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Xcel letter on NFA Implementation Report	March 8, 2006 (#195)
PUC Staff Briefing Papers (resource acquisition)	April 25, 2006 (#201)
PUC Order Establishing Resource Acquisition Process	issued May 31, 2006
PUC Order approving Manitoba Hydro PPA(in E002/M-99-888)	issued March 18, 2003

The attached materials are workpapers of the Commission Staff. They are intended for use by the Public Utilities Commission and are based upon information already in the record unless noted otherwise.

Statement of the issue

Should the Commission approve Xcel's 2005-2019 Resource Plan?

Background

On August 29, 2001, the Commission approved Xcel's 2000-2014 resource plan, in Docket No. E-002/RP-00-787 (see *Order Approving Xcel Energy's 2000-2014 Resource Plan, as Modified*).

On December 2, 2002, Xcel filed its 2003-2017 resource plan, in Docket No. E-002/RP-02-2065. On March 14, 2003, the Department of Commerce asked that the date for filing initial comments on the 2003-2017 plan be delayed until the conclusion of the 2003 legislative session due the Legislature's consideration of issues related to Xcel's Prairie Island and Monticello plants.

On September 10, 2003, Xcel filed a request to withdraw the pending 2003-2017 resource plan, and to file its next resource plan no later than November 1, 2004. Xcel also requested approval to issue a Request for Proposals (RFP) in 2005 to obtain 450 MW of supply in the 2011-2013 time frame. Later Xcel requested to withdraw its request for approval to issue an RFP in 2005.

On March 9, 2004, the Commission granted Xcel's request to withdraw its 2003-2017 resource plan (see *Order Permitting Withdrawal of Resource Plan and Request to Issue RFP*, in Docket No. E-002/RP-02-2065). The Commission designated November 1, 2004 as the filing date for Xcel's next plan. The Commission also ordered Xcel to begin immediately a stakeholder process to re-examine the competitive bidding process, and the use of this process and other for acquiring baseload and other resources.

On November 1, 2004, Xcel filed its 2005-2019 resource plan, in Docket No. E-002/RP-04-1752. As part of that plan, the Company proposed to modify its competitive bidding process and to change the way it acquired resources.

Also on November 1, 2004, Xcel filed a Notice of Changed Circumstances affecting its resource planning, in Docket No. E-002/RP-00-787. The Notice of Changed Circumstances was filed pursuant to Minnesota Rules 7843.0500, subp. 5. In this Notice, Xcel informed the Commission of the Company's intent to begin pursuing the resource acquisition process proposed in its November 1, 2004 resource plan filing.

On November 12, 2004, the Commission issued a notice seeking comments on Xcel's proposal to modify its competitive bidding process and the Company's resource acquisition process in general (in Docket No. E-002/RP-04-1752). This matter came before the Commission on October 13, 2005. On November 17, 2005, the Commission issued an Order granting Xcel's request to delay a decision to modify the competitive bidding process, and to wait and file a

report detailing the Company's work with nine other parties to develop baseload alternatives. On April 26, 2006, this matter came back before the Commission. On May 31, 2006, the Commission issued its *Order Establishing Resource Acquisition Process, Establishing Bidding Process Under Minn. Stat. 216B.2422, Subd. 5, and Requiring Compliance Filing*, in Docket No. E-002/RP-04-1752. In this Order, the Commission established a two-track competitive resource procurement process, using the framework of the certificate of need process when Xcel submits a self-build proposal and using a formal, competitive bidding process when Xcel does not. The Commission clarified the process adopted constituted a "bidding process approved or established by the Commission" under Minn. Stat. 216B.2422, subd. 5. Under Minn. Stat. 216B.2422, subd. 5, a generating plant selected under such a process is exempt from certificate of need.

On February 24, 2005, the Commission granted the Department's request for a three month extension to file initial comments on Xcel's plan. On May 25, 2005, the Commission granted another request by the Department to extend the deadline for final comments to October 18, 2005. On October 5, 2005, the Commission granted Xcel's request to extend the deadline for final comments until November 23, 2005. On December 8, 2005, a further request for an extension in the deadline to file comments on the resource acquisition issues was sought by the Izaak Walton League (and the parties represented by the Izaak Walton League). On December 15, 2005, the Commission granted an extension in the deadline for filing reply comments to January 30, 2006.

On December 27, 2005, Excelsior Energy Inc. filed a petition asking the Commission to open a contested case proceeding to, among other things, approve, amend, or modify a proposed power purchase agreement Excelsior submitted to Xcel, under Minn. Stat. 216B.1694, for power from its proposed Mesaba Energy Project and to make determinations under 216B.1693. On April 25, 2006, the Commission issued its *Notice and Order for Hearing and Order Granting Intervention Petitions*, in Docket No. E-6472/M-05-1993.

On June 2, 2006, Administrative Law Judge (ALJ) Steve M. Mihalchick established a procedural schedule for the Excelsior case that included evidentiary hearings on issues related to Mesaba Energy Unit 1, from October 30 to November 7, 2006, with an ALJ report expected by January 23, 2007. Issues related to Mesaba Energy Unit 2 would be addressed in 2007, with an ALJ report expected by July 13, 2007.

Positions of the parties by issue

Xcel's 2005-2019 resource plan

Xcel filed its 2005-2019 resource plan on November 1, 2004. The sections of the plan include: (1) Executive Summary, (2) Forecast and Resource Needs, (3) Modeling and a Preferred Plan, (4) Base Load Need Assessment, (5) Resource Acquisition, (6) Demand Side Management (DSM), (7) Existing Fossil-Fuel Resources, (8) Nuclear Generation, (9) Renewables, (10) Environment, (11) Transmission, and (12) Compliance Filings.

In addition, the plan document includes four appendices: (A) Forecast Methodology, (B) Existing Plants, (C) Mercury Report, (D) Annual Report for July 1, 2004. The Executive Summary of the November 1, 2004 plan filing, together with the introductory comments filed by the Department on August 1, 2005 (#114, pages 1-4), provide an overview of Xcel's resource plan filing.

Also received on November 1, 2004 as a separate filing was Xcel's Report on the Status of the Implementation of the Northern Flood Agreement (#2). Xcel filed its Mercury Control Report for the A.S. King Plant (required by the MERP settlement agreement) on November 17, 2004 (#11) as a supplemental filing.

On November 23, 2005, Xcel filed reply comments (#162) offering a variety of amendments and additions to its initial plan. Among the changes made were an updated Action Plan and a Base Load Development Process Study and Options Report relating to base load need. In reply to comments from numerous parties filed responding to Xcel's November 1, 2004 plan, Xcel organized its November 23, 2005 reply by topic area generally consistent with the original plan.

Forecast and Modeling

Xcel Energy

Forecasting is a key component of resource planning. The forecast provides the basis for determining the type and amount of resources needed over the planning period. Forecasting is a particularly subjective exercise based on a variety of assumptions including demographics, economic indicators and weather.

The system sales forecast is developed using econometric models that relate historical sales to economic and demographic variables such as price, income, employment, weather and the number of customers. Individual jurisdictional level customer class models are summed to determine system sales. Loss factors are developed and held constant over the planning horizon.

The Company's peak demand forecast is created by developing an econometric model that relates the historical uninterrupted monthly peak demand to native energy requirements, weather, and winter and summer seasons. The median energy forecast and normal peak producing weather are used in the model to determine the peak demand forecast. Appendix A to the Application provides a more complete discussion of the modeling used to develop the forecast.

The Company provided supplements to the median forecast with higher and lower forecasts to reflect the potential variability in energy requirements and peak demand particularly related to weather. Xcel developed a probability distribution around its energy requirements and peak demand forecasts which resulted to develop a range or distribution of forecasted values for peak and energy requirements. Appendix A to the Application provides a more complete discussion of the Company's risk assessment methodology.

Past forecasting issues

In Xcel's 2000 Resource Plan an issue was raised with the short-term forecasting methodology used by the Company to predict its energy sales and demand forecast in the first five years of the planning period and a separate long-term forecast method for the remaining ten years. Xcel indicated that it has since gone to a single forecasting process for the 15-year planning horizon.

In the Blue Lake Certificate of Need proceeding (Docket. No. E-002/CN-04-76) the Department identified other issues with Xcel's forecasting and agreed to work with the Company to reconcile their differences. The Company indicated that it met, talked with, and e-mailed the Department several times to discuss forecasting methods. The Department identified several issues with Xcel's econometric model and suggested exploring how the variables are included in the modeling. Xcel tested all of the DOC's suggestions and found that none of the models suggested and analyzed was significantly better than the existing model.

In this proceeding Xcel used a model similar to that in the Blue Lake proceeding and other recent filings to create its demand forecast. The model uses a normal peak producing weather weighted by number of customers, a rolling 12-month total energy requirement and seasonal binary variables to forecast peak demand.

Forecast Application

Xcel indicated that it made one significant change in its forecast selection for planning generation requirements. Due to its recent experience in short-term markets, Xcel has decided to use the 90% forecast level as the appropriate planning level for capacity planning in this Resource Plan. The Company argued that MAPP penalties for not living up to capacity requirements, the need for adequate generation capacity generally, and the fact that actual demand is a function of many variables require utilities to plan to a high level of certainty.

In the past Xcel has used a median forecast in its Resource Plan which is a forecast with a 50 percent chance that demand will be higher than forecasted, and a 50 percent chance that the forecast will be higher than demand. This forecast assumed the ability to purchase short-term capacity to meet potential demand. However, it is becoming more difficult to obtain short-term capacity purchases due to a decreasing capacity reserve in the region and an increasing number of constraints on the transmission system.

Xcel argued the use of the 90 percent probability forecast, while accounting for short-term purchases, increases the certainty that adequate resources will be maintained to meet demand and reserve requirements.

Forecast Results

Xcel forecast energy consumption in its upper Midwest service territory to increase at an annual average growth rate of 1.72% per year over the planning period. The energy requirements increase an average of 900 GWhs a year from 46,075 GWhs in 2005 to 58,639 GWhs in 2019.

The median peak demand forecast predicts an average growth rate of 1.61% between 2005 and 2019. Peak annual power demand increases by approximately 168 MW annually from 9,304 MW in 2005 to 11,659 MW in 2019.

