Direct Testimony and Schedules
Dennis L. Koehl

Before the North Dakota Public Service Commission
State of North Dakota

In the Matter of the Application of Northern States Power Company,
a Minnesota corporation
For Authority to Increase Rates for Electric Service in North Dakota

Case No. PU-10-____
Exhibit___(DLK-1)

Nuclear Operations

December 20, 2010

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Schedules

I. INTRODUCTION AND QUALIFICATIONS

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Dennis L. Koehl. I am the Chief Nuclear Officer for Northern States Power Company, a Minnesota corporation ("Xcel Energy" or the "Company"). I am responsible for all nuclear activities at the Monticello and Prairie Island plants.

Q. PLEASE SUMMARIZE YOUR QUALIFICATIONS AND EXPERIENCE.

A. I have more than 29 years experience in the nuclear industry, including a diverse background in operations, assessment, engineering and plant performance. Before joining the Nuclear Management Company ("NMC"), I held a number of positions with increasing responsibility at Tennessee Valley Authority's Sequoyah and Watts Bar nuclear plants. I joined NMC in June 2004 as the site Vice President of the Point Beach Nuclear Plant in Wisconsin, where I oversaw the operation of two nuclear units. I became the Vice President and Chief Nuclear Officer for Xcel Energy in October 2007. My education and experience are detailed in Exhibit___(DLK-1), Schedule 1.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS PROCEEDING?

A. The purpose of my testimony is to:

- provide an overview of the operations at the Company's nuclear facilities;
- demonstrate the reasonableness of the 2011 budget for operating costs, including a description of the causes for our cost increases since the last rate case;
- discuss our nuclear performance and industry trends;
- provide information on nuclear operating costs in 2012; and

- discuss our planned capital investments in our Monticello and Prairie Island facilities to ensure that they will continue to run safely and reliably while maximizing the amount of low-cost, non-carbon-emitting baseload electrical generation available to our customers.

Q. PLEASE PROVIDE AN OVERVIEW OF THE COST CHANGES IN THE TEST YEAR.

A. Our nuclear business is extremely compliance driven. In the past several years, we have adjusted our staffing to accommodate changes in Nuclear Regulatory Commission ("NRC") rules related to:

- *Fitness-For-Duty*. This rule relates to preventing worker fatigue and places greater constraints on the number of hours certain employees and contractors can work, causing us to substantially increase our labor force over the years from 2009 through 2011;
- *Security*. The recent adoption of more stringent security rules by the NRC required increases in our security staffing levels;
- *Emergency Preparedness*. This anticipated rule is expected to become final in early 2011 and will likely result in our actual labor costs being higher than budgeted in the test year.

Test-year 2011 costs will increase from those included in the 2008 test year in the Company's most recent North Dakota electric rate case (Case No. PU-07-776) by approximately $6.7 million to meet these requirements. Monticello will also see an additional increase of $1 million in its 2011 outage costs compared to the 2008 test year outage costs, because this is the first time the plant will be implementing the new Fitness-For-Duty regulations during an outage.

In addition, we will make over $60 million in test-year capital additions to address security, cyber security, and fire protection standards.

We have also taken steps to improve the efficiency of our operations by adding a large number of internal employees and reducing our reliance on contract labor. The net labor increase from 2008 to 2011 is $18.6 million or 14.2 percent over the three-year period from 2008 actual costs to 2011 budgeted cost. In addition to the higher labor costs, we will experience budgeted increases in security, fees, and materials, all of which are needed to maintain safe, reliable operations of the plants. Further, new cyber security rules are evolving and require enhancements to critical infrastructure. We will continue to invest in measures necessary for compliance over the next several years.

Q. HOW HAVE YOU ORGANIZED YOUR TESTIMONY?

A. I present my testimony in the following sections:

- Overview of the Company's Nuclear Facilities,
- Nuclear Operating Costs,
- Nuclear Costs in 2012,
- Nuclear Capital Projects, and
- Summary and Conclusion.

II. OVERVIEW OF THE COMPANY'S NUCLEAR FACILITIES

Q. PLEASE DESCRIBE XCEL ENERGY'S NUCLEAR OPERATIONS.

A. Xcel Energy owns and operates three nuclear units: one unit at Monticello, Minnesota and two units at Prairie Island in Welch, Minnesota. Monticello is a single-unit 585-megawatt ("MW") electric reactor and was originally licensed by the NRC in 1970. The initial license was scheduled to expire in 2010. In 2006, the NRC approved a renewed license for Monticello, extending its operating life until 2030. In September 2006, the Minnesota Public Utilities Commission ("MPUC") approved the use of dry spent-fuel storage at Monticello. Additionally, in January 2009, the MPUC approved Xcel Energy's application to implement an extended power uprate at the plant. Our application to amend the license to operate Monticello at the higher thermal levels under the extended power uprate is currently pending before the NRC.

Prairie Island has two reactor units, each rated at 550 MW. The NRC licensed Prairie Island's two units in 1973 and 1974, respectively. If not renewed, the current operating licenses will expire in 2013 and 2014. We are pursuing renewal of the federal operating licenses to extend the Prairie Island operating lives until 2033 and 2034. The license renewal application was submitted to the NRC in April 2008, and approval by the NRC could be delivered by the end of the first quarter of 2011. In December 2009, the MPUC granted a Certificate of Need to expand the dry spent-fuel storage to support the life extension. The MPUC also approved the Company's request to implement an extended power uprate at Prairie Island's operating units.

Monticello and Prairie Island continue to be two of Xcel Energy's most reliable baseload generation assets across the Company's system, which serves electric customers in North Dakota, South Dakota and Minnesota. Additional details regarding the scope of the Company's nuclear operations are outlined in Exhibit___(DLK-1), Schedule 2.

Q. HAVE THERE BEEN ANY SIGNIFICANT CHANGES TO THE COMPANY'S NUCLEAR BUSINESS SINCE ITS LAST NORTH DAKOTA ELECTRIC RATE CASE (CASE NO. PU-07-776)?

A. No. As explained in the testimony of Company witness Mr. Charles R. Bomberger in the 2007 rate case, we were at that time at the end of the process of reintegrating Nuclear Management Company, LLC ("NMC") plant operations back into Xcel Energy, including the transfer of employees, NRC licenses for reactor operation and spent fuel storage, and administrative and general ("A&G") support functions from NMC to the Company. NMC was a joint venture formed in 1999 by several nuclear utilities in the Upper Midwest, including Xcel Energy. Beginning in 2004, Xcel Energy's partners in NMC began to sell their nuclear power plants for various business reasons, eventually leaving the Company as the sole remaining participant. After considering the business alternatives available, the Company made a decision, based on performance (nuclear safety, operation and financial), perceived level of risk, and resource planning options, to retain plant ownership and reintegrate nuclear operations into the Company.

Q. WHEN WAS THE REINTEGRATION OF NUCLEAR OPERATIONS COMPLETED?

A. All A&G support functions (including employees) were transferred from NMC to the Company in late 2007. The remaining NMC employees were transferred back to the Company upon final NRC approval of the transfer of the operating licenses from NMC to the Company on September 22, 2008. NMC employees became NSPM employees on that same date. This completed the reintegration. Since the completion of the reintegration, there have been no further significant changes in the structure of our nuclear operations.

III. NUCLEAR OPERATING COSTS

Q. WHAT INFORMATION DO YOU PRESENT IN THIS SECTION OF YOUR TESTIMONY?

A. I discuss the Operations and Maintenance ("O&M") costs budgeted for 2011 for our nuclear facilities. In particular, I discuss the reasons our O&M budget has increased from 2008 to 2011. I also discuss the Company's outage budget for 2011 and 2012. In addition, I provide information on the Company's costs and plant performance compared to other nuclear utilities and discuss the Company's efforts to control costs.

Q. WHAT TYPES OF O&M COSTS ARE INCURRED IN THE OPERATION OF MONTICELLO AND PRAIRIE ISLAND?

A. There are two general categories of O&M costs associated with operating our nuclear plants: site costs and non-site costs. Site costs include labor costs (internal and contractor), costs for materials, employee expenses and other expenses. Costs for outages at our nuclear plants are also included in site costs. Non-site costs are made up of nuclear-related fees and security costs. It is important to note that the outage costs I will discuss, as well as the nuclear O&M budget presented by the Company, show both the total expenses for a given period (2008 actual or 2011 budget, for example) as well as the test-year level of the budgeted expense, which reflects the amount of refueling outage expense using the deferral and amortization method of accounting approved by the North Dakota Public Service Commission ("Commission") in Case No. PU-07-774.[1]

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[1] *See* Northern States Power Company's *Petition for Accounting Treatment for Nuclear Refueling*, Case No. PU-07-774, ORDER CHANGING ACCOUNTING TREATMENT (February 13, 2008) ("Order Changing Accounting Treatment").

Q. PLEASE PROVIDE A SUMMARY OF 2008 ACTUAL COSTS COMPARED TO 2011 TEST-YEAR BUDGETED COSTS WITHOUT REGARD TO DEFERRAL AND AMORTIZATION ACCOUNTING.

A. As shown in Table 1 below, O&M costs are projected to increase approximately $48.6 million from 2008 to 2011. This increase is due to a projected increase in site costs of $33.1 million and a projected increase in non-site costs of $15.5 million. I will discuss each of these categories in more detail.

Table 1

Nuclear Generation Business Area O&M Costs ($ in millions)

	2008 Actual	2009 Actual	2010 Forecast	2011 Budget	2012 Budget	'08 Actual – '11 Budget Change
Site Costs						
Labor, Contr. & Cons.	$130.8	$140.4	$152.9	$149.4	$158.2	$18.6
Materials	$12.0	$14.4	$14.5	$16.9	$17.6	$4.9
Employee Expenses	$4.6	$5.6	$4.0	$5.1	$5.8	$0.5
Other	$6.0	$5.0	$6.4	$5.5	$4.7	($0.5)
Outages	$55.8[1]	$65.9[1]	$38.5	$65.4	$83.8	$9.6
Site Costs Total	$209.2	$231.3	$216.3	$242.3	$270.1	$33.1
Non-Site Costs						
Nuclear Related Fees	$24.9	$29.9	$29.6	$31.7[2]	$34.2[3]	$6.8
Security	$15.3	$19.0	$21.6	$24.0	$25.5	$8.7
Non-Site Costs Total	$40.2	$48.9	$51.2	$55.7	$59.7	$15.5
Total	$249.4	$280.2	$267.5	$298.0	$329.8	$48.6

[1]Outage costs exclude $0.55 million of costs from other business areas in 2008 and $0.7 million of costs from other business areas in 2009.
[2]Fees shown here are reduced by the test year adjustment of $(1.7) million for 2011.
[3]The fees for 2012 corresponding to the test year adjustment are reduced by $(0.8) million.

