reactors are scheduled to be unveiled and operational in 2018 after preliminary certification through the NRC, which is set for 2012.

The Hyperion Power Module[25] (HPM) will have a thermal output of 70 megawatt and an electrical output of 25 MW. Modules can also be combined to increase their output and replace a medium or large nuclear reactor. The Hyperion Power Module can last between 5 and 15 years without being refueled.

One of the sites at which the prototype module is being tested is the Savannah River Site at South Carolina. The prototype will be functional by 2020. The cost of the construction and operation of the prototype is estimated to be $50 million, which is about $2000 per kilowatt produced.

D. Generation IV Reactors[26]

The most extravagant and revolutionary of the new-aged nuclear reactor types are the Generation IV reactors. These reactors use an array of newly innovated fuel and moderators, fast neutron reactors get rid of the moderator process altogether. These reactors hold the promise of utilizing not only the initial fuel but also the spent waste of previously used fuel to create energy. In addition to the increased efficiency, these plants also offer increased safety provision. Some of the leading reactors include:

- Toshiba 4S with a reactor design approval set for 2012
- Next Generation Nuclear Plant on schedule in as early as 2011 the US Department of Energy plans to implement one of the proposals from General Atomics and Westinghouse.
- Power Reactor Innovative Small Module (PRISM) currently under development
- Small Secure Transportable Autonomous Reactor (SSTAR) - NRC plans to approve the SSTAR by a new process called license-by-test rather than the normal license-by-design.
- TerraPower TP-1 project started in 2006 but expects a test reactor to be ready in 2020.

[24] http://www.nuscalepower.com/ot-Scalable-Nuclear-Power-Technology.php
[25] http://www.hyperionpowergeneration.com
[26] http://mainland.cctt.org/istf2011/pages/Background/NewGenerationReactors.asp (last visited Oct. 17, 2012).

Appendix D: Acronyms

ACI	Activated Carbon Injection
ADP	Advanced Determination of Prudence
AFUDC	Allowance for Funds Used During Construction
AQCS	Air Quality Control System
BTU	British Thermal Unit
CAIR	Clean Air Interstate Rule
CAMR	Clean Air Mercury Rule
CCT	Combined-Cycle Turbine
CFL	Compact Fluorescent Lamp
CO_2	Carbon Dioxide
CSAPR	Cross-State Air Pollution Rule
DSM	Demand-Side Management
EPA	Environmental Protection Agency
EPC	Engineering, Procurement, and Construction
EPR	Evolutionary Power Reactor
FERC	Federal Energy Regulatory Commission
FGD	Flue Gas Desulphurization
FOM	First of Month
GHG	Greenhouse Gas
HVAC	Heating, Ventilation, and Air Conditioning
IS	Integrated System
ISO	Independent System Operator
JMP	Joint Marketing Program
kW	Kilowatt
kWh	Kilowatt-Hour
LED	Light-Emitting Diode
LOLE	Loss of Load Expectations
MACT	Maximum Achievable Control Technology
MAPP	Mid-Continent Area Power Pool
MATS	Mercury and Air Toxics Standards

MBBtu	One million BTU
MISO	Midwest Independent System Operator
MW	Megawatt
MWH	Megawatt-Hour
NAAQS	National Ambient Air Quality Standards
NERC	North American Electric Reliability Corporation
NITS	Network Integrated Transmission System
NO_x	Mono-Nitrogen Oxides NO (nitric oxide) and NO_2 (nitrogen dioxide)
NRC	Nuclear Regulatory Commission
NYMEX	New York Mercantile Exchange
OASIS	Open Access Same-time Information System
O&M	Operations and Maintenance
PM	Particulate Matter
PPA	Power Purchase Agreement
PPB	Parts Per Billion
PRSG	Planned Reserve Sharing Group
PUC	Public Utilities Commission
PWR	Pressurized Water Reactor
QF	Qualifying Facility
RFI	Request for Information
RFP	Request for Proposal
RICE	Reciprocating Internal Combustion Engine
RTO	Regional Transmission Operator
SCR	Selective Catalytic Reduction
SIP	State Implementation Plan
$S0_2$	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction
SOFA	Separated Over Fire Air
SO_x	Sulfur Oxides
SPP	Southwest Power Pool
WAPA	Western Area Power Administration