Based on its forecast of demand and available resources, Xcel suggested no new capacity will be needed until after 2010. By 2012 however, Xcel identified a need for additional resources of 543 MW growing to 1,830 MW by 2015 and to 3,100 MW by 2019.

The Company noted that its forecast is dependent on the successful completion of several pending items including on-going acquisition programs and consideration of the future of its nuclear generation facilities.

Modeling & Preferred Plan

After the forecast is developed, Xcel examines what combinations of resources could be used to meet future demand. Xcel uses the Strategist resource expansion model to analyze long-range supply-demand alternatives. Strategist optimizes resource selection to meet need based on the input assumptions, calculates the present value revenue requirements (PVRR) to measure the economic impact of various scenarios and calculates the environmental impacts using externality values.

Based on assumptions about the forecasted demand, the Strategist model can optimize the use of existing resources and add new resources with the lowest cost PVRR. The model picked the resources that minimized the overall cost of the plan. A more detailed discussion of the assumptions used in the development of Reference Case used in Strategist can be found in Section 3 of the Application.

The Reference Case in the model, discussed in more detail on pages 3-2 to 3-8 of the Application has a PVRR of \$29,420 million with no externalities, \$29,900 million with low externalities and \$31,730 million with High Externalities. Xcel's Preferred Plan, discussed in more detail on pages 3-8 to 3-20, has a PVRR of \$29,010; \$29,485 and \$31,285 millions respectively. Table 3-10 on page 3-18 of the Application shows the incremental resource additions preferred by the Company over the planning period. Table 3-10 is attached to these briefing papers.

Department of Commerce (Department)

In all previous Xcel resource plans, the Department has concluded that the forecast was reasonable for planning purposes, but proposed improvements for the next resource plan. The DOC indicated that in this resource plan the Company has resisted resolving issues with its forecast. As a result the Department developed an alternative forecast and concluded that Xcel's forecast does not provide a reasonable basis for planning purposes.

The Department suggested that a resource plan forecast must have three items before it can be approved. These items include valid input data, an adequate forecasting model and an adequate risk adjustment method. The Department indicated that it identified these flaws in Xcel's forecast in the Blue Lake Certificate of Need proceeding. Xcel's forecast in this proceeding contains the same fundamental flaws. (For a more detailed discussion of the DOC's concerns with Xcel's forecast and the reasons it developed its own can be found on pages 7 to 15 of its August 1, 2005 Comments.)

The Department argued that its forecast removed unusable data, changed the variable to reflect more reasonable assumptions about the relationship between consumption and the season and used a robust uncertainty mitigation in the forecast. According to the Department, the Company's forecast is influenced by unusable data, unreasonable regression modeling, and subjective uncertainty mitigation. These issues cause Xcel's forecast to over-estimate the need on the system.

The Department recommended that the Commission approve its energy and peak demand forecasts. The Department also recommended that the Company be required to implement the changes to its forecast as proposed by the Department in future resource plans and other proceedings.

Modeling and Preferred Plan

In order to determine the reasonableness of Xcel's expansion plan the Department employed the following three steps:

1. Analyze Xcel's Reference Case and develop a DOC reference case using the Department's forecast;
2. Perform scenario analysis to examine the impact of significant decisions facing Xcel and its ratepayers in the near future;
3. Use the results of scenarios to modify reference case and develop preferred plan, testing preferred plan using different natural gas and coal prices.

A more detailed discussion of the development of the DOC's preferred Plan on pages 36-44 and in Attachments 3,4 and 5 of its August 1, 2005 Comments.

Based on its analysis, the Department made the following recommendations:

- acquire DSM in the amounts indicated by the 1,156 and 3,935 GWH scenario;
- acquire 1,125 MW of base load additions, to be on-line in 2015-2017;
- base load additions should be no more than 750 MW of coal-fired capacity and no more than 375 MW of natural gas-fired capacity;
- Xcel should be required to meet with the DOC to better define base load characteristics;
- acquire 240 MW of name plate wind capacity to be on-line in 2011-2012;
- acquire 320 MW of name plate wind capacity to be on-line in 2013-2015;
- acquire 320 MW of name plate wind capacity to be on-line by 2017;
- acquire 400 MW of name plate wind capacity to be on-line by 2018;
- acquire 400 MW of name plate wind capacity to be on-line by 2019.

Joint Intervenor (MCEA et al)

The Joint Intervenor's (MCEA et al) basic concern with Xcel's preferred plan is that it fails to recognize the risk of future costs associated with the regulation of carbon dioxide emissions. Xcel's failure to address these risks biases its resource selection in favor of traditional coal-fired base load generation.

In general, the Joint Intervenor supported the Department's analysis and conclusions on Xcel's resource plan, particularly the recommendations of aggressive DSM goals and substantial amounts of new wind power. The Department's analysis concurred with the argument advanced by the Joint Intervenor that Xcel's 2004 Resource Plan fails to deal adequately with the potential impacts and changes required under greenhouse regulatory scenarios.

Among its disagreements with the Department, the Joint Intervenor argued that the DOC analysis did not support the addition of any new coal-fired base load resources. The DOC analysis indicated that coal-fired technology is sensitive both to the level of externalities and the price of coal compared to that of natural gas. The Joint Intervenor stated that if the high externality values are applied to the Department's preferred plan, the model eliminates a base load coal unit in 2015 trending instead to intermediate capacity and wind energy. The shift in the resources selected by the model occurs without the consideration of the carbon dioxide emitted from out-state generation sources that serve Minnesota ratepayers, the low CO₂ externality values set by the Commission, and without consideration of future CO₂ regulatory costs.

The Joint Intervenor argued that the risks associated with CO₂ placed coal-fired resources on shaky financial ground. Under these conditions, the DOC recommendation of 750 MW of coal-fired base load resources does not hold up. The assumption that the base load capacity is needed at all, and that it would be coal-fired, is premature and not supported by the record.

The Joint Intervenor supported the DOC conclusion that Xcel should add 1,680 MW of additional wind capacity. However, the Joint Intervenor argued that the additional wind capacity should be brought onto the system earlier than proposed by the Department. Developing the wind capacity earlier than proposed by the DOC will reduce the risk of increasing and volatile costs of fossil fuels, reduce exposure to future climate regulation and enhance flexibility in meeting future resource needs.

Minnesota Project

Minnesota Project argued that Xcel's proposal to move from a 50% probability forecast to a 90% probability forecast is a fundamental shift in meeting supply and adds an additional 900 MW to Xcel's demand picture. The Minnesota Project opined that a gradual shift from a 50% to a 90% probability forecast would be more appropriate. Xcel's proposal appears to support an aggressive bid to bring more generation capacity on-line.

North American Water Office (NAWO)

NAWO suggested that the forecasts of energy and capacity requirements appear to be little more than trend lines modified by econometric assumptions. The forecast presents a self-fulfilling prophesy of load growth that continues on and on.

NAWO suggested that a more constructive approach would be to re-invent sector-by-sector end-use analysis and add a breakout of consumption on a sub-regional basis. With an understanding of the way in which electricity is used throughout the service territory, it would be possible to design and implement pro-active conservation and other demand-side management programs. Forecasts would be transformed into active management and measuring tool.

The forecast in Xcel's application is simply a justification for more coal and nuclear development.

Excelsior Energy Inc. (Excelsior)

Excelsior provided extensive discussion on the need for base load power and the benefits of IGCC development, and the price volatility and high cost of natural gas generation. Excelsior criticized Xcel's forecast and preferred plan for selecting natural gas-fired resources instead of base load resources and for failing to adequately address the IGCC statutory provisions.

Excelsior argued that the loss of base load capacity, recent and ongoing construction and purchases of natural gas generation combined with the increasing cost and price variability of natural gas require that Xcel add base load capacity to its portfolio.

Carol Overland

Ms. Overland provided the following comments regarding Xcel's forecast and preferred plan:

- Xcel must substantiate its load growth projections;
- Xcel must take into account planned generation in the region;
- Xcel must remedy the discrepancies between its load and capability reports in the different proceedings;
- Xcel must consider Mesaba as a replacement for Monticello and Prairie Island;
and
- Xcel must evaluate combinations of intermittent generation to give capacity equivalent to base load and nuclear.

Xcel Reply - Updated Action Plan/ Preferred Plan

On November 23, 2005 Xcel filed an updated Action Plan and preferred plan. The Company argued that the refinements to the forecast improves the model and addresses some of the concerns raised by the Department. The PVRR of the updated Preferred Plan is discussed on Page 28 of Xcel's Reply Comments. The results of the update and a summary of the incremental resource additions can be found on Page 29. The major refinement identified and incorporated

for 2006 is the potential upgrades at some of its existing facilities that has been identified by the Company since the filing of its Application. The upgrades are discussed further below.

Xcel updated some of the assumptions used in its expansion model. Five adjustments were made:

1. Used a new capacity and energy forecast;
2. Updated the cost of a generic base load unit;
3. Increased the natural gas price by approximately 20%;
4. Updated resource modifications similar to those used in the DOC analysis;
5. Accepted the DOC recommendation on DSM of the goal proposed by the Company plus 25 percent.

Xcel's preferred plan contains the following components:

- the updated "2006 Forecast";
- the November 2004 long-range gas price forecast;
- updated costs of generic base load;
- DSM Goal plus 25 percent; and
- 320 MW of upgrades.

Department Response to Xcel

The DOC identified the similarities between its proposed expansion plan and that of Xcel. These similarities include:

- ▶ No additional resources are added before 2010;
- ▶ Xcel's proposed upgrades in 2012 and 375 MW of base load capacity in 2015 is similar to the DOC's 750 MW of base load in 2015;
- ▶ Both plans call for the same level of wind generation between 2011 and 2015; and
- ▶ The level of DSM is the same.

The Department also identified the remaining differences between its proposed expansion plan and that of Xcel. These differences are:

- ▶ Xcel calls for 375 MW less base load in 2017;
- ▶ Xcel calls for 1,120 MW less wind between 2017 and 2019; and
- ▶ Xcel calls for 425 MW of more intermediate capacity (in 2012 & 2015) and 1,632 MW of peaking capacity (2011, 2013 & 2015 and beyond) during the planning period.