A. Site Costs

Q. PLEASE DISCUSS THE SITE COSTS INCLUDED IN THE TEST YEAR.

A. Site costs include labor, materials, employee and other expenses and outage costs. Site costs included in the 2011 test year are approximately $242.3 million and represent a cost increase of $33.1 million from 2008 actual costs. Table 1 shows a reduction of costs in 2010 from 2009, because we had only one nuclear outage in that year at our Prairie Island Unit 2 facility. We will perform two refueling outages in 2011, consistent with 2008 and 2009. The deferral and amortization approach approved by the Commission in its Order Changing Accounting Treatment has appropriately normalized these variations. Table 2 below shows the test-year O&M increase using the outage amortization expense. As expected, even with one outage in 2010, our outage amortization expense increased, as we moved into the final year of the phase-in of more normalized levels of outage expense.

Table 2

Net Nuclear Generation O&M Costs ($ in millions)

	2008 Actual	2009 Actual	2010 Forecast	2011 Budget	2012 Budget	'08 Actual – '11 Budget Change
Total Nuclear Generation Costs	$249.4	$280.2	$267.5	$298.0[1]	$329.8[2]	$48.6
Deferral of Outage Costs	$(56.4)[3]	$(66.6)[4]	$(38.5)	$(65.4)	$(83.8)	$9.0
Non-Outage Nuclear Generation Costs	$193.0	$213.6	$229.0	$232.6	$246.0	$39.6
Outage Amortization	$15.6	$46.5	$57.8	$59.2	$64.5	$43.6
Net Nuclear Generation Costs	$208.6	$260.1	$286.8	$291.8	$310.5	$83.2

[1]The test year adjustment for $(1.7) million to reduce regulatory fees is reflected here.
[2]The fees for 2012 corresponding to the test year adjustment are reduced by $(0.8) million.
[3]Outage costs include $0.55 million incurred in other business areas in 2008.
[4]Outage costs include $0.7 million incurred in other business areas in 2009.

1. *Labor Costs*

Q. PLEASE DESCRIBE THE INCREASE IN SITE LABOR COSTS.

A. Aggregate labor costs (Xcel Energy employees and contractor costs) are rising by $18.6 million from 2008 to 2011. This comprises approximately 56 percent of the $33.1 million increase in site costs from 2008 to 2011. Xcel employee labor expenses are increasing by $19.8 million, while contractor and consulting costs are decreasing by $1.2 million, thereby resulting in a net increase of labor costs of $18.6 million. The $19.8 million increase in Xcel employee labor costs is a result of wage increases, an increase in the number of employees, increases to non-benefit construction labor and a higher percentage of O&M labor to total labor costs.

Although we have a net increase in the number of employees, the Nuclear business area also had small reductions of employees in some areas. The largest was a transfer of the positions that supported Nuclear business Information Technology to the Company's centralized Business Systems business unit. This transfer reduced nuclear staffing levels by 18 employees and approximately $1.8 million in related labor costs and expenses (based on 2010 costs). However, this transfer resulted in an increase in Business Systems staffing and costs.

Q. BY HOW MUCH HAVE WAGES INCREASED FOR XCEL ENERGY'S NUCLEAR EMPLOYEES FROM 2008 TO 2011?

A. The average blended rate for bargaining and non-bargaining employees increased 7.29 percent over the three-year period from 2008 actual costs to 2011 budgeted cost. Overall, wage increases have caused $6.2 million of the $19.8 million increase in Xcel Energy employee labor costs for 2011.

Q. PLEASE EXPLAIN THE INCREASE IN STAFFING LEVELS IN 2011.

A. The increase in labor costs is related to both the wage increases I discussed above and additional hires. New hires have been added to comply with new and ongoing NRC requirements, to address current and future attrition, to improve plant performance, and to manage the significant capital investments being made in the plants. For example, in 2009, the NRC issued a new Fitness-For-Duty regulation that required the addition of staff at Monticello and Prairie Island. The new Fitness-For-Duty regulation imposed limits on the number of hours worked by employees in a given period and requirements regarding time off between shifts and after so many days worked. In addition, the new proposed emergency preparedness rules will limit the extent to which employees may have collateral duties (such as fire protection) in addition to their normal work.

The implementation of the Fitness-For-Duty regulation was the primary reason the number of employees at our nuclear facilities increased by 84 from 2008 to 2009. We expect an additional net increase of 61 employees from 2009 to 2011 to address remaining compliance with the Fitness-For-Duty regulations, new rules on security (which have a larger impact on our contracted security costs), anticipated changes to the Emergency Preparedness regulations, and to improve performance. The addition of these positions, in conjunction with overall wage increases, overtime, non-benefit labor and other related costs results in the total labor increase of $19.8 million from 2008 to the test year.

Q. PLEASE EXPLAIN WHY THE COMPANY WILL ADD STAFF TO MEET THESE REQUIREMENTS RATHER THAN UTILIZING CONTRACT LABOR.

A. In this instance, we have determined that our staffing needs are generally better met with internal employees rather than outside contractors. We use contract labor (managed by site employees) for peak projects and, where we are unable to complete permanent hires to meet certain needs, we bring in contractors to supplement our ongoing work and fill in staffing gaps until permanent positions can be filled. Contractors are used primarily to perform O&M project studies, engineering support and design, preventative maintenance studies and regulatory project studies. We have also used contractors to support our NRC inspections and new regulatory requirements. The move to rely more on internal hires is aimed at creating a skilled pool of experienced employees whom we expect to retain over the years and who will provide a knowledge base and level of expertise that comes from long-term involvement with facility operations.

To offset these increased internal hires, I have requested that we more efficiently manage our contractor resources and make the fullest use of our internal staff. Consequently, the contractor and consulting cost portions of our overall operating costs are projected to decrease $1.2 million from 2008 to 2011.

2. Materials Costs

Q. PLEASE DESCRIBE IN MORE DETAIL THE INCREASE OF COSTS FOR SITE MATERIALS.

A. Non-outage materials costs are increasing by $4.9 million from 2008 to 2011. The increase is made up of $4.1 million at Prairie Island and $.8 million at Monticello. Approximately $1.7 million of the increase in non-outage costs at Prairie Island is driven by the cost of D1 and D5 diesel generator cylinder liner replacements. Also reflected in the increase is $1.3 million in parts to refurbish a large cooling water pump and associated cooling tower pump work. The $0.8 million increase at Monticello is primarily due to the write-off of obsolete spare parts inventory ($600,000) and chemical cost increases ($200,000). This increase is reflected in the materials line item of Table 1.

Q. PLEASE DISCUSS THE BUDGET INCREASES DUE TO THE IDENTIFICATION OF OBSOLETE INVENTORY.

A. Through our continual review of plant inventory, we identify and write off obsolete inventory. Inventory may become obsolete due to shelf-life expiration or, in the case of spare parts, when plant components are replaced, which will be the case with the replacement of equipment associated with the life extension and extended power uprate at Monticello. We anticipate that an estimated $600,000 of spare parts will become obsolete in 2011 due to modifications made to support Monticello's extended life and power uprate.

3. Employee and Other Expenses

Q. WHAT IS THE TREND IN EMPLOYEE AND OTHER EXPENSES FROM 2008 TO 2011?

A. Employee expenses include costs for employees to travel both within and outside the Company's service territory for business reasons. As reflected in Table 1, from 2008 to 2009 employee expenses increased $1.0 million. Employee expenses thereafter decrease by $500,000 from 2009 to 2011. This decrease is in response to an internal nuclear management initiative, whereby all travel requests are reviewed by the Chief Nuclear Officer. Although the 2011 budget reflects an overall increase of $500,000 in employee expenses from 2008 to 2011, this increase is offset by a decrease in other expenses of

$500,000 over the same period. Other expenses include nuclear-specific IT costs, utility costs, facility costs, donations, dues and other miscellaneous costs.

4. Outage Costs

Q. PLEASE EXPLAIN THE SCOPE OF THE OUTAGES PROPOSED FOR 2011.

A. *Prairie Island Unit 1.* The outage on Prairie Island Unit 1 scheduled for April of 2011 is a routine or basic refueling outage with only 7 percent of the estimated costs representing non-routine or project work above and beyond the cost of refueling and the associated routine inspection, surveillances and maintenance activities.

Monticello. The refueling outage at Monticello scheduled for March 2011 will have a longer duration, as certain capital modifications are addressed in tandem with the O&M aspect of the outage. The capital modifications are caused by certain CapX modifications to the Monticello Substation and implementation of a number of the Phase II life cycle management/extended power uprate projects (Capital Projects). The O&M project portion of the refueling outage scope includes several major required activities that are above and beyond the normal routine refueling outage activities. Major activities include ultrasonic testing of the reactor vessel ($1.4 million), rebuilding main steam isolation valves ($1.2 million), maintenance on turbine valves ($750,000), refurbishing a circulation water pump and motor ($350,000), and a higher-than-normal number of valves requiring maintenance ($600,000). In addition, this is the first Monticello refueling outage that will be performed in accordance with the new 10 CFR Part 26 Fitness-For-Duty work hour limits. Implementing the new requirements will result in an estimated $1 million of increased costs compared to the March 2009 refueling outage when those requirements were not in effect.

Q. PLEASE DESCRIBE HOW OUTAGE COSTS ARE BUDGETED AND TRACKED.

A. The first step in developing the refueling outage budgeted costs is to define the scope of the outage. The scope of a refueling outage includes both routine activities (the activities completed during every refueling outage), periodic activities (activities that occur on a defined schedule but not necessarily every refueling outage) and other one time or special activities. Initial cost estimates for completion of the work are based on historical estimates adjusted for labor or material cost changes that are known. Activities in the refueling outage scope are controlled under our work order process. A work order will define the work to be completed, the resource (internal or contract) responsible to complete the work and the materials needed to support the work. Updated information on labor and material costs are incorporated as the work order progresses through the planning process leading up to the actual refueling outage.

Q. HOW ARE OUTAGE COSTS ACCOUNTED FOR IN THE TEST YEAR?

A. As I discussed above, in Case No. PU-07-774, the Commission approved a new accounting methodology in 2008 that allows the outage costs to be deferred when incurred and then amortized over the useful life of the outage. The 2009, 2010, and 2011 outages at Prairie Island and Monticello are included in the test year amortization expenses. No costs from the 2008 outages remain to be amortized in the 2011 test year. Table 3 below identifies the actual or budgeted costs of the outages for 2009 through 2011 as well as the amortization amount of each outage included in the 2011 test year.

Table 3

($s in millions)

Unit/Year	Monti 2009 Actual	PI U1 2009 Actual	PI U2 2010 Actual	Monti 2011 Budget	PI U1 2011 Budget	Total
Total Outage Cost	$ 31.8	$ 34.2	$ 36.3	$ 41.6	$ 26.7	
Portion included in 2011 Amortization Expense	$ 5.3	$ 9.0	$ 20.1	$ 13.8	$ 11.0	$59.2

B. Non-Site Costs

Q. WHAT NON-SITE COSTS ARE INCREASING IN THE TEST YEAR?

A. As shown in Table 1, non-site costs are increasing approximately $15.5 million from 2008 actual costs to the 2011 budget. The primary increases in non-site costs are in security costs and regulatory fees.

1. *Security*

Q. PLEASE DESCRIBE THE INCREASES IN SECURITY COSTS FROM 2008 ACTUAL EXPENSES TO THE 2011 BUDGET.

A. The NRC continues to monitor the threats to nuclear power plants and enhance the security of nuclear power plants by promulgating new security regulations. As a result, security costs are increasing from 2008 actual costs to 2011 budgeted costs by approximately $8.7 million. This amount includes increases in labor costs between 2008 and 2011. Increased staffing is necessary to meet the NRC's more stringent security rules that became effective in May 29, 2009. In addition, there are increases for non-labor components of the security contract.

Q. DID THE COMPANY CONSIDER WHETHER TO BRING SECURITY IN-HOUSE RATHER THAN CONTRACT FOR SECURITY?

A. Yes. The Company carefully evaluated whether it would be more cost-effective to bring security positions in-house or continue contracting for the service. Although we had initially pursued converting these to internal positions within the Company, negotiations were not as favorable as anticipated. As a result, we ultimately determined in this case that contracting for security services was more cost-effective. We will continue to evaluate the security staffing plan as we do in staffing all areas of our nuclear operations.

2. Fees

Q. WHAT ARE THE NUCLEAR-RELATED FEES ASSOCIATED WITH MONTICELLO AND PRAIRIE ISLAND?

A. As shown in Table 4 below, nuclear-related fees include fees paid to the NRC, the Federal Emergency Management Agency ("FEMA") and state fees paid to Minnesota and Wisconsin for emergency planning ("EP") (NRC, FEMA and state fees comprise approximately 80 percent of the total fees), as well as fees paid to the Institute of Nuclear Power Operations ("INPO"), the Nuclear Energy Institute ("NEI"), and the Electric Power Research Institute ("EPRI").

Table 4

Nuclear-Related Fees

Fee Type	2008 Actual Costs ($M)	2009 Actual Costs ($M)	2011 Budgeted Costs ($M)	Increase From '08 A to '11 B ($M)	% Change '08 A to '11 B	Average % Change Per Year
NRC	$16.7	$20.4	$21.3	$4.6	27.5%	9.18%
FEMA/State EP	$3.5	$4.1	$4.5	$1.0	28.6%	9.52%
INPO	$2.1	$2.5	$2.6	$0.5	23.8%	7.94%
EPRI	$2.0	$2.1	$2.4	$0.4	20.0%	6.67%
NEI	$0.6	$0.8	$0.9	$0.3	50.0%	16.67%
Total	$24.9	$29.9	$31.7[1]	$6.8	27.3%	9.10%

[1]Fees shown in 2011 are reduced by the test year adjustment of ($1.7) million.

Q. HOW ARE THE AMOUNTS OF THE NRC FEES DETERMINED?

A. The NRC is required by Congress to recover 90 percent of its annual budget through fees charged to licensees. Nuclear plant operators are charged a set annual fee per reactor each year by the NRC and in addition are charged on an hourly basis for additional plant-specific activities, such as the processing of operating license amendments or performance of inspections. Hourly fees charged to a licensee will go up or down based on the number of licensing actions or inspections that the NRC needs to undertake in a given year.

Q. DOES THE BUDGET INCLUDE AMOUNTS FOR ADDITIONAL INSPECTIONS THAT MAY BECOME DUE AS A RESULT OF REGULATORY PERFORMANCE AT MONTICELLO AND PRAIRIE ISLAND?

A. No. Our budget assumes only the baseline level of inspections.

Q. IS THE COMPANY PROPOSING AN ADJUSTMENT TO THE NUCLEAR FEES INCLUDED IN THE 2011 TEST-YEAR BUDGET?

A. Yes. We are proposing a $1.7 million decrease to nuclear fees included in the test year to reflect less-than-anticipated increases in fees from the NRC and INPO.

Q. PLEASE EXPLAIN HOW THE ADJUSTMENT WAS CALCULATED.

A. Our initial budget for NRC fees in 2011 was based on an escalation factor applied to the 2010 budget which was created prior to the NRC finalizing its rates for 2010. In June, 2010, NRC completed its rulemaking finalizing fees for licensees for 2010. The final rulemaking resulted in a 2010 fee that was less than originally budgeted. Accordingly, we updated the 2011 budget to reflect the decrease and made a corresponding test year adjustment. We have used 2010 published fees for reactor and hourly fees and escalated them for one year of escalation. The rate of increase over time has been variable, as the number of reactors licenses to whom direct time can be charged will vary each year.

For our INPO fees, we received initial guidance on 2011 fees from INPO that member dues would increase approximately 16.5 percent. In October, 2010, INPO indicated that the increase for 2011 would be only 4.7 percent. We have updated the budget to reflect the more recent information and made a corresponding test year adjustment.

C. Overall Costs

Q. EVEN WITH THE COST INCREASES PROJECTED IN 2011, ARE THE TEST-YEAR COSTS OF OPERATING THE COMPANY'S NUCLEAR PLANTS STILL REASONABLE?

A. Yes. Our plants remain some of the lowest-cost operating units in the nation. We continue to face increased cost pressures related to compliance with new regulations, meeting current industry standards, labor replacement, commodity cost escalation, security, and fees. We have attempted to evaluate our proposed budgets with our best estimate of industry costs in 2011. Applying a conservative annual escalation factor of 3.0 percent per year to 2009 Electric Utilities Cost Group ("EUCG") U.S. nuclear plant cost data, we compared the 2011 operating budgets for Monticello and Prairie Island with the remainder of the industry (see Figures 1 and 2 below). Even with these conservative escalations applied, it appears that our O&M site budgets will remain on the lower end of the industry when compared to this estimate of other nuclear industry plant costs. Monticello's costs in 2011 are higher than normal due to the extensive 2011 outage work planned.

Figure 1 - 2011 Single Unit Operating Costs

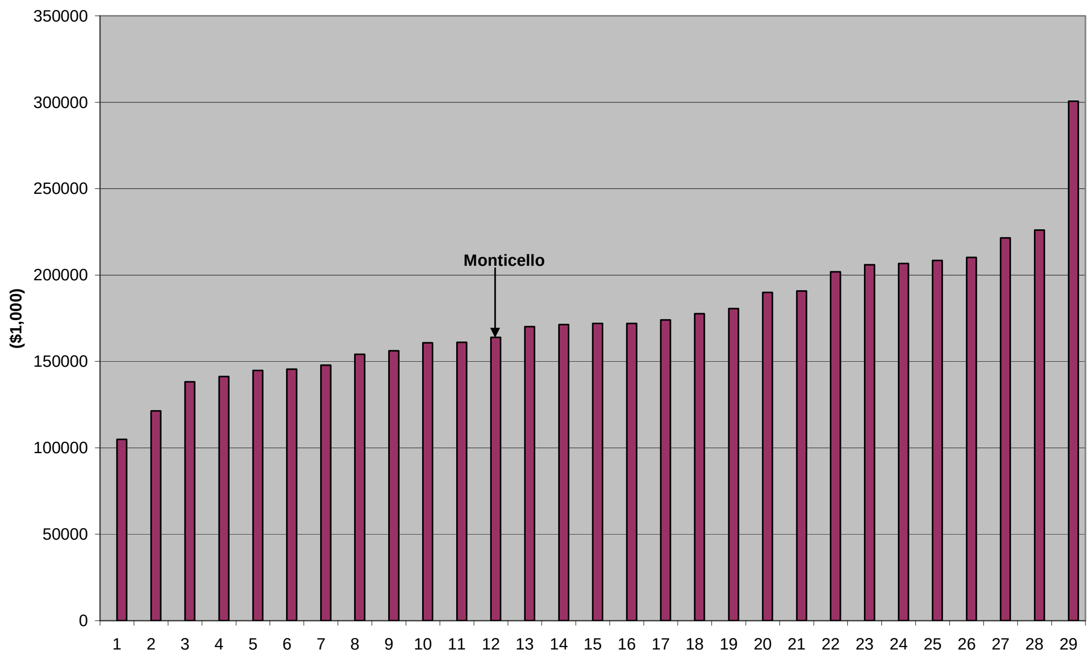
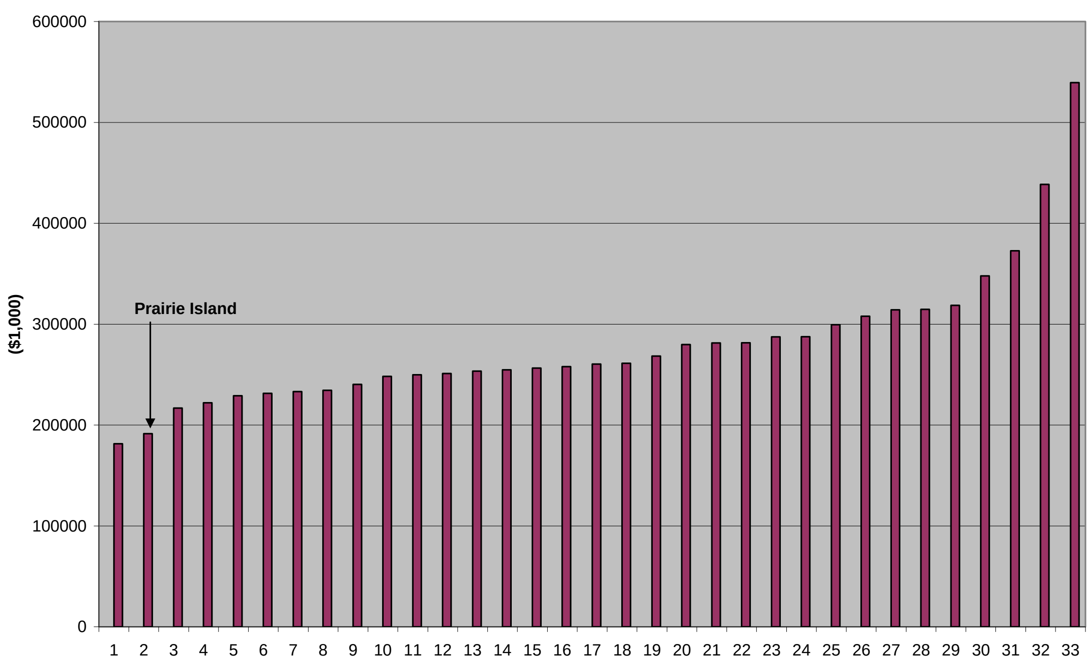


Figure 2 - 2011 Dual Unit Operating Costs



Q. PLEASE EXPLAIN HOW MONTICELLO AND PRAIRIE ISLAND COMPARE TO OTHER NUCLEAR UTILITIES IN TERMS OF STAFFING AND OPERATING COSTS.