The Department argued that the differences between the expansion plans do not need to be resolved at this time. Assuming Xcel's next resource plan would be filed, reviewed, and approved by early 2008, the Department suggested that sufficient time exists to reassess the expansion plans before Xcel must commit to resources. The DOC identified the following assumptions in support of reassessment:

- Assuming an 8 year lead time for base load resources, a decision by early 2008 would provide sufficient time to obtain base load resources for 2017 as identified in the DOC expansion plan.
- Assuming a 3 year lead time for peaking resources, a decision by early 2008 would provide sufficient time to obtain the peaking resources identified by Xcel in its updated preferred plan, if needed.
- Assuming a 4 year lead time for intermediate capacity, a decision by early 2008, would provide sufficient time to obtain the 2012 intermediate resources identified by Xcel in its updated preferred plan, if needed.
- In addition, the Department suggested that there are a number of venues that will impact the amount of wind energy developed on Xcel's system. A determination of the appropriate amount of wind is a developing matter that should become clearer over time.

The Department reiterated the reasons the Commission should adopt its expansion model.. They included:

1. Compliance with Minnesota Statutes - Xcel's modeling capped the amount of wind that could be selected at 15 percent. Because renewables were not allowed to fully compete, Xcel would have a hard time meeting the statutory standard.
2. Allowing for the development of additional information before committing to a specific resource type could further assist in resolving the differences between Xcel and the Department.
3. The DOC proposed a superior forecast without subjective input and without the impact of winter energy consumption on summer peak demand.
4. The DOC proposed expansion plan provides greater certainty that Xcel will meet its requirements under the REO.

Upgrades at Sherco, Monticello and Prairie Island

Xcel Energy (Xcel)

Xcel indicated that its evaluation of base load options identified the potential for increasing the capacity and energy at its Sherco plant and each of its nuclear facilities. These upgrades are estimated to provide 320 MW of base load capacity at a cost of \$650/kW to \$1400/kW depending on the extent of the upgrades pursued. The Company's Action Plan includes further development and implementation of the upgrades and they are included in Xcel's preferred Plan. The upgrades are briefly discussed on pages 25-28 in Xcel's November 23, 2005 Reply Comments. The Company requested Commission approval of these upgrades as part of their resource plan.

Department of Commerce (Department)

The Department appears to support the Company's efforts with respect to the upgrades.

Staff discussion (Modeling and Preferred Plan)

Staff believes that the forecasts and preferred plans of both Xcel and the Department provide a reasonable basis with which to proceed. A preference for either is likely tied to big picture ideas, perceptions and preferences on the issues of the future price of natural gas and its volatility, the benefits to the development and use of wind power, as well as the potential for and effect of future environmental regulations.

Staff generally supports the Department's recommendation to resolve the forecasting and modeling issues that remain in dispute in the Company's next resource plan. Such an approach would allow for additional discussions between the parties regarding the remaining differences. However, in making its recommendation, the DOC assumed an early 2008 Commission decision on Xcel's next resource plan. Whether that time line can be achieved is in part dependent upon when the next resource plan is required to be filed. Given the passage of time since comments were submitted, parties should be prepared to update the Commission on the timing elements associated with their proposals.

In addition, and related, the resource acquisition process recently approved by the Commission requires a decision in the resource plan that identifies a specific date on which the Company would be required to issue an RFP and/or file a certificate of need depending on the resources to be acquired and the process to be used. Staff believes the parties should propose specific dates at the hearing.

For example, both Xcel and DOC forecasts and preferred plans indicate a need for base load resources in the year 2015. When should Xcel be required to file its certificate of need? Given the lead time necessary for the development of base load resources, whether coal-fired or wind-generated combined with the fact of a new review process would suggest that the effort to acquire those resources should begin in the near future if not already. Sufficient lead-time should be provided to allow other potential providers to participate.

There has been significant discussion in the record on the importance of recognizing the risk of future carbon regulation in the evaluation and selection of future resources. Staff agrees with the Joint Intervenors that some kind of carbon regulation is likely, important, and potentially significant with respect to its impacts in the selection of future resources. Staff believes that the Commission should require Xcel to fully address the risks and impacts of carbon regulation in all relevant proceedings in the future. This is discussed further in the Environmental Compliance Section of this Briefing Paper.

Finally, staff suggests that the Commission indicate that its decision in the Monticello certificate of need proceeding could impact its acceptance of a forecast and preferred plan in this proceeding. The Commission will determine what actions, if any, are necessary when it makes its determination on the certificate of need application.

Commission decision alternatives (Forecast and Modeling)

1. Accept for purposes of this proceeding the Company's forecast and expansion plan as updated in its November 23, 2005 comments which include the 2006 Forecast, 2004 Gas Price Forecast, updated generic base load costs, DSM Goal plus 25 percent and 320 MW of Upgrades.
2. Accept for purposes of this proceeding the Department's proposed forecast and expansion plan as identified in its August 1, 2005 comments which includes its 2005 Forecast, DSM Goals plus 25 percent and 320 MW of upgrades.
3. Approve the Joint Intervenor's proposal to adopt the Department forecast but move up the schedule for the development of the additional wind energy.
4. Require a sector-by-sector end-use analysis with a breakout of consumption on a sub-regional basis as recommended by NAWO.
5. Require Xcel to gradually move from a 50% median probability forecast to a 90% probability forecast.

Xcel's compliance with environmental reporting requirements from the Company's 2000-2014 resource plan order

The Commission's *Order Approving Xcel Energy's 2000-2014 Resource plan, as Modified*, issued August 29, 2001, in Docket No. E-002/RP-00-787, included six environmental reporting requirements for Xcel's next resource plan (see Ordering Point 13 (a)-(f), page 26), including:

1. an analysis of whether the Company's current SO₂ strategy is the least-cost method of compliance
2. an analysis of whether the Company's current NO_x strategy is the least-cost method of compliance
3. an update of Company's mercury reduction goals, strategies, and achievements
4. a copy of the report on mercury that Xcel is required by statute to file with the legislature
5. a brief summary of industry-based initiatives for cutting greenhouse gas emissions
6. after discussions with the Department, an expansion of its CO₂ contingency planning to check the extent to which resource mix changes can lower the cost of meeting customer demand under different forms of regulation

Xcel addressed each of these six environmental compliance requirements in Section 10 of its resource plan, with additional information provided in Appendix C. The Department commented on Xcel's compliance with each of these environmental reporting requirements on pages 46-53 of its August 1, 2005 comments (#114). The Commission should refer directly to the Department's evaluation of these compliance filings.

The Department commented that:

- Xcel presented analysis showing that its current SO₂ management practice is not least cost; therefore, the Department asked that, in reply comments, the Company provide a more complete analysis to support why its current practice is reasonable; the discussion should include the benefits associated with the Company's risk adverse strategy and a more complete discussion of the benefits associated with trading, including the expected price of allowances; since Xcel filed response comments on the issue of SO₂ management, and other parties commented, this issue is discussed further below.
- Xcel's compliance information on NO_x is sufficient, especially given possible changes under the Clean Air Interstate Rules (CAIR). However, the Department noted that Xcel did not provide information explaining why Scenario 1 (averaging all units, the Reference Scenario) was the least cost NO_x management strategy, but instead referred to its analysis of averaging done in its 2002 resource plan. The averaging analysis done in the 2002 resource plan was not evaluated or approved by the Commission. Moreover, in the current plan filing, Xcel did not show that the averaging of all units was the least-cost strategy. However, the Department determined the information was sufficient given potential changes to CAIR.
- In the resource plan, Xcel stated its mercury reduction strategies and achievements but did not specify goals for mercury reduction. Since goals are not required for the Voluntary Agreements Program, the Department concluded that Xcel had reasonably complied with Ordering Point 13 (c).
- Xcel included a copy of its most recent Voluntary Reduction Plan for mercury that it is required to file with the legislature (Appendix C). The Department concluded that the Company had complied with Ordering Point 13 (d).
- Xcel provided a brief summary of industry-based initiatives for cutting greenhouse gas emissions (GHG). The Department concluded that Xcel had complied with Ordering Point 13 (3).
- The Department concluded that Xcel had not fully complied with Ordering Point 13 (f) regarding CO₂ contingency planning and risk analysis; the Department recommended that in its next resource plan Xcel provide an update on the expansion of its CO₂ contingency planning to check the extent to which resource mix changes can lower the cost of meeting customer demand under different forms of regulation, using the example presented above, modified to meet Company-specific circumstances (see further discussion of this issue below).

Staff discussion (sulfur dioxide (SO₂) strategies)

As noted above, the Commission's 2000-2014 resource plan order required Xcel, in its next resource plan, to provide an analysis of whether the Company's current SO₂ strategy is the least-cost method of compliance.

According to the Department, Xcel has presented an analysis showing that its current SO₂ management practice of holding SO₂ allowances is not a least cost compliance strategy. For this reason, the Department asked that the Company provide in reply comments a more complete analysis to support why the current practice of holding onto SO₂ allowances is reasonable. The Department asked that Xcel's analysis address the benefits associated with the Company's current risk averse strategy and a more complete discussion of the benefits associated with trading SO₂ allowances, including the expected price of the allowances.

In reply, Xcel explained that it is currently reviewing its SO₂ allowance strategy (see Xcel reply comments, #162, pages 49-50). Given the available information on the cost of environmental regulation, and the fact that the SO₂ allowance market is at an historic high, Xcel believes it is time to revisit its current SO₂ strategy. Xcel explained that it is exploring options other than returning the proceeds of SO₂ allowance sales to ratepayers. It would like to consider directing the proceeds of any allowance sales to environmental improvements, to attempts to create customer savings, and Company incentives for effective allowance management and other SO₂ allowance value maximization proposals. Xcel indicated that it would file a proposal for a modified SO₂ strategy plan in the Spring of 2006.

To staff's knowledge, Xcel has not yet filed the SO₂ allowance plan intended for Spring 2006. At the present time, Xcel is required to return the proceeds from the sale of SO₂ allowances to customers in a general rate case, under the following directions from the Commission:

....the Commission will allow NSP deferred accounting of the gain it has already realized from the disposition of emissions allowances, and of future proceeds and incremental costs of emissions allowance transactions. The Company may place the proceeds of allowance sales in its FERC Account 254 pending regulatory determination in a future rate case or other proceeding.

(Order Allowing Request For Deferred Accounting, In the Matter of the Petition of Northern States Power Company for Approval of Deferred Accounting Treatment of Emission Allowance Transactions under the Clean Air Act Amendments of 1990, Docket No. E-002/M-94-13, issued May 12, 1994.)

Since Xcel has not yet responded to the Department's request to provide an analysis demonstrating that its current SO₂ strategy is the least-cost method of compliance, nor has it proposed a new strategy, the Commission may wish to order Xcel to take some immediate action. The Commission could ask for an update on the Company's plans for SO₂ allowance management, including information on how many SO₂ allowances are banked and what they are worth. Or, the Commission may wish to require Xcel to file a plan for SO₂ allowance management by a specific date. Staff cautions that the record in this case may not support a final

Commission decision on modifying the current treatment of SO₂ allowances. The Commission may wish to seek further input from the Department on how to proceed.

Of note, in its October 2005 AAA report, Xcel reported that it had about \$2.3 million in deferred SO₂ emission allowance revenue that it planned to address in its November 2005 general electric rate case. Xcel indicated that internally, it has been exploring alternatives to returning this money to ratepayers. This review was prompted by the current price of allowances and the release of EPA's final Clean Air Interstate Rule. In the AAA report docket, as in the resource plan, Xcel explained it may be possible to use this money on new projects that benefit the environment, Xcel's customers, and Xcel's stakeholders. Xcel argued that the accounting issues associated with the SO₂ allowances should be addressed in the AAA docket and welcomed discussion with the Department and others about ways to move its proposal forward.

In the current electric rate case (Docket No. E-002/GR-05-1428), Xcel proposed to amortize the \$2.3 million from the sale of SO₂ allowances over three years. Although the period for amortization may change, the proposed treatment of this deferred amount does not appear to be controversial.

Minnesota Emissions Reduction Project (MERP) compliance filing

On November 17, 2004, Xcel filed its Mercury Control Report for the A.S. King Plant Unit 1 (#11). This supplement to Xcel's 2005-2019 resource plan was filed in compliance with Provision 2 of the MERP Settlement Agreement, approved by the Commission in Docket No. E-002/M-02-633.

Carbon Dioxide (CO₂) planning and risk analysis

Xcel's treatment of CO₂ in the resource plan

Xcel included the Commission approved externality values for CO₂ in its resource plan modeling, and performed sensitivity analysis that included high externality values. (See Xcel's resource plan, Section 10, specifically 10-19 to 10-21.)

Minnesota Center for Environmental Advocacy (MCEA) comments filed August 1, 2005 (#117), see pages 1-23. MCEA comments are filed on behalf of IWLA, ME3, the Union of Concerned Scientists, and MCEA.

Xcel's resource plan proposes to commit to new, high-carbon baseload generation over the next few decades. The Commission's August 29, 2001 resource plan order required Xcel to expand carbon dioxide regulation contingency planning "to check the extent to which resource mix changes can lower the costs of meeting customer demand under different forms of regulation." MCEA argued that Xcel's resource plan fails to provide the CO₂ planning and analysis required.

MCEA made specific recommendations for the scope and method of Xcel's future carbon dioxide regulatory planning, including an interim recommendation that a "hedge value" be assigned in Xcel's resource selection processes to reflect ratepayer costs likely under carbon-capped regulatory scenarios.

It argued that Xcel's resource planning must prepare for a carbon-constrained world, and that since the Commission adopted a low estimate of future damages for carbon dioxide (CO₂), the science of climate change has become far more certain.

According to MCEA, global warming responses are mounting at every level of government, making it highly likely Xcel will face CO₂ emission limits in the years ahead. Although there has been concern at the federal level, in the absence of federal greenhouse gas emission limits, the primary policy response has been by the states. There is widespread consensus that the most efficient way to impose limits on CO₂ emissions is through a cap-and-trade system similar to the one pioneered under the Clean Air Act's acid rain program.

MCEA explained that industry leaders increasingly accept the inevitability of future carbon constraints. Some industry leaders openly support new emission limits, if they are cap-and-trade systems; even the idea of a carbon tax has gained support within parts of industry.

Hence, Xcel and other Minnesota utilities are likely to be required to pay for the right to emit carbon dioxide. While mandatory limits may be some years away, such limits are likely well within the working lifetime of any coal plant built to meet the demand identified in Xcel's resource plan.

MCEA argued that Xcel's own modeling shows that even with the lowest CO₂ allowance prices, additional coal generation is uneconomical. Xcel's Strategist model shows that factoring CO₂ regulations into resource planning completely changes the least cost resource mix. These runs show that Xcel's plan to add new coal plants in 2013 and 2015 is the least cost plan only if one assumes those plants will not have to pay even modest allowance prices for their CO₂ emissions. Clearly, this is not a reasonable assumption and ratepayers should not be left at risk. The runs also show a need to factor in CO₂ regulations and to analyze the results in a public and transparent fashion, consistent with the purpose of resource planning.

Xcel's analysis does not allow the Commission to compare resource mix changes that could lower costs. To compare resource options in a CO₂-regulated world, one would need to isolate regulatory costs for each scenario. These costs are buried in the PVRRs for each scenario, making them non-transparent. The result is a discussion that does not make clear which resource mix changes could lower the financial exposure of Xcel and Minnesota ratepayers to CO₂ regulations.

MCEA argued that the resource plan fails to disclose that, under Xcel's modeling, even the lowest CO₂ allowance prices analyzed would drive an immediate shift away from coal to meet growth in demand. Contrary to Xcel's claims, significant changes to the Reference Case expansion plan, result from even the lowest levels of CO₂ allowance costs. The result is to effectively eliminate the growth of coal generation throughout the model period.

MCEA also commented that Xcel's analysis fails to calculate the impact of CO₂ regulations on its Preferred Plan. In so doing, Xcel's plan fails to account for the costs and risks ratepayers will bear under a carbon-constrained regulatory scenario, if Xcel proceeds with its proposed plan. No CO₂ costs of any size are reflected in the PVR for the Preferred Plan. MCEA noted that this is a remarkable oversight, given Xcel's claims that mandatory carbon dioxide regulation in some form in the U.S. is likely prior to 2033. The fact that the Strategist model opts for a no-new-coal expansion plan when CO₂ regulations are factored in is evidence that Xcel's Preferred Plan is not a reasonable choice (see MCEA's discussion on pages 13-15, #117).

MCEA argued the Commission should require Xcel to make future carbon constraints a central feature of its long-term energy planning, fully and openly analyzing all relevant factors and building a CO₂ hedge value into decision making. Given Xcel's failure to plan for CO₂ constraints in the current plan, MCEA proposed that the Commission explicitly outline the elements necessary to analyze this risk (see MCEA proposal below). Uncertainty regarding the type and timing of the CO₂ regulation does not reduce the need for long term planning.

MCEA asked that Xcel be required to conduct an analysis of the impact of future carbon constraints in its next resource plan and in any Certificate of Need proceeding. MCEA proposed that the Commission order Xcel, in its next resource plan, to provide the following:

1. Information necessary to project the likely level of future CO₂ allowance prices over the next 30 years.
2. Information necessary to assess the financial exposure of Xcel and Minnesota ratepayers to future CO₂ regulations, and assess the comparative impact of future regulations on Xcel's preferred plan and several other resource mixes, including those required by law or by Commission order to be included in the plan (each considered resource mix), over the next 30 years.
3. A discussion of the status of existing and new technologies that might assist Xcel in shifting to low- or no-carbon energy improve efficiency, and any projected technological and price improvements.
4. Information necessary to compare Xcel's preferred plan to alternative approaches explicitly designed to reduce exposure to future CO₂ costs.

Items (1) and (2) above relate directly to estimating environmental costs over the life of the plant as required by recent legislation, and conducting the kind of resource mix comparison the Commission required in its 2001 Order. The information required in Item (3) ensures that fast changing technology is considered during planning so that Xcel can take advantage of emerging opportunities. Item (4) requires prudent contingency planning in the event that future CO₂ regulations do not allow allowance trading, or if Xcel is required by court order to reduce its CO₂ emissions based on the current federal lawsuit by 8 states against Xcel and other utilities or by other lawsuits in the future.

MCEA recommended that the Commission reject that portion of Xcel's resource plan that deals with future risks of carbon regulation, and order Xcel to redo that section, or to include the CO₂ planning analysis in its next resource plan or Certificate of Need application, whichever comes first. MCEA also recommended that the Commission reject Xcel's Action Plan and Preferred Plan because they are based on failed analysis of future risks of carbon regulation.

MCEA also recommended that, in the short term, the Commission adopt a CO₂ hedge value of \$8/ton of CO₂ to immediately begin protecting Minnesota ratepayers from the risks of future CO₂ costs. The analysis necessary to develop a precise number could take some time to complete. This hedge value could be used in bidding, non-competitively bid resource acquisition, and DSM decision making, and would stand as the default "best estimate" of future CO₂ allowance prices in resource planning and certificate of need proceedings, until Xcel shows that another estimate of CO₂ allowance prices is more reliable. (MCEA provides a full explanation of the reasons to adopt a hedge value and to set it at \$8/ton, on pages 19-22 of its August 1, 2005 comments, #117.)

Finally, MCEA argued that Xcel should not be allowed to shift the unreasonably incurred risk of future CO₂ regulations onto ratepayers. In recent amendments to the Certificate of Need statute, the legislature required utilities wishing to build nonrenewable plants to assess the risk of environmental regulation during the life of the plant; utilities were required to include a proposed means of allocating costs associated with that risk (amendment to 216B.243, subd. 3). In other words, no utility can assume that regulatory costs associated with nonrenewable plants will be automatically passed through to ratepayers. Utilities must propose a means of allocating those costs between ratepayers and the utility shareholders, and the Commission must decide how those costs should be allocated.