A. In general, Xcel Energy's plants have historically been operated more efficiently than most other nuclear power plants in terms of staff and total O&M budget. Exhibit___(DLK-1), Schedule 3 provides comparative data on single and multi unit operating costs and staffing levels for U.S. nuclear plants. This information was prepared using data from the EUCG. The graphs demonstrate that from 2007 to 2009, Monticello continued to have one of the lowest operating costs and staffing levels compared to other single unit sites, and Prairie Island costs were the lowest in the industry in 2007 and were next to the lowest in 2008 and 2009.

Q. WHAT IS THE COMPANY DOING TO CONTROL COSTS?

A. The Company has taken a variety of steps in its efforts to control costs. For example, we implemented a new travel-authorization policy in the nuclear area in 2009. Also, we take the necessary steps to competitively source our major contract requirements. Where possible, we attempt to enter into fixed-price contracts, limiting our exposure to uncertain future inflationary pressures and unknown risks.

In addition, we seek to take advantage of economies of scale. For example, Xcel Energy works with owners of other nuclear facilities to share the costs of resolving common issues. The Company is currently a member of several industry groups, where we work with our industry partners to proactively identify potential issues, investigate whether our facilities may experience similar issues, and identify how to most cost-effectively and efficiently improve plant operations. By being proactive and working with our industry partners, we are able to seek competitive bids for resources and materials, make purchases in advance, enhance cost savings, and balance in-house and external expertise to further control costs.

Q. WHAT ARE THE MAJOR CHALLENGES TO CONTROLLING FUTURE SITE COSTS BEYOND THE TEST YEAR?

A. The nuclear energy industry is facing increased competition for experienced workers which will contribute to a shortage of specialized and skilled labor. An analysis of Xcel Energy's non-bargaining nuclear employees shows that 14.7 percent are eligible to retire in 2011, and this figure increases to 27.5 percent eligible to retire before 2015. For our bargaining unit employees, 12.8 percent are eligible to retire in 2011, and this figure increases to 22.6 percent eligible to retire before 2015

We have developed a plan for recruiting and retaining the highly qualified work force that is needed to continue safe, reliable, and efficient electricity production at our sites. However, these are highly-skilled positions that can be difficult to fill. For operators, for example, there is approximately a two-year lead time to hire and qualify a replacement to the accreditation standards imposed by INPO, and we normally experience a 10 percent to 20 percent attrition rate during the course of this training. INPO imposes guidance on current industry best practices and standards of conduct of operations that ensure our plants will continue to improve so as to meet current standards for performance. Thus, looking forward, the experience level of our work force presents our greatest challenge.

In addition, consolidation in the nuclear industry has put small plant owners at a disadvantage in a highly-competitive labor market. While we have had success in filling positions, we are currently seeing greater levels of attrition, as highly-skilled workers leave to work at other facilities around the country that provide either higher total compensation or a superior career path because they can move through a larger number of opportunities at different facilities. As a result, we have moved to hire more employees, both in anticipation of potential retirements and in order to assure that we have adequate staffing levels. A review of compensation for certain Xcel Energy nuclear positions shows that we are below market levels. While we are taking steps to address these issues, this will result in additional upward-cost pressure going forward to better match the industry.

We also anticipate continued increased demand for commodity and material goods as new nuclear plants are built around the globe. According to the International Atomic Energy Agency, worldwide there are 441 operating nuclear power plants with 61 new nuclear plants currently being constructed in 15 countries. The 61 new plants under construction only include one new plant under construction in the United States. Currently the NRC is reviewing an additional 12 Construction and Operating License Applications representing 22 more new nuclear units. This will likely increase demand for nuclear components and qualified workers worldwide.

Q. WHAT OTHER COST INCREASES DOES THE COMPANY EXPECT IN THE FUTURE?

A. Rising costs due to increases in the costs of compliance with existing and new regulatory requirements also contribute to the increase in operating costs. As the NRC, FEMA and other regulatory agencies enhance and revise regulations in response to new technology and new security threats, we anticipate additional increases in costs necessary to comply with new and revised regulations.

Q. WHAT ARE SOME OF THE KEY COMPLIANCE-RELATED PROGRAMS AFFECTING THE COMPANY'S COSTS SINCE THE LAST RATE CASE?

A. In addition to the regulatory changes requiring additional plant and security personnel discussed previously, key regulatory programs affecting the Company's costs are NRC initiatives related to further enhancing security, including cyber security, and fire protection.

After the September 11, 2001 terrorist attacks, the NRC ordered the nuclear industry to implement new defensive capabilities, more rigorous guard training and many other security enhancements. The most recent rule (10 CFR Part 73) went into effect on May 26, 2009, and enhances requirements for access controls, event reporting, security personnel training, safety and security activity coordination, contingency planning and radiological sabotage protection. It also added requirements related to background checks for firearms users and authorization for enhanced weapons to fulfill certain provisions in the Energy Policy Act of 2005. The NRC regularly re-evaluates the threat environment and may issue additional changes to security regulations in the future.

Xcel Energy is continuing our efforts to implement the new requirements at Monticello and Prairie Island. For Monticello, we are currently estimating that $16.7 million of the expenditures will go into service through the end of the test year to implement the security projects. At Prairie Island, we are currently estimating that $16.9 million of the expenditures will go into service through the end of the test year to implement the security projects.

The rulemaking also contained new cyber security requirements that are designed to provide high assurance that digital computer and communication systems and networks are adequately protected against cyber attacks. The rule required currently operating licensees to submit a cyber security plan to the NRC for review and approval by way of license amendment within 180 days of the effective date of the final rule. Xcel Energy submitted its cyber security plan via a license amendment for the Monticello and Prairie Island operating licenses to the NRC on July 20, 2010. The NRC subsequently informed Xcel Energy on August 10, 2010 that the amendment application was acceptable for review. For the initial cyber-security capital projects at Monticello and Prairie Island, a total of $2.0 million in expenditures will go into service through the end of the test year. These costs reflect our ongoing work to maintain compliance with a highly-programmatic and ever-changing nuclear regulatory environment.

In addition to the new security regulations, Xcel Energy has also assessed its fire-protection programs to determine whether to implement the voluntary risk-informed fire-protection requirements contained in the National Fire Protection Association ("NFPA") standard NFPA 805 as authorized by 10 CFR 50.48(c), or to retain current fire protection requirements. At Monticello, we have completed the work to determine that we will not continue to pursue changing the regulatory basis for compliance with the NRC's fire protection regulations to the voluntary NFPA 805 standard. We have notified the NRC of our intent to continue to comply with the existing regulatory basis for fire-protection compliance at Monticello. We also determined that it will be beneficial in responding to future NRC inquiries regarding the risk of a fire event to complete the fire modeling at Monticello begun in response to NFPA 805. This project will result in $13.7 million as a plant addition in 2011.

For Prairie Island, Xcel Energy is in the initial stages of upgrading the probabilistic risk assessment to address fires. The modeling portion of this project is scheduled to go into service in June 2011. It is expected at this time that the required physical plant modifications to fully implement NFPA 805 will not be put into service until 2012 or beyond. For Prairie Island, we are currently estimating that $13.3 million of expenditures will go into service through the end of the test year.

IV. NUCLEAR COSTS IN 2012

Q. COMPANY WITNESS MS. ANNE E. HEUER DISCUSSES THE COMPANY'S REQUEST FOR STEP-IN RATES IN 2012. WHAT NUCLEAR COSTS ARE INCLUDED IN THAT REQUEST?

A. As previously shown in Table 2 of my testimony, the nuclear outage amortization is $59.2 million in 2011 and increases to $64.5 million in 2012, a difference of $5.3 million. Table 5 below shows the actual or budgeted cost of each outage that will be amortized in 2012. The budget for the 2012 outages is increasing due to the scope of work planned for the outages. A refueling outage for Prairie Island Unit 2 is scheduled for spring 2012, and a refueling outage for Prairie Island Unit 1 is scheduled for fall 2012. Both outages include projects above and beyond the scope of a standard refueling outage with significant safety and regulatory project requirements.

Table 5

($ in millions)

Unit/Year	PI U2 2010 Actual	Monti 2011 Budget	PI U1 2011 Budget	PI U2 2012 Budget	PI U1 2012 Budget	Total
Total Outage Cost	$ 36.3	$ 41.6	$ 26.7	$39.5	$41.2	
Portion included in 2012 Amortization Expense	$ 3.3	$ 20.8	$ 15.7	$20.1	$4.6	$64.5

Q. PLEASE DESCRIBE THE WORK TO BE ACCOMPLISHED DURING THE 2012 REFUELING OUTAGES.

A. Both refueling outages in 2012 are at Prairie Island and are more than "routine" with significant safety and regulatory project requirements. Many of the activities are inspections that only occur once every 10 years and are coming due as Prairie Island approaches its 40th anniversary of reactor operations, or are first-time inspections required to be performed prior to entering the 41st year of operation that were committed to as part of Prairie Island's license renewal application. The significant non-routine projects in 2012 are discussed below.

- *Steam generator.* The Unit 2 steam generators have been in-service for longer than any steam generators in the United States. Because they are older, they require more frequent inspection—essentially, during every refueling outage. The Unit 2 steam generators will be replaced during the unit 2 refueling outage in 2013, at which time the required inspection interval will return to 10 years. The Unit 1 steam generators were replaced in 2004 and are on a 10-year inspection interval, with the timing of the first required inspection falling during the 2012 Unit 1 refueling outage. The cost of the two steam-generator inspections in 2012 is approximately $8.3 million.

- *Piping components*. Part of the American Society of Mechanical Engineers code, to which nuclear power plants are licensed to, requires a 10-year in-service inspection of certain piping components. This 10-year inspection is required on both units during the 2012 outages, and the cost is approximately $2.6 million.
- *Baffle former bolts*. Inspections of the baffle former bolts, the assemblies that hold the nuclear fuel, are required by the NRC on both units at an estimated cost of $2.0 million.
- *Reactor vessel internals*. Another inspection required on both Unit 1 and Unit 2 prior to entering the 41st year of reactor operation is a non-destructive evaluation of the reactor vessel internals. The estimated costs of performing these inspections are $2 million.
- *4th-row set of blades*. Another non-routine inspection that is planned for Unit 1 is the inspection of the 4th-row set of blades on the two Unit 1 low-pressure turbines. The blades have the potential to loosen under load. The consequences of throwing a blade are significant and could force an extended shutdown. The estimated cost of this inspection is $6.2 million.
- *Reactor vessel surveillance capsule program*. Finally, one of the programs required by the NRC, and instituted when the plants started operation, was a reactor vessel surveillance capsule program. This program involves inserting pieces of metal, known as coupons, in a capsule and placing the capsule into the reactor vessel where the coupons will experience the same operating environment and exposure to neutron fluence as the reactor vessel wall. The coupons are made up of the same material that the reactor

vessel was fabricated from and are periodically removed to test the material qualities of the metal as it ages to confirm that the materials are performing as expected. A sample from the capsules in both units is due to be removed during the 2012 refueling outages at an estimated cost of $1.65 million.

Q. ARE OPERATING COSTS ANTICIPATED TO INCREASE IN 2012?

A. Yes. Our 2012 budget includes an increase of $27.8 million in site costs and an increase of $4.0 million in non-site costs from 2011 to 2012. The $27.8 million increase in site costs is primarily driven by increased contractor costs due to the scope of the two Prairie Island refueling outages discussed previously in my testimony. The $4.0 million increase in non-site costs includes a $2.5 million increase in nuclear related fees and $1.5 million in increased security costs.

V. NUCLEAR CAPITAL COSTS

Q. WHAT CAPITAL INVESTMENTS IS THE COMPANY MAKING IN ITS NUCLEAR FACILITIES?

A. The Company's major projects at its nuclear facilities are those associated with life-cycle management work and the extended power uprates and dry cask storage facilities at Monticello and Prairie Island. Between 2008 and 2015, the Company will have invested over $1.65 billion in its nuclear facilities. Our budgeted closings to plants in 2011 include approximately $442.4 million related to these capital projects, including $340.9 million at Monticello and $101.5 million at Prairie Island. These expenditures are further detailed in Exhibit___(DLK-1), Schedule 4.

A. Life-Cycle Management

Q. PLEASE DESCRIBE THE LIFE-CYCLE MANAGEMENT PROJECTS.

A. Life-cycle management projects are those ongoing capital projects necessary to keep the plant operating safely and reliably. Examples of life-cycle management projects include cable replacements, breaker replacement, upgrades of the main control room, replacement of feed-water heaters, and replacement of the Unit 2 steam generator at Prairie Island.

The Company has continued a systematic program of capital investment in Monticello and Prairie Island to ensure a high level of safe and reliable operation. When the Company decided to pursue continued operation of its nuclear plants for an additional 20 years beyond the original 40-year licensed life, it committed to maintaining the high level of safe, reliable operation achieved in the past. In order to achieve this high level of operation, plant equipment must be replaced or refurbished to ensure it is capable of performing at historically-high levels of reliability through the new operating life.

These life-cycle management costs are necessary to ensure that the plant can operate safely and reliably for its remaining life. These are reasonable and prudent investments in exchange for which the plants will be available as critical components of our generation resource portfolio for another 20 years.

B. License Renewal, Extended Power Uprates, and Dry-Cask Storage

Q. PLEASE DISCUSS THE REASONS FOR DRY-CASK STORAGE AT MONTICELLO AND PRAIRIE ISLAND.

A. Permanent disposal of spent nuclear fuel is the responsibility of the federal government. The United States Department of Energy ("DOE") is under contract with nuclear power plant owners to ultimately take title, remove and permanently dispose of spent fuel from the power plant sites. Until removed by the DOE, however, it is the nuclear power plant owner's responsibility to temporarily store spent nuclear fuel. The plant's spent-fuel storage pool was originally used for temporary storage. However, nuclear plants' spent-fuel storage pools were not sized to accommodate the amount of spent fuel produced over 20, 40 or 60 years of operation. Over the years, the Company has expanded the capacity of the spent-fuel storage pools at Monticello and Prairie Island to the maximum extent practical. In order to free up space in the spent-fuel storage pools, other means of storing spent-fuel storage were investigated; otherwise, the plants would need to shut down. Additional room for spent fuel is created by taking older and cooler spent fuel from the spent-fuel storage pools and placing it in dry storage systems on site, until such time as it can be delivered to Yucca Mountain.

Q. PLEASE PROVIDE AN UPDATE ON THE STATUS OF THE COMPANY'S LAWSUIT AGAINST DOE.

A. In 1998, the Company sued the DOE on behalf of our ratepayers for breach of contract for failure to begin acceptance and removal of spent fuel from the Company's nuclear facilities. In 2007, the Company was awarded a judgment of $116 million by the U.S. Court of Federal Claims in its lawsuit against the DOE for damages through 2004. In February 2008, the DOE filed an appeal to the U.S. Court of Appeals for the Federal Circuit, and the Company cross-appealed on the cost of capital issue. Briefs have been filed, but it is uncertain when a decision will be issued.

In August 2007, the Company filed a second complaint against the DOE in the U.S. Court of Federal Claims, again claiming breach of contract damages for the DOE's continuing failure to abide by the terms of the contract. This lawsuit will claim damages for the period January 1, 2005 through December 31, 2008, which includes costs associated with the storage of spent nuclear fuel at Prairie Island and Monticello, as well as the costs of complying with state regulation relating to the storage of spent nuclear fuel. A trial is expected to be held in 2011.

Q. DOES THE TEST YEAR INCLUDE RECOVERY OF COSTS RELATED TO THE DEVELOPMENT OF THE PRIVATELY-OWNED INDEPENDENT SPENT FUEL STORAGE FACILITY IDENTIFIED IN THE COMPANY'S LAST RATE CASE?

A. Yes. The Company has invested approximately $23 million through November, 2010, for the private-owned independent spent fuel facility. $1.14 million of this cost is assigned to the State of North Dakota. The Commission approved a six-year amortization of this amount in the Company's 2007 rate case and, consistent with the Commission's order, an annual amortization expense of $190,000 is included in the test year. This expense is further discussed in the testimony of Mr. Felling.

1. Monticello

Q. PLEASE PROVIDE AN UPDATE OF THE PROJECTS AT MONTICELLO.

A. On October 23, 2006, the MPUC granted a Certificate of Need for up to 30 dry casks to store spent nuclear fuel on site in an independent spent-fuel storage installation to support an additional 20 years of operation at Monticello. Ten storage canisters were loaded in 2008, an additional 10 canisters will be loaded in 2013, and the last 10 canisters will be loaded in

2016. Although the Company will make significant investments related to the additional dry-cask storage in 2011, none of the canisters will be placed into service in 2011.

An extended power uprate at Monticello was approved by the MPUC on January 8, 2009. The Monticello extended power uprate will add 71 MW by: (1) increasing the amount of steam produced in the reactor; and (2) improving the balance-of-plant equipment that converts the steam into electricity. To obtain the higher steam flow, the reactor will be operated at a higher thermal-power level. The additional heat is achieved primarily by increasing the number of new fuel assemblies replaced in the reactor core at each refueling. This is done without increasing the operating reactor pressure and without changes to the fuel design or fuel-design limits.

The Monticello extended power uprate was planned to be implemented in two phases corresponding with two scheduled refueling outages in 2009 and 2011. Work was performed during the 2009 refueling outage; and we had planned to complete the uprate in the spring of 2011. However, we have reorganized the planned work schedule to complete portions of the phase 2 work during the spring 2011 refueling outage and the remainder of the work during a mid-cycle shutdown in late 2011. Splitting the phase 2 work will allow us to minimize customer fuel costs by having Monticello offline only during periods where replacement power is less expensive.

One of the issues supporting this decision to split the work is the fact that the NRC has not yet completed its review of our application to amend the operating license, and a decision is now not expected prior to the spring 2011 outage. The delay in the NRC's review is primarily related to issues raised regarding credit for containment-accident pressure during an accident to provide the necessary net positive suction head to safety-related pumps. We are working with the NRC to address the issues, and we expect to complete the license proceeding in late fall of 2011. We anticipate that the NRC staff will be providing their position on how to address the containment-accident pressure issue to the NRC Commissioners by the end of 2010, and we are hopeful that this will move us forward to resolution. The total plant addition for the Monticello extended power uprate project, which includes life-cycle management activities, is expected to be $361.4 million based on additions in 2008 through 2011.

2. Prairie Island

Q. WHAT IS THE STATUS OF THE LICENSE RENEWAL APPLICATION FOR PRAIRIE ISLAND?

A. The NRC operating licenses for Prairie Island were issued in 1973 (Unit 1) and 1974 (Unit 2) and will expire in 2013 and 2014 respectively, unless renewed. In April 2008, the Company filed an application with the NRC to renew the operating licenses for the two nuclear reactors at Prairie Island for an additional 20 years—until 2033 and 2034. The Prairie Island Indian Community ("PIIC") had initially filed several contentions in the license-renewal proceeding. The NRC recently dismissed the last remaining contention, and NRC staff may now proceed with the completion of the Prairie Island license renewal application. Unless subsequent decisions result in additional challenges, a decision could be forthcoming in early 2011.

Extending the life of Prairie Island will involve additional investments over the next few years to prepare Units 1 and 2 for 20 additional years of operation, including replacing the Unit 2 steam generators in 2013 (Unit 1 steam generators were replaced in 2004 and will support operation through the license renewal period). Through an extensive inspection and maintenance program, Prairie Island has been able to operate its steam generators longer than plants of similar vintage. However, over time, the tubes and support plates of the steam generators corrode. Projections of steam-generator tube degradation indicate that, while plant safety can be maintained without compromise, the continued loss of efficiency due to declining performance of the generators could make the plant uneconomical without these additional investments.

Q. PLEASE DESCRIBE THE EXTENDED POWER UPRATE AND DRY-CASK STORAGE PROJECTS AT PRAIRIE ISLAND.

A. On December 18, 2009, the MPUC granted a Certificate of Need for up to 35 additional dry casks to store spent nuclear fuel on-site to support the additional 20 years of operation. The MPUC's decision became effective on June 1, 2010. The 35 additional dry casks are in addition to the 29 dry casks that were necessary to operate Unit 1 until 2013 and Unit 2 until 2014. The 29th dry cask that supports plant operations through 2013 and 2014 was loaded and placed on the storage pad in the independent spent fuel storage installation in December 2010.

The MPUC also approved an extended power uprate at Prairie Island. The extended power uprate will add 82 MW per unit or 164 MW total by: (1) increasing the thermal power produced by the reactors, which will increase the amount of steam produced in the steam generators; and (2) improving the balance-of-plant equipment that converts the steam into electricity. A higher thermal-power level is achieved by increasing the amount of uranium in the reactor core, which will be accomplished by using fuel assemblies that contain slightly larger uranium pellets. General operation of Prairie Island will not change after implementation of the extended power uprate. The Company filed its Application for an Advanced Determination of Prudence for the Nuclear Plant Life Extension and Extended Power Uprate Projects with the Commission on April 19, 2010 in Docket No. PU-10-127.

Operating the plant at a higher thermal power will require an NRC amendment to the plant's operating license. The safety analyses to support the extended power uprate license amendments are being completed now, and we intend to file the amendment application to the Prairie Island operating license for the extended power uprate in early 2011, after the NRC approves our request to renew the current operating licenses for an additional 20 years.

In general, power uprates in pressurized water reactors do not require significant modifications to the reactor or the nuclear steam supply system of the emergency core cooling system. However, the balance-of-plant systems that convert the steam produced in the steam generators to produce electricity will need significant modifications. These modifications are currently scheduled to be completed on Unit 1 during the 2014 refueling outage and on Unit 2 during the 2015 refueling outage.

Q. WILL ANY PORTION OF THE POWER UPRATE AT PRAIRIE ISLAND BE COMPLETED PRIOR TO 2014?

A. Yes. We recently completed a small portion of the overall power uprate project referred to as the Measurement Uncertainty Recapture project. This project included the installation of more accurate instrumentation to determine reactor power. The increased accuracy allows the units to operate at a slightly higher power level while still remaining within the upper limit of power operation set by the NRC. The NRC approved the license amendment to implement the Measurement Uncertainty Recapture project on August 18, 2010. In October 2010, the Measurement Uncertainty Recapture project went into service, increasing the capacity of each unit by 9 megawatts. The remaining 73 MW of the extended power uprate will be placed in service for Unit 1 in 2014 and Unit 2 in 2015 as described above. This investment in this portion of the overall power uprate is further addressed in the testimony of Company witness Mr. John M. Felling.

VI. SUMMARY AND CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. The Company's nuclear generating facilities at Monticello and Prairie Island remain critical components of our generation portfolio, consistently providing cost-effective and reliable electric generation for our ratepayers. We have managed the overall costs of the facilities well, and even with the increases in this rate case, the costs for our plants are anticipated to remain at the lower end of the spectrum for similar plants. These facilities have some of the lowest production costs on our system, and support the state's energy policy by emitting no greenhouse gases. The plants have achieved safe, reliable and cost-effective operations. The investments outlined above will allow us to continue to utilize these facilities to serve our ratepayers in the coming years.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does.

STATE OF NORTH DAKOTA
BEFORE THE
PUBLIC SERVICE COMMISSION

In the Matter of the Application of Northern States Power Company, a Minnesota corporation For Authority to Increase Rates for Electric Service in North Dakota	))))	Case No. PU-10-___

AFFIDAVIT OF
Dennis L. Koehl

I, the undersigned, being duly sworn, depose and say that the foregoing is the Direct Testimony of the undersigned, and that such Direct Testimony and the exhibits or schedules sponsored by me to the best of my knowledge, information and belief, are true, correct, accurate and complete, and I hereby adopt said testimony as if given by me in formal hearing, under oath.

Dennis L. Koehl
Dennis L. Koehl

Subscribed and sworn to before me, this 14th day of December, 2010.

Notary Public

CHRISTINE SINN
Notary Public-Minnesota
My Commission Expires Jan 31, 2015

<u>Statement of Qualifications</u>

Dennis L. Koehl
Vice President and Chief Nuclear Officer

Dennis Koehl is the chief Nuclear Officer for Xcel Energy's Nuclear Department and a vice president of Xcel Energy. He is responsible for all nuclear activities in Minnesota at the Monticello and Prairie Island nuclear generating plants (operated by NSP-Minnesota and its parent company, Xcel Energy).

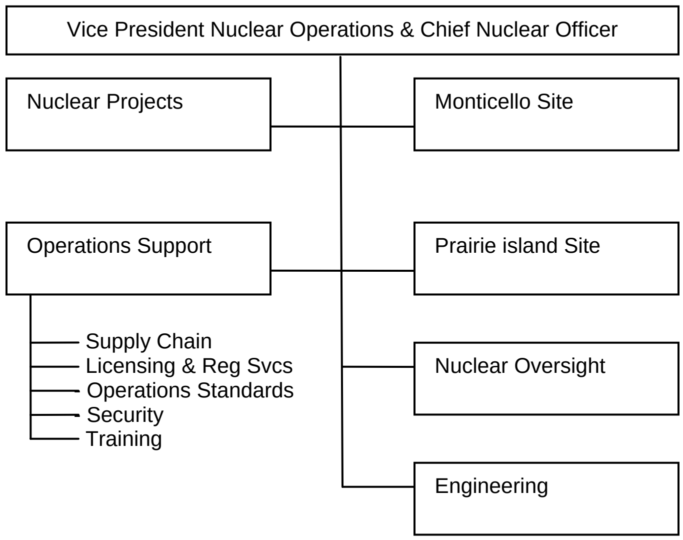
Mr. Koehl joined Nuclear Management Company ("NMC") prior to its transition to Xcel Energy in June 2004 as the site vice president of the Point Beach Nuclear Plant in Wisconsin, where he oversaw the operation of two nuclear units. Under his leadership, the Point Beach plant improved regulatory performance and set site-generating records.

With more than 29 years of experience in the nuclear industry, Mr. Koehl has a diverse background in operations, assessment, engineering and plant performance. He has held positions of increasing responsibility, including at Tennessee Valley Authority's Sequoyah and Watts Bar nuclear plants.

Mr. Koehl is Vice Chairman of the board for Utilities Service Alliance. He also serves on the board for the Boy Scouts of America Northern Star Council.

Mr. Koehl earned his Bachelor of Science degree in mechanical engineering from the U.S. Naval Academy in Annapolis, Maryland. He also served in the U.S. Navy, aboard the U.S.S. Patrick Henry nuclear-powered submarine.

Nuclear Operations and Support Functions and Activities



Major Functions

The Nuclear Operating and Support organization oversees Xcel Energy's nuclear plant operations and the required services to support those operations.

Key Organizations and Activities:

- **Nuclear Projects** – Nuclear projects is responsible for project management and implementation of major and site nuclear capital projects approved in the corporate capital budget.

- **Monticello and Prairie Island Sites** – The site organizations are responsible for overall plant nuclear safety. They are also responsible for station compliance with the Nuclear Regulatory Commission operating licenses, governmental regulations, and ASME Code requirements, as applicable and provide overall direction and management for plant operations activities.

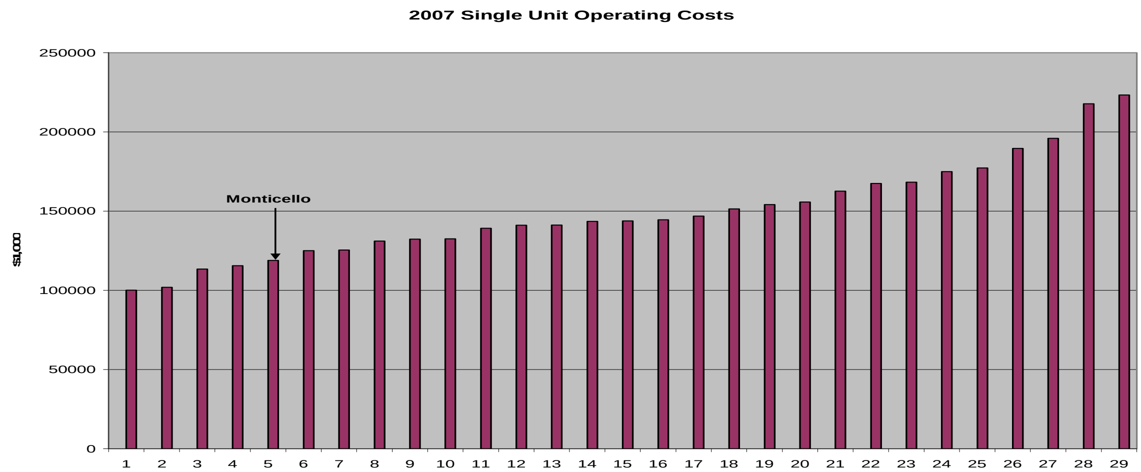
- **Nuclear Oversight** – Nuclear Oversight is responsible for establishing, maintaining, and interpreting Xcel Energy's quality assurance policies and procedures; establishing the requirements for assessor and inspector certification; managing the overall independent assessment process and establishing quality control practices and policies for quality verification activities. Additionally Nuclear Oversight provides for supplier evaluation;

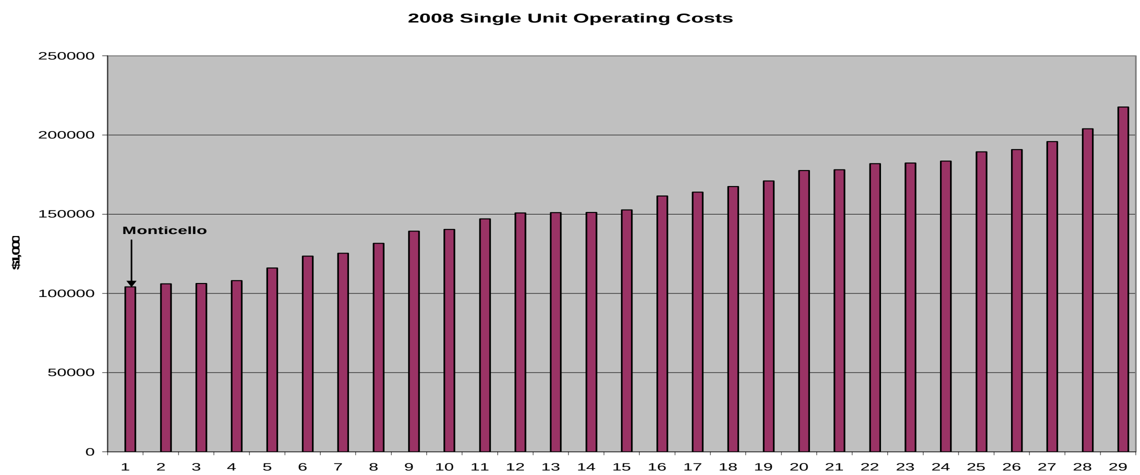
the conduct of supplier assessments or surveys (including their sub-tier suppliers); and verification that supplier quality assurance programs comply with Xcel Energy requirements. This organization has the authority to stop work at the sites and headquarter offices.

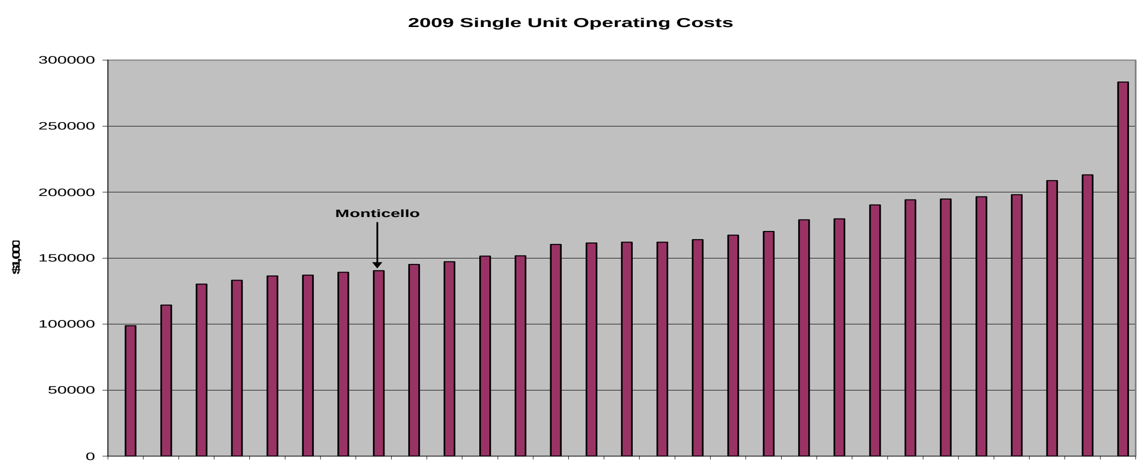
- **Engineering** – Engineering is responsible for program engineering, nuclear analysis and design, and day-to-day engineering support at the sites.

- **Operations Support** – Operations Support is responsible for support activities in training; operations standards, licensing and regulatory services, security, supply chain and business planning.
    - Training – Training is responsible for overall coordination of fleet training programs to assure delivery of effective training that meets regulatory commitments and business needs.
    - Operations Standards – Operations standards is responsible for oversight and fleet support activities in Operations, Maintenance, Work Control, Radiation Protection/Chemistry, Performance Assessment, Records Management, Document Control, and Administration.
    - Licensing and Regulatory Services – Licensing and regulatory services is responsible for managing the NRC regulatory interfaces, responding to NRC regulatory inspections and requests, developing licensing action requests for NRC regulatory approval, and directing fleet strategic emergency preparedness activities.
    - Security – Security is responsible for maintaining and implementing effective security measures for nuclear generating sites to meet applicable regulatory requirements. This includes programs for access authorization, fitness for duty, and physical protection of the facilities.
    - Supply Chain – Supply chain is responsible for procurement of commodities, equipment, parts, components and services, including warehouse operations at the generating sites.
    - Business Planning – Business planning is responsible for establishing and administrating site processes needed to accomplish plant alignment with Xcel Energy's vision, mission and objectives disclosed within Xcel Energy's Business Plan.

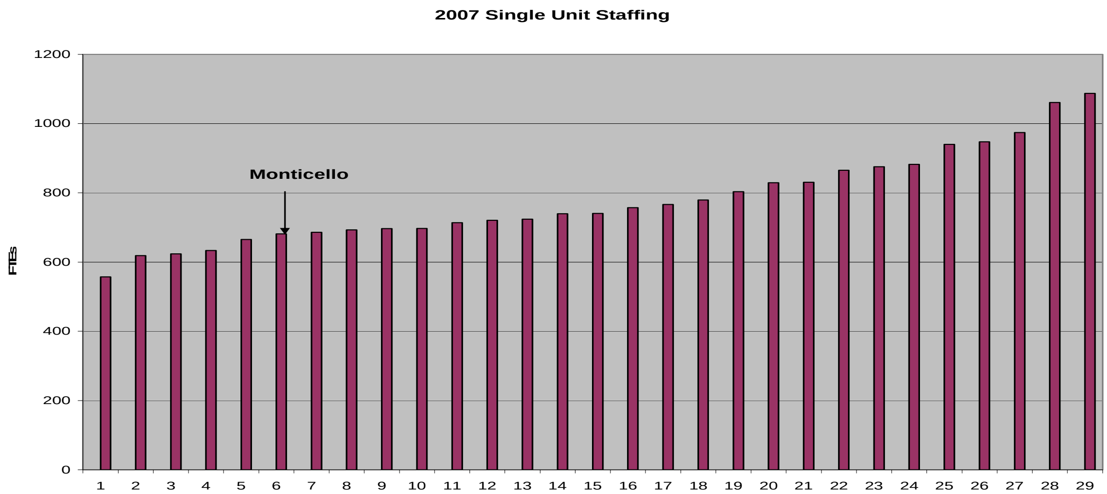
U.S. Nuclear Industry Total Operating Costs - Single Units
(Sum of Plant, Support, and Other Costs)

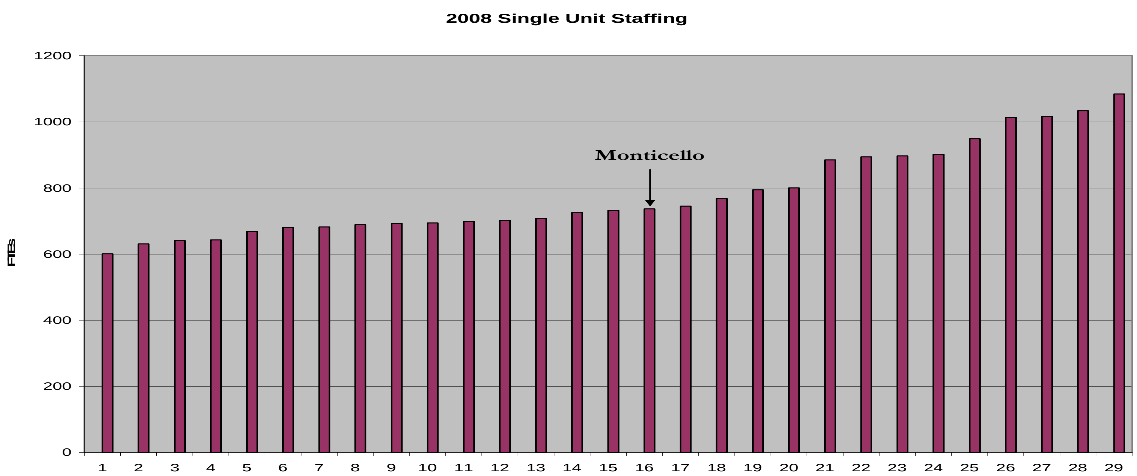


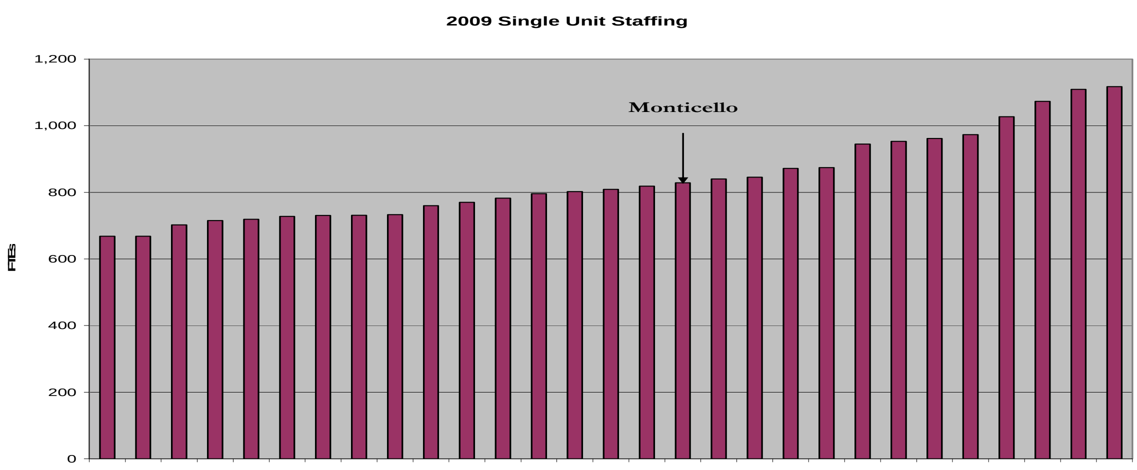




U.S. Nuclear Industry Staffing - Single Units
(Includes Off-Site Support and Baseline Contractors)

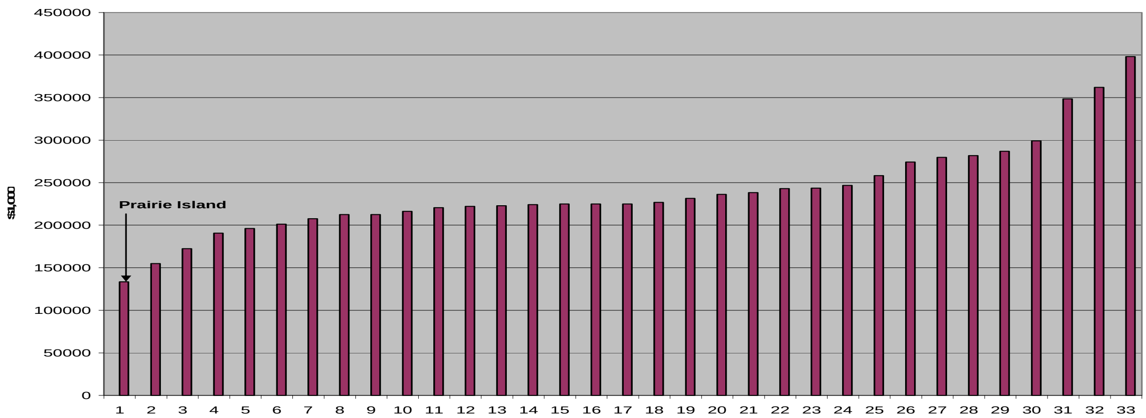




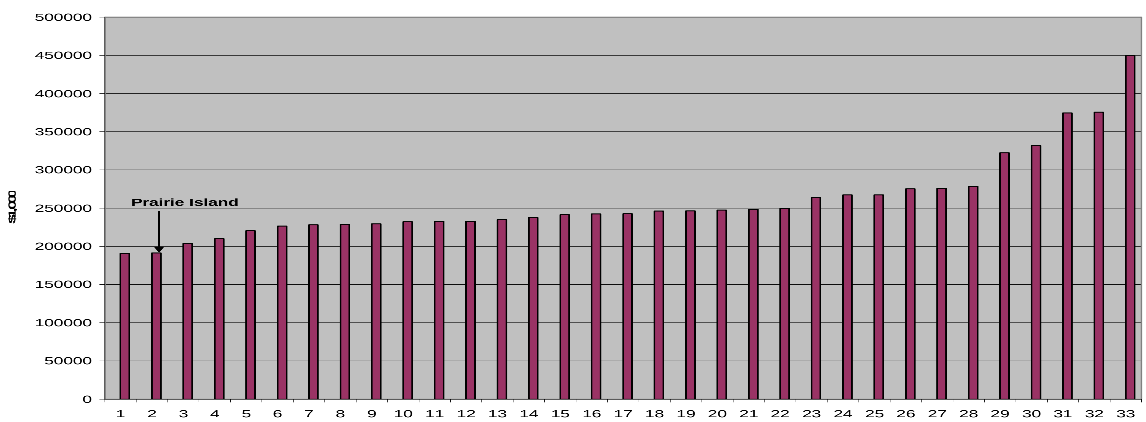


U.S. Nuclear Industry Total Operating Costs - Multi-Unit Sites
(Sum of Plant, Support, and Other Costs)

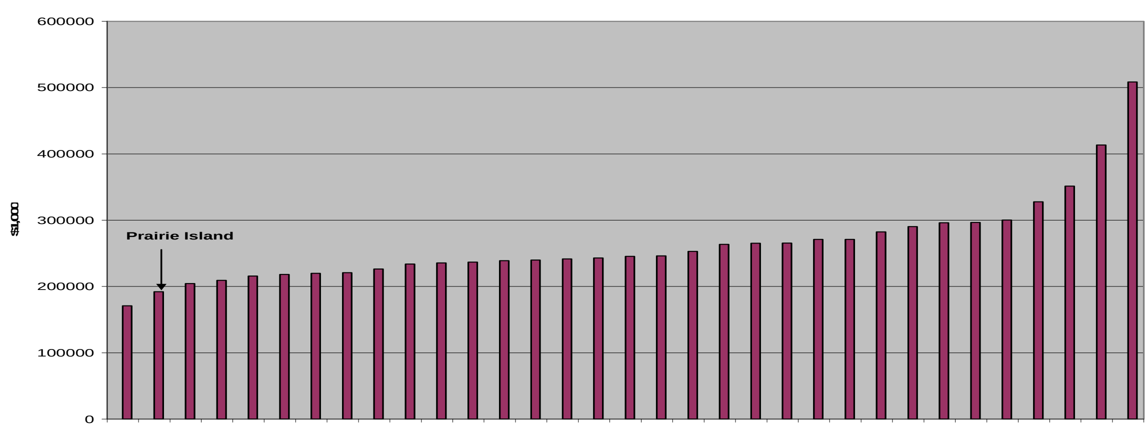
2007 Dual Unit Operating Costs



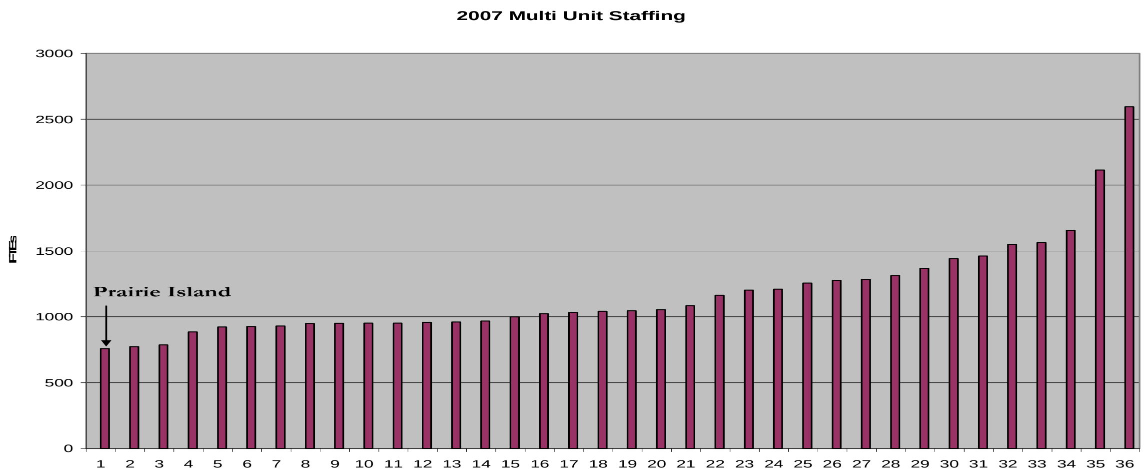
2008 Dual Unit Operating Costs

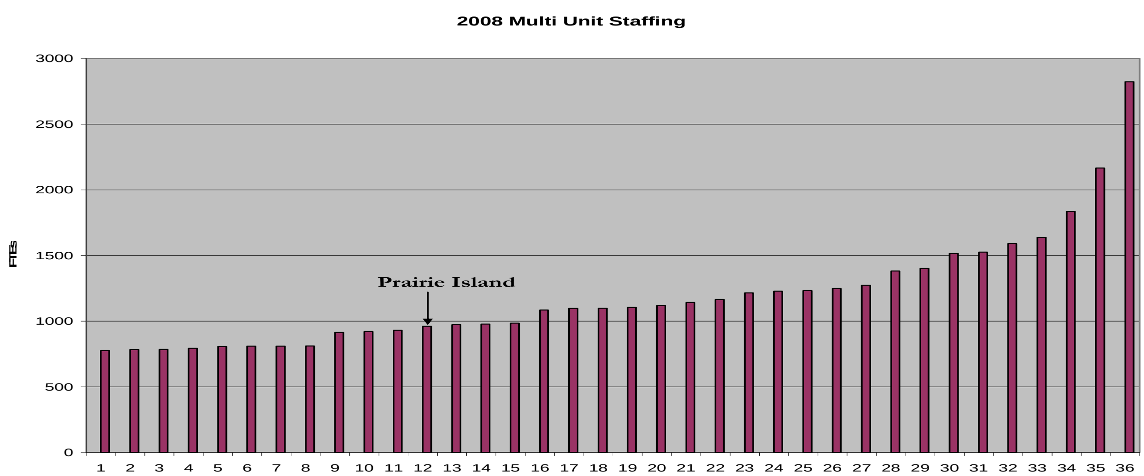


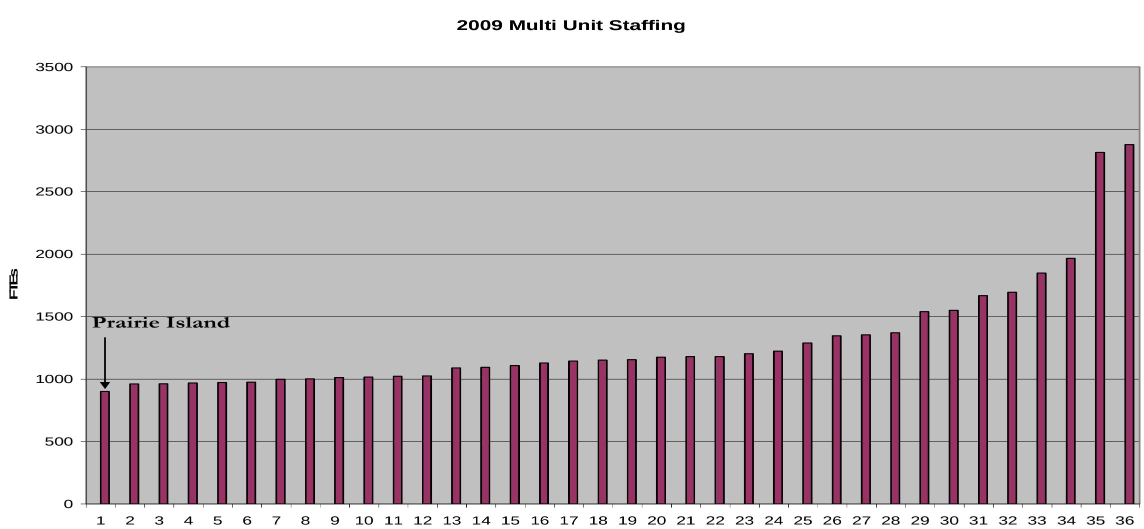
2009 Dual Unit Operating Costs



U.S. Nuclear Industry Staffing - Multi-Unit Sites
(Includes Off-Site Support and Baseline Contractors)







Nuclear Production
($s in Millions)

	Estimated In-service Date	Total Capital Expenditures for CWIP	Plant Additions 2010 Bridge Year	Plant Additions 2011 Budget	Plant Additions Total
			83.8	442.4	526.2
Total Additions by Year			**83.8**	**442.4**	**526.2**
Major Projects in Support of Capital Additions 2010 - 2011					
Monticello					
10MNT2000 - Nuclear-Monticello			21.5	41.8	63.3
Major Projects within Grandparent					
10799676 - Monticello 10CFR73 No Single Act	12/1/2010	0.2			
10956871 - Monticello Cyber Security	3/15/2010	0.9			
11205897 - Monticello Security Improvements	6/1/2010	5.3			
11302421 - Monticello 10CFR 73 Security Building	11/1/2011	9.4			
11232958 - Monticello 10CFR73 Security & Detection	5/30/2011	1.7			
Spec-Softwr-E-NFPA Fire Model-MNT			0.0	13.7	13.7
11043842 - Monticello NFPA 805 Fire Protection					
10MNT2001 - Nuclear-Monticello - LCM/EPU			0.0	285.4	285.4
10245258 - MNGP Extended Power Uprate					
Total Monticello			**21.5**	**340.9**	**362.4**
Prairie Island					
10PRI2000 - Nuclear-Prairie Island			62.3	53.5	115.8
Major Projects within Grandparent					
11230292 - Prairie Island 10CFR73 Continuous Detection	12/31/2010	1.7			
11230304 - Prairie Island 10CFR73 No Single Act	12/31/2010	10.0			
10956900 - Prairie Island Cyber Security	12/31/2010	1.1			
11230311 - Prairie Island 10CFR73 Pathways	6/30/2011	1.0			
11368101 - Prairie Island Force on Force	8/31/2011	1.3			
11044898 - Prairie Island NFPA805 Fire Model	4/30/2011	13.3			
11230606 - Prairie Island Security Enhancements	9/30/2011	2.9			
10PRI2002 - Nuclear-Prairie Island-Life Extension			0.0	48.0	48.0
10386846 - PI-LICENSE RENEWAL PROJECT					
Total Prairie Island			**62.3**	**101.5**	**163.8**
Total Nuclear Production			**83.8**	**442.4**	**526.2**

Note: Capital Expenditures for CWIP do not include AFUDC, Plant Additions do include AFUDC