MCEA explained that there are tremendous financial dangers associated with building costly and long-lived coal plants when the world is mobilizing to reduce CO₂ emissions. If Xcel believes those regulatory costs can automatically be passed through to ratepayers, it will have no incentive to minimize them. For this reason, the Commission should warn Xcel that, consistent with Minnesota law and ratemaking principles, the future costs of CO₂ regulations will be borne by Xcel shareholders and not by ratepayers if the Commission determines that such costs could reasonably have been avoided.

Since the Commission is required to make this reasonableness determination, it will need a record upon which to make it. Xcel's resource plan does not provide this record, so Xcel must be required to explore thoroughly the risk of future CO₂ limits. This will provide a record on which to judge whether it was reasonable to plan new coal plants given the mounting evidence that efforts to curb climate change will make coal fired generation considerably more expensive in the decades ahead.

In sum, Xcel's plan fails to give future carbon limits the attention they deserve, or to give the Commission and the public the information they need to determine how future regulations will drive shifts in the resource mix, in non-compliance with the Commission's 2001 Order approving the 2000 resource plan.

Xcel reply comments filed November 23, 2005 (#162) and January 30, 2006 (#189)

In reply, Xcel suggested the Commission defer any decision on carbon cost/risk analysis to a future proceeding. Specifically, Xcel argued that detailed modeling of carbon costs should take place in the resource acquisition process, where Xcel can more specifically examine the effects of CO₂ associated with a given technology or fuel type.

Xcel agreed that the risk of future direct costs associated with the regulation of CO₂ should be considered when selecting base load resources. However, Xcel recommended that this analysis be part of a future Certificate of Need proceeding, and not part of resource planning. Xcel argued that CON is the regulatory venue for decisions on fuel type and technology, and that facility location could also be considered.

Xcel noted that, in the resource plan, it has included the approved externality values in its modeling, and performed sensitivity analysis that included high externality values.

Department comments filed August 1, 2005 (#114)

The Department explained that Xcel examined its Reference Case in the context of five different regulatory scenarios for CO₂ (see pages 52-53, #114). The majority of alternative cases estimated CO₂ emissions close to the Reference Case. While the Department noted that Xcel's analysis shows the potential risks under the Reference Case of potential CO₂ reduction policy options, it does not provide information regarding what changes to the Company's resource mix would be necessary to lower the cost of meeting customer demands under different regulatory scenarios.

The Department noted that Interstate Power and Light (IPL) provided an extensive analysis of possible contingency plans under different CO₂ reduction scenarios. Specifically, IPL considered three strategies for the replacement of existing coal fired generation to meet four potential emission reduction scenarios with three different target dates for achieving these reduction goals (2008, 2015, 2025).

The Department recommended that Xcel provide in its next resource plan an update on the expansion of its CO₂ contingency planning to check the extent to which resource mix changes can lower the cost of meeting customer demand under different forms of regulation, using the IPL example presented on pages 52-53 of the Department's comments (#114), modified to meet Xcel's specific circumstances.

Excelsior Energy Inc. comments filed November 23, 2005 (#163)

Excelsior objected to MCEA's claim that CO₂ regulation would cause a significant shift away from coal generation and toward natural gas generation. According to Excelsior, the increasing cost and volatile price of natural gas do not make its use for baseload generation an economic or prudent alternative. Achieving carbon emission reductions from natural gas-fired power plants is expensive, and if gas-fired plants are to be a major part of the resource mix, there are significant carbon emissions from the natural gas extraction, liquification, transportation and re-

gasification process that add to the total carbon emissions associated with gas-fired generation. IGCC technology provides a new option for future baseload generation because it can reduce CO₂ emissions through better operating efficiencies, while providing flexibility to deal with future carbon regulations.

Staff discussion (CO₂ risk analysis)

As noted by parties, Minn. Stat. 216B.2422, subd. 2 requires the Commission to approve, reject, or modify a resource plan “consistent with the public interest.” One of the factors that goes into this determination is whether the resource plan keeps rates as low as practicable given regulatory and other constraints, minimizes adverse effects upon the environment, enhances the utility’s ability to respond to changes in the financial, social and technological factors affecting its operations, and limits the risk of adverse effects on the utility and its customers from financial, social and technological factors that the utility cannot control [see Minnesota Rules 7843.0500, subp. 3(B) through (E)]. Staff agrees with MCEA that, for the Commission to make these findings, Xcel’s resource plan must adequately address the cost of future carbon constraints in a way that enables a clear comparison of financial risk under different resource expansion plans.

Parties also noted that the legislature recently adopted new language requiring a utility to assess the risk of environmental costs and regulation of a proposed facility over the expected useful life of the plant, including a proposed means of allocating costs associated with that risk (see amendments to Minn. Stat. 216B.243, subd. 3). Staff agrees with MCEA that Xcel cannot assume that regulatory costs associated with nonrenewable plants will automatically be passed to ratepayers, if the Company has not performed a transparent analysis of the future costs associated with the nonrenewable facility.

The changing awareness surrounding CO₂ emissions will force resource planning to respond to a carbon-constrained world. The Commission has recognized this fact, and ordered Xcel to account for such constraints. Xcel also acknowledged this and seems prepared to expand CO₂ planning. However, the comments of MCEA and the Department find that Xcel could do more. Staff supports a motion by the Commission that will bring Xcel into compliance and clarify the resource cost implications of alternative resource mixes over the planning period.

Specifically, in its Order approving Xcel’s 2000 Resource plan (in Docket No. E-002/RP-00-787, Order issued August 29, 2001), the Commission asked Xcel to provide, after discussions with the Department, an expansion of its CO₂ contingency planning to check the extent to which resource mix changes can lower the cost of meeting customer demand under different forms of regulation [see Ordering Point 13 (f)].

Staff agrees with MCEA and the Department that an expanded plan is needed to address this deficit. In its next resource plan, Xcel should provide an update on the expansion of its CO₂ contingency planning to determine the extent to which resource mix changes can lower the cost of meeting customer demand under different forms of regulation.

MCEA went further, recommending that the Commission reject that portion of Xcel’s plan that deals with future risks of carbon regulation and redo or to include, in its next plan and Certificate of Need application, a CO₂ analysis following an outline provided by MCEA. MCEA also

recommended Xcel's Action Plan and Preferred Plan be rejected because they are based on failed analysis of future costs CO2 regulation.

Staff recommends that the Commission require Xcel to meet with the Department and MCEA using the outline provided by MCEA to analyze the future cost of CO2 in different resource mix options. Staff also recommends that these contingency plans for reducing CO2 be part of Xcel's next resource plan. The Commission could also consider requiring that this analysis be done as part of Xcel's next Certificate of Need filing. In reply comments, Xcel proposed deferring a decision on carbon cost/risk analysis. However, it agreed to address the CO2 risk in future Certificate of Need filings, and agreed this was the proper venue for consideration of this analysis. The Commission should order Xcel to provide a comprehensive CO2 analysis in any future Certificate of Need filing.

MCEA also recommended that the Commission adopt a CO2 hedge value of \$8.00 per ton of CO2 to begin immediately protecting ratepayers from the risks of future CO2 costs. This is the CO2 hedge value adopted by the California PUC after extensive hearings. Xcel's reply comments also refer to the \$9.00 per ton hedge value used in Colorado, and emphasize that these values should not replace existing externality values. Staff finds that Minnesota's approach to externalities may soon require the adoption of a specific hedge value, whether it be \$8.00, \$9.00 or some other number. The hedge value is an estimate of future CO2 costs, to be factored into resource acquisition decisions, and to be used in resource planning and the setting of DSM goals. The Commission will need to decide on an appropriate value. [The Commission should review MCEA's discussion of the issue of a CO2 hedge value on pages 19-22 of its August 1, 2005 comments (#117).]

A striking feature of the record on CO2 is that MCEA developed detailed risk analysis and a proposed hedge value strategy, in contrast to other parties. Xcel too has acknowledged a major interest in the development of a carbon-constrained energy strategy. Therefore, using the MCEA proposal as a partial framework, and a specific hedge value (or range of values), the Commission should order Xcel to work with MCEA and the Department to develop a framework for a CO2 risk analysis strategy, to report on this strategy, and to include it in Xcel's next resource plan and any future Certificate of Need filing.

Commission decision alternatives on CO2 planning and risk analysis

1. Require Xcel to work with MCEA (and the parties represented by MCEA) and the Department to develop a CO2 risk analysis strategy, using the framework proposed by MCEA in this case, to be applied in Xcel's next resource plan and Certificate of Need filings. This strategy should include a discussion of incorporating a specific CO2 hedge value into resource selection decisions.
2. Require Xcel to provide, in its next resource plan, an update on the expansion of its CO2 contingency planning to check the extent to which resource mix changes can lower the cost of meeting customer demand under different forms of regulation, using the IPL example presented by the Department on pages 52-53 of the Department's comments (#114), modified to meet Xcel's specific circumstances.
3. Reject that portion of Xcel's resource plan that deals with future risks of carbon regulation and either:
 - A. Order Xcel to redo that section, as specified under the framework proposed by MCEA, and to refile it for approval or as a compliance filing
 - B. Order Xcel to include the necessary analysis, as specified under the framework proposed by MCEA, in its next resource plan
 - C. Order Xcel to include the necessary analysis, as specified under the framework proposed by MCEA, in its next Certificate of Need application
4. Reject Xcel's Action Plan and Preferred Plan because they are based on Xcel's failed analysis of the future carbon regulation.
5. Adopt a CO2 hedge value of \$8/ton of CO2 as the default or "best estimate" of future CO2 allowance prices to be used in resource planning, Certificate of Need proceedings, bidding, non-competitive bid resource acquisition, and DSM decision making.
6. Clarify that, consistent with Minnesota law and ratemaking principles, the future costs of CO2 regulations will be borne by Xcel shareholders and not by ratepayers if the Commission determines that it was unreasonable for Xcel to incur those costs.

Wind expansion plan for the planning period 2005-2019

Xcel resource plan filed November 1, 2004 (#1)

In its initial plan, Xcel proposed to increase installed wind capacity from 487 MW to about 1,125 MW by 2010, and to bring wind on line after 2010 to meet the remainder of the REO, which under Xcel's Preferred Plan would be an additional 560 MW in the 2011-2019 period. (Note: Xcel increased the 560 MW to 800 MW in its reply comments.)

Xcel argued that even this level of wind acquisition will be difficult to achieve due to transmission limitations. To determine if wind continues to be a cost effective resource going forward, Xcel will need to consider the continuation of the production tax credit (PTC), the operational and market experience associated with higher wind penetration levels, technological advancements and the cost of additional transmission resources. [See discussion of these issues on pages 9-1 to 9-28 in Xcel's resource plan.]

In its plan, Xcel used a 15 percent wind penetration cap based on peak demand. It argued that the 15 percent cap is optimistic given the likely PTC phase-out and technological advancement, and that today's wind prices without the PTC are not cost-effective. Xcel believes it will be necessary to continue to evaluate issues related to wind's cost-effectiveness in future resource plans.

After running and analyzing a number of scenarios, Xcel developed a Preferred Plan, showing that the amount of additional wind needed to meet the REO in the 2011-2019 period is 560 MW (see pages 3-17 to 3-19 in Xcel's resource plan).

Department comments filed August 1, 2005 (#114)

The Department pointed out that Xcel's model builds in and fixes wind power levels to meet pre-determined REO requirements, and places a 15 percent cap on wind penetration over the planning period. (Wind penetration levels are determined by comparing Xcel's nameplate wind capacity to Xcel's peak demand.)

The Department argued that the 15 percent cap on wind generation penetration over the planning period is unreasonable and unnecessary and that removing the 15 percent cap would result in lower costs to ratepayers. [See the Department's discussion of this issue on pages 31-33, of its August 1, 2005 comments (#114).]

In response to Department Information Request No. 80, Xcel provided PVRRs under five scenarios, using the Department's preferred forecast. The results of the PVRR analysis under the different renewable scenarios are provided in Department Table 18 (page 31, #114). In all scenarios, the 15 percent cap on wind penetration results in higher costs to ratepayers.

In addition, a scenario with unrestricted wind from larger wind facilities results in lower costs to ratepayers than the scenario with unrestricted wind. However, the Department did not recommend the scenario with unrestricted wind from larger units, because this would result in

large increments of wind added to Xcel's system in a single year. The Department concluded that removing the 15 percent wind penetration cap in the modeling would result in lower PVRR, and lower costs to Xcel (and at some point, lower costs to ratepayers).

After dropping Xcel's assumed cap of 15 percent, the Department then considered: (1) wind industry manufacturing capability, (2) availability of cost-effective sites, (3) need for new transmission, and (4) the impact on Xcel's system. [See the Department's analysis on pages 41-44 of its August 1, 2005 comments (#114).]

The Department noted that the Wind Integration Study, overseen by the Minnesota Reliability Administrator, showed that 1,500 MW of wind could be reliably integrated into the Xcel system in 2010. Currently, 1,125 MW of wind is required by 2011, not including the REO.

Using natural gas prices 15 percent higher than Xcel's assumed prices results in an expansion plan with an additional 1,680 MW of wind by 2019 (for a total of 2,805 MW) with low externalities, and an additional 2,480 MW of wind by 2019 (for a total of 3,605 MW) with high externalities.

The Department's high forecast predicted a 2019 peak demand of 10,049 (net of DSM) and energy consumption of 55,937 GWh (also net of DSM). The Department's recommended outcomes include wind in the low externalities scenario comprising 28 percent of Xcel's nameplate capacity and 15 percent of energy use, and wind in the high externalities scenario as 36 percent of Xcel's nameplate capacity and 20 percent of energy use.

The Department is confident that the wind industry can ramp up production for installing upwards of 400 MW nameplate capacity per year during the 2015-2019; demand has already led to significant increases in turbine manufacturing. The Department is also confident that ample cost effective sites exist that will allow Xcel to follow its proposed wind expansion plan.

However, siting and procurement of any new resources will require additional transmission. The fact that large amounts of transmission will be needed for additional wind resources may be a mitigating, but should not be a defining factor in the choice of resources.

Given transmission concerns, and the need of operators to learn how to integrate wind into the system, the Department chose the wind expansion plan associated with 15 percent higher natural gas prices and low externalities as its preferred outcome. The additional amount of wind in the Department's preferred plan is needed for Xcel to meet its REO. The Department's preferred plan for wind is shown in Table 24 (page 44 of the Department August 1, 2005 comments). The years 2005 to 2010 are excluded since no new resources (i.e. resources that have not already been required by statutes and/or approved by the Commission) are acquired in those years under any scenario.

Minnesota Center for Environmental Advocacy (MCEA) comments filed August 1, 2005 (#112)
(These comments are filed on behalf of IWLA, ME3, the Union of Concerned Scientists, and MCEA.)

MCEA argued that Xcel understates the potential for wind power in its resource plan, by making a number of unjustified assumptions. The record in this case supports a greater commitment to wind. MCEA proposed a wind expansion plan with an additional 2,805 MW of wind over the planning period, and an additional 1,680 MW by 2016. [See MCEA's discussion of this issue, pages 26-30, in comments filed August 1, 2005 (#112), and pages 2-4 of comments filed November 23, 2005 (#164).]

MCEA believes the 1,680 MW of additional wind should be brought on line several years earlier than the Department proposed. This will result in lower overall cost, lower risk, and increased flexibility. As noted by the Department, Xcel's assumed wind capacity cap of 15 percent results in higher costs under all externality values, and the cases that allow larger wind units result in comparatively lower costs. Although MCEA agreed with the Department's recommendation of 1,680 MW of additional wind, the Department's plan does not add substantial wind until the three-year period at the end of the planning period, 2017-2019.

Under the Department scenario, due to the later addition of large blocks of wind, ratepayers face the addition of 750 MW of base load in 2015. Shifting the amounts of wind that the Department recommends to earlier years will reduce the risk of increasing costs and volatility of fossil fuels, reduce Xcel's exposure to climate change, and provide flexibility in meeting resource needs.

MCEA believes its recommendation for wind is more reasonable than the Department's proposal, because it contains a more realistic schedule for new increments,. The MCEA recommendation allows for a more phased addition of the wind and avoids adding disproportionately high amounts of wind in any single year.

A number of recent technical studies, rigorously performed and peer-reviewed, have dispelled popular misconceptions about wind power, as follows:

- wind plant output is significantly smoothed by multiple wind turbines within a wind plant and by wind plants at multiple locations
- wind plants can enhance and improve power system reliability
- wind power does not require backup by a similar amount of conventional generation; studies have shown that only a small amount, relative to the size of the wind plant, of additional regulation or load following capability may be needed
- at moderate penetrations (up to 20%, nameplate wind to peak system load), the cost impacts of wind's variability are small (under one-half cent per kWh of wind energy)

The 2004 Wind Integration Study, which looked at the operating and reliability impacts of 1500 MW of wind generation on Xcel's system (or a 15% penetration in 2010), found no reliability issues. This study found that the costs of integrating wind into the Xcel control area are no higher than \$4.60/MWh. The study noted that these cost estimates are quite conservative and do not take into account changes to practices for short term planning and scheduling for wind,

which can reduce integration costs by providing access to additional resources to balance wind generation.

MCEA also noted that there is only a marginal change to PVRR estimates if Xcel brings on an additional 2,240 MW by 2019, rather than the additional 560 MW by 2016 proposed by Xcel. The Department scenarios with natural gas prices 15 percent higher, and low externalities, includes an additional 1,680 MW by 2019 at a reduced PVRR compared to Xcel's Preferred Plan. These cost estimates for wind do not take into account the inevitable additional carbon costs attributable to Xcel's high-carbon Preferred Plan.

MCEA also argued that Xcel arbitrarily and inappropriately inflated the ancillary services cost of wind to \$5.00 per MWh. The Xcel/Department Wind Integration Study clearly found that ancillary services costs are no higher than \$4.60 per MWh. Moreover, Xcel's resource plan is inappropriately prejudiced against wind generation because it is the only component of the power system assigned ancillary service costs, despite the fact that other generators and loads contribute to ancillary service requirements and costs.

Moreover, MCEA found no rationale or analytical support for Xcel's arbitrary 15 percent maximum penetration factor for wind. Like the Department, MCEA found the 15 percent cap unnecessary and inappropriate.

MCEA also noted that wind integration studies show the importance of quantifying hourly production throughout the year relative to system load and other generators. However, Xcel's Strategist model, used to select generation resources, is not an hourly dispatch model, and therefore fails to model accurately the contributions of wind generation throughout the year. In contrast, PacifiCorp uses ProSYM, a resource planning model with full hourly dispatch modeling of wind generation.

MCEA also noted that Xcel's assumptions for capacity value for wind fail accurately to reflect: (1) the reliability modeling in the Wind Integration Study, (2) the projected reduction in transmission curtailments, and (3) the new regional day ahead and real time markets. Additional wind is important to the State of Minnesota for many reasons, including the important hedge it provides against the risk of future costs associated with regulation of carbon dioxide emissions.

MCEA argued that Xcel must improve its transmission planning to facilitate wind development. Projected wind development must be aggregated and integrated into regional transmission planning. Xcel's traditional approach of analyzing transmission, one wind plant at a time, is not prudent. Certificates of Need for new transmission must be made in parallel with commitments for new wind in this resource plan.

(Staff Note: Other parties, including the Minnesota Project, commented that Xcel's plan provides a very cursory overview of transmission planning, despite the fact that transmission planning is a part of generation planning. Minnesota Project indicated that Xcel's transmission planning must take into account the likely proliferation of small and medium-sized wind projects in western and southern Minnesota, and should focus on 69 kV and 115 kV components of the transmission system.)

MCEA also proposed that the Commission encourage Xcel to pursue wind energy storage technologies as a means to advance wind generation. If wind energy could be stored, then its economic and environmental benefits could be expanded (see MCEA's discussion of current wind storage technology, on page 30, #117).

MCEA understands that Xcel is reluctant to investigate proven storage technology for fear that regulators may disallow recovery of the research and development costs. A positive indication from the Commission that this research and development is a recoverable investment because it is intended to maximize potential for renewable energy may motivate Xcel to invest.

The Commission should direct Xcel to review various wind storage technologies, to select the most promising short and long term technologies, and to conduct in-depth research and analysis on these. Xcel should then report back to the Commission on its findings.

Xcel comments filed November 23, 2005 (#162)

Xcel indicated that the additional wind recommended by the Department would be developed later in the planning period. Xcel claimed that the five-year action plan steps related to wind are generally the same under the Department and Company recommendations. For this reason, Xcel proposed that the Commission not choose between the proposals in this resource plan. Instead, the Commission should let the issue continue to develop and take appropriate actions over the next several resource plans.

Xcel explained that it used the 15 percent cap for wind because the Wind Integration Study examined the effects of 1,500 MW of wind on Xcel's system, or about a 15 percent penetration of nameplate wind. Also, based on the results of that study, Xcel added a \$5.00/MWh charge to the cost of wind resources to account for the costs of integration with the system.

In the 2005 legislative session, the legislature required the State Reliability Administrator to conduct a statewide study of the effect of adding sufficient wind to the system to generate 20 percent of the annual electricity needs in the state. This new standard translates roughly into a 30 percent penetration of nameplate wind. Xcel proposed waiting for the results of this study before deciding on an appropriate wind penetration level in this resource plan.

Although Xcel's modeling assumes the PTC will end in 2010, the Company used pricing estimates that predicted continued reductions in wind energy prices. Removing the cap adds a great deal of wind in the post-2015 time frame due to this price drop. Xcel claimed it is the assumed price decrease that leads to a conclusion that additional wind is cost effective in the later years of the planning horizon. However, given recent experiences, Xcel believes prices may not continue to decrease. If prices continue to increase or are simply higher than assumed in the modeling, the amount of wind picked by the model as cost effective would be reduced.

Xcel proposed waiting for the new penetration study and taking more time to study pricing trends. As noted above, Xcel does not believe waiting to decide will have any impact on the current Action Plan, since all the Department's additional proposed wind comes on-line after 2015 and this issue can be taken up in future resource plans.

Department reply comments filed on January 13, 2006 (#179)

The Department noted Xcel's expansion plan calls for the same amount of wind as the Department's in the years 2011-2015. However, in the period 2017- 2019, Xcel's expansion plan calls for 1,120 MW less wind than the Department's expansion plan.

The Department observed that in certificate of need proceedings, a new or refurbished non-renewable resource cannot be granted a certificate of need unless it can be demonstrated that a renewable facility is not in the public interest (see Minn. Stat. 216B.2422, subd. 4). Xcel's modeling, however, capped the amount of wind that the model was able to choose. Therefore, Xcel's plan may not meet the statutory standard in Minn. Stat. 216B.2422, subd. 4, because it did not allow renewables to compete when it selected other non-renewable resources.

The Department continued to recommend that the Commission adopt the resource expansion plan proposed in its August 1, 2005 comments, which includes 1,680 MW of additional wind over the 2011-2019 time frame.

Staff discussion (wind expansion plans)

There are three different proposals for Xcel's wind expansion plan over the planning period. The parties initially agreed on the pre-2011 level of wind (1,125 MW), since this level is a requirement for Xcel (not including the REO). In reply, Xcel proposed a Preferred Plan that includes 800 MW of additional wind between 2009-2019. The Department and MCEA have proposed wind expansion plans, which include 1,680 MW of additional wind between 2011-2019 (although the Department noted that some of the wind MWs would need to be moved into 2009 and 2010 so Xcel would be in compliance with the REO; in the table below is a revised expansion plan proposed by the Department).

MCEA's wind expansion plan brings more wind onto the system in the 2011-2016 period than the Department's plan, which brings wind on in larger amounts in later years. However, as noted above, the Department revised its wind expansion plan to begin incremental wind in 2009. Incremental wind is over and above the 1,125 MW established requirement.

Wind expansion plans (nameplate MW)

Year	Xcel	Department	MCEA
Pre-2011*	1125 MW	1125 MW	1125 MW
2009	80	80	
2010	80	80	
2011	160	160	160
2012	80	80	160
2013	160	160	160
2014	160	160	400
2015	---	---	400
2016	---	---	400
2017	80	160	---
2018	---	400	---
2019	---	400	---
Total w/o 1,125 MW	800 MW	1,680 MW	1,680 MW

Staff suggests the Commission adopt an expansion plan that requires 1,680 MW of additional wind over the planning period (in addition to the 1,125 MW already required), and agrees with the Department and MCEA that a higher level of wind than proposed by Xcel is justified. The Department correctly noted that the Wind Integration Study found that a 15 percent penetration level could be reliably integrated in 2010 and that the study did not address impacts of integration at levels greater than 15 percent after 2010.

Moreover, if Xcel caps wind penetration at 15 percent, its plan may not meet the statutory requirements of Minn. Stat. 216B.2422, subd. 2, because the resource plan modeling has not allowed renewables to compete with other non-renewable resources. Minn. Stat. 216B.2422, subd. 2 requires that:

As a part of its resource filing, a utility shall include the least cost plan for meeting 50 and 75 percent of all new and refurbished capacity needs through a combination of conservation and renewable energy resources.

Staff agrees with parties that wind will remain cost effective, especially relative to other resources, over the planning period at a higher penetration level. Transmission constraints, while a mitigating factor, will apply to all types of resource selections, and should not be used to define limits to wind.

Parties also argue: that technical barriers associated with wind power are misconceived, and that more recent studies demonstrate: (1) that required backup is small relative to the size of the wind plant; (2) that penetration costs above 15 percent are moderate; (3) that wind output can be smoothed through the use of multiple turbines and multiple locations; and, (4) that wind plants can enhance and improve power system reliability.

Staff also notes that, according to MCEA, Xcel inappropriately inflated the ancillary services cost of wind to \$5.00 per MWh, despite conclusions in the Wind Integration Study that ancillary services are no more than \$4.60 per MWh. Finally, staff agrees that additional wind will provide a hedge against the risk of future costs associated with regulation of CO₂ emissions, an argument well supported in the record by MCEA.

The Department and MCEA observed that, under all externality values, restricting wind to a 15 percent penetration cap will result in higher costs to ratepayers. The Department based its final recommendation for wind expansion on the low externalities scenario, and did not rely on the scenario of unrestricted wind from larger units. This is to say, given the results of the Department's wind analysis, it might have recommended a higher level of wind over the planning period.

Xcel's five year Action Plan commits only to installing sufficient renewable energy to meet the 1994 Act requirements and the state REO. Rather than waiting and approving only the Company's five year Action Plan, staff believes the Commission should approve a wind expansion plan for the entire planning period at the level proposed by the Department and MCEA. The record of this case demonstrates that the higher level of wind over the planning period can be brought onto Xcel's system reliably and cost effectively. In any event, as noted by Xcel, the expansion plan adopted by the Commission can be modified in the next resource plan (or before) as results of the wind penetration and other studies are made available.

Xcel's program of wind expansion in Minnesota, a widely recognized priority in the legislature and State government, has been hampered by an apparent contradiction. If the Commission and legislature mandate more wind generation, it is pointed out that there is insufficient transmission. The result is a growing and controversial level of curtailment payments. Such costs are a symptom of transmission lags, but are not an excuse for not ordering additional wind. If the Commission fails to order more wind, despite its renewable and cost effective nature, simply due to a failure to plan and build the needed transmission, an important opportunity is lost.

The contradiction arises from treating wind generation and transmission as separate processes, rather than linked parts of a general wind strategy. In ordering more wind, the Commission is, in effect, ordering more transmission. This dual order can and should be made explicit. Whatever incremental level of wind is ordered, then at least as much transmission capacity should be assumed to be part of this plan. Even if transmission lags behind, it should not be allowed to lag so far behind that excessive curtailment costs are borne by ratepayers.

In the final analysis, exploiting Minnesota's wind resources requires an end to transmission lags, and a show of leadership by Xcel and the Commission in accomplishing the dual wind and transmission goals. If Xcel and companies like it demonstrate this leadership, it will provide

commercial incentives for investments in wind facilities in areas of the state with rich wind resources, which currently face the constraint of lack of transmission capacity.

Commission decision alternatives for wind expansion

Wind expansion plan

1. Adopt a wind expansion plan providing for an additional 1,680 MW over the planning period, as proposed by the Department and MCEA.
2. Adopt Xcel's wind expansion plan providing for an additional 800 MW over the planning period.
3. Make no finding on wind expansion beyond adopting the action step on renewables in Xcel's Five Year Action plan.

Transmission to support wind development

1. Encourage Xcel to improve its transmission planning to facilitate wind development by aggregating projected wind development and integrating it into regional transmission planning, and filing Certificates of Needs for new transmission in parallel with commitments for new wind in this resource plan.
2. Encourage Xcel to take into account the need for 69 kV and 115 kV lines in any transmission plan, so that legislative requirements for the development of small and medium sized wind projects located in western and southern Minnesota can proceed in tandem with transmission development to support this generation.
3. Require Xcel to report back to the Commission on its efforts in #1 and #2 above in its next resource plan filing.

Investments in R&D wind storage technology

1. Indicate to Xcel that investments in research and development to maximize potential for wind energy storage are important to the development of wind in Minnesota. Direct Xcel to review various wind storage technologies, to select the most promising short and long term technologies for in-depth research and analysis, and to report back to the Commission on its findings within one year of the issue date of the order in this matter.

Demand Side Management (DSM) goals

Xcel resource plan, filed November 1, 2004 (#1), see Section 6, pages 6-1 through 6-9

Xcel used a DSM forecasting model known as ASSET to assess customer response to different levels of investment in DSM. Once the different DSM scenarios were developed using ASSET, the scenarios were integrated into the Company's Strategist Resource Plan modeling effort. The Strategist results for the DSM scenarios were then compared with one another to determine which one minimized the overall cost to Xcel of the Company's power supply.

Through Strategist modeling, Xcel found both the "Goal + 20%" and the "Goal + 25%" scenarios were more cost-effective than the Company's current goals. Although the "Goal + 25%" scenario was the most cost effective, Xcel indicated that the "Goal + 20%" scenario represents the most appropriate set of goals for DSM in the current resource plan. The "Goal + 20%" scenario is a 16.8% increase over the DSM goals established in the 2000 resource plan proceeding. (See the DSM scenario results, in Table 6.3, on page 6-5.)

Xcel selected the lower goal out of concern that relying on untested DSM programming to defer resources might pose a risk to the reliability of the Company's power supply. Xcel explained that several considerations affect the Company's ability to influence conservation and load management decisions by customers, including: (1) Xcel's ability to implement an effective process efficiency program, (2) increases in levels of saturation of traditional program offerings, and (3) changes to state and federal energy efficiency codes and standards.

Xcel also discussed several issues affecting the Company's ability to continue high levels of demand savings through load management, including: (1) high levels of residential and commercial load management already achieved, (2) state and federal policy makers a need to increase regulation of air emissions from diesel generators, which would have a significant impact on the Company's Peak Controlled Rates program, since a large number of customer install diesel generation as back-up, and (3) Xcel's efforts to keep net load management at current levels.

Department comments, filed August 1, 2005 (#114), pages 16-20

The Department recommended that the Commission set DSM goals at the "Goal + 25%," or a 15 year goal of 1,156 MW and 3,935 GWh. The Department's preferred plan included these DSM amounts. The Department argued that the "Goal + 25%" scenario:

- is more cost effective than all of the other DSM scenarios analyzed
- appears attainable based on Xcel's past history and the allowance for significant budget increases to account for the projected increasing costs of attaining energy savings
- would entail little to no risk to the Company's reliability

In evaluating the reasonableness of the "Goal + 25%" scenario, the Department asked: (1) what indications are there that the Company would not be able to achieve the energy and demand

savings of the “Goal + 25%” scenario, and (2) what risks are there in committing to the higher goal, and later finding that it is unattainable?

The Department’s analysis showed that Xcel exceeded its Commission-approved energy savings goals for each of the past five years, but did not meet its annual demand savings goal in two of these years. The Department’s analysis also showed that the “Goal + 25%” scenario assumes that additional annual savings (as compared to the “Goal + 20%” scenario of 10 GWh and 6 MW) will cost an average of \$17 million per year, but result in a lower overall PVRR during the planning period. Given Xcel’s historical accomplishments and the fact that the “Goal + 25%” scenario is more cost effective than the “Goal + 20%” scenario, even at an additional annual cost of \$17 million, the “Goal + 25%” scenario appears attainable. In short, \$17 million per year should be more than sufficient to increase Xcel’s energy savings by 7 GWh per year. The Department recognized that Xcel would need to obtain much of the additional savings from technologies and processes with which the Company has little experience.

The Department assessed the risk associated with the higher, more cost effective DSM goal. To assess the risk, the Department compared the expansion plan for the “Goal + 20%” scenario with the expansion plan for the “Goal + 25%” scenario. The results show that the earliest changes in the expansion plans (i.e. when plants will be added and what type), *under either DSM goal scenario*, do not occur until 2013-2014. Thus, the Department concluded that setting the DSM goals at the “Goal + 25%” scenario levels would entail little or no risk.

Minnesota Center for Environmental Advocacy (MCEA), comments filed August 1, 2005 (#117), see pages 23-26 (MCEA comments are filed on behalf of IWLA, ME3, the Union of Concerned Scientists, and MCEA.)

MCEA commented that although Xcel goes through an extensive process to determine the appropriate DSM goal, the final results are only an estimate. Over the past 10 years, Xcel has achieved far more DSM than “estimates” made at the time implied.

In Xcel’s most recent CIP plan, the cost of conserved energy was about 1.4 cents per kWh. The U.S. Department of Energy estimates the cost for a new coal plant in the U.S., levelized over the life of the plant at just over 5 cents per kWh. There is no question that there are significant economic benefits to be gained from energy efficiency. Energy efficiency will result in lower revenue requirements for Xcel than any new supply side option.

MCEA argued that there are inherent biases against DSM in the current ratemaking method applied to Xcel, and discussed the benefits of decoupling utility revenue requirement from sales. However, MCEA recognized that Minnesota has not decoupled. Therefore, MCEA’s recommendation on DSM in this resource plan recognizes the inherent biases against DSM in the current ratemaking method.

MCEA noted that Xcel has greatly outperformed its 2000 resource plan goals (see discussion of this on page 25). MCEA also noted that the variation in PVRR among the different DSM goal scenarios is less than 1% when compared to Xcel’s preferred plan. This very slight difference in PVRR is not significant enough to use to distinguish between the different DSM scenarios, and

should not be the sole criterion for determining the appropriate level of DSM in the plan. The basis for the decision should rest on how much DSM Xcel can achieve cost effectively. Xcel has consistently shown that it can acquire much higher levels of DSM, and achieve them in a cost effective manner. MCEA recommended that Xcel be required to maintain its current level of DSM performance (123 MW and 255 GWhs, annually).

Minnesota Project comments filed August 1, 2005 (#111)

The Minnesota Project noted that the higher level DSM goals were more cost effective than Xcel's initially proposed DSM Goal but that Xcel had selected the lower goal due to concerns about expanding DSM programs into new areas. The Minnesota Project is confident that Xcel will succeed in reaching higher DSM goals and recommended that the Commission direct Xcel to meet the more ambitious goals. The Project also recommended that Xcel provide DSM services directly to rural customers.

Metropolitan Counties Energy Task Force (MCETF), comments filed February 25, 2005 (#49) and October 12, 2005 (#149)

MCETF supports Xcel's proposal for higher DSM goals. However, MCETF is concerned that Xcel proposed aggressive DSM goals without a formulated policy or strategy for how the Company will achieve these goals. MCETF asked that Xcel develop a specific proposal or policy for its conservation measures (and detail its distributed generation goals) as part of its DSM proposal.

In addition, MCETF noted some discrepancies in the way Xcel represented its initial proposal for DSM goals. (Note: Since Xcel has agreed to the higher level of DSM goals, staff assumes these reporting discrepancies are not relevant.)

Minnesota Chamber of Commerce (MN Chamber), comments filed August 1, 2005 (#113)

MN Chamber supported Xcel's effort to increase its DSM goals. However, the Chamber questioned how customers will be affected by the increased levels of DSM. Specifically, the Chamber asked whether Xcel's aggressive goal (16.8% increase over 2000 resource plan) will be achieved in a cost effective way, and what the timeline is for reaching this higher goal.

Xcel reply comments, filed November 23, 2006 (#162), see pages 32-34

In reply comments, Xcel agreed to pursue a higher DSM goal over the planning period, as proposed by the Department, i.e. the "Goal + 25 percent" scenario. However, Xcel claimed the higher DSM goal posed an increased risk to supply reliability. Therefore, it noted that to reach the higher goal:

- it will need to make significant changes to its current DSM program and offerings, specifically a broader and stronger partnership with industrial customers

- Xcel would like to see DSM performance measured over a 15-year planning period, rather than over a single year; this will involve changes in the CIP process and in the CIP financial incentive mechanism
- Xcel will need to explore non-traditional program concepts such as market transformation (when a product or service market or the behavior of a program or initiative induces a lasting change in the structure of an energy market participants that result in greater adoption and penetration of energy efficient technologies and practices)
- Xcel would like to see additional mechanisms implemented to help achieve, compensate for, and reward DSM achievements
- Xcel noted there is a risk that it will not be able to reach the level of savings established by the DSM goal; this should be reflected in the larger context of the resource plan, in the forecast adopted for planning purposes, and potentially within the contingency plan

Minnesota Center for Environmental Advocacy (MCEA), comments filed November 23, 2005 (#164), see pages 6-8

In reply comments, MCEA argued that the Department's recommended DSM Goal for the level of total demand savings is too low. MCEA recommended that a reasonable demand savings goal would be 1845 MW over the planning period, or savings of 123 MW per year, a level historically achieved by Xcel. MCEA supported the Department's recommended DSM goal for energy savings (i.e. 3,935 GWh).

MCEA is concerned that Xcel is overestimating the budget for more aggressive DSM savings, given its actual historical performance. Overestimation of budget costs will undermine the determination of which scenario is optimal.

MCEA explained that the Department's recommendations are based on which DSM scenario has the lowest PVRR estimate. Xcel's program cost estimates are an integral part of determining PVRR estimates. Therefore, it is critically important to evaluate the program costs that Xcel assumes. MCEA argued Xcel's assumed costs are too high. Xcel has assumed program costs for its most aggressive DSM scenario that are about triple previous budgets, with associated demand savings that are low (see MCEA's analysis of this issue on page 7, #164).

Staff discussion (DSM goal)

Staff believes the Commission should adopt the higher DSM goal (the "Goal +25%" scenario) as agreed to by Xcel and the Department. However, Xcel should be required to file a more specific plan outlining how it expects to meet the higher DSM goal. This is discussed and proposed as a motion in the next section, "Specific Proposals and Policies for Meeting Higher Levels of DSM."

The Commission may wish to consider and incorporate concerns raised by MCEA that Xcel has overestimated the budget required for more aggressive DSM saving, reducing the cost effectiveness of higher savings goals within the scenario analysis. However, the Department's

recommendation is based partly on an assumption that there will be significant budget increases needed to achieve the higher savings goals. Staff notes that, as a result of the Department's DSM program work, it is in a good position to determine if Xcel is overestimating the cost of achieving DSM savings. The Commission could ask the Department to report back to the Commission if it believes the costs to achieve the higher savings have been overestimated.

MCEA also claimed that Xcel has historically achieved the level of demand savings required by the "Goal +25%" scenario. The Commission may wish to seek confirmation and discussion of this by the Department.

Commission decision alternatives on DSM goals

1. Accept the agreement by Xcel and the Department that Xcel will use the "Goal + 25%" scenario in setting its DSM goals over the 2005-2019 planning period (i.e. an energy savings goal of 3,935 GWh, and a peak demand savings goal of 1,156 MW).
2. Accept the agreement by Xcel and the Department that Xcel will use the "Goal + 25%" scenario in setting its DSM goals for energy over the planning period, but adopt the MCEA recommendation for a higher demand savings goal, to be set at 1,845 MW over the planning period, or 123 MW per year.

Specific proposals and policies for meeting higher levels of DSM

Metropolitan Counties Energy Task Force (MCETF) comments filed February 25, 2005 (#49) and October 12, 2005 (#149)

MCETF asked that Xcel be required to clarify strategies to meet its DSM goals, and to provide additional incentives and flexibility to allow local government to participate in CIP.

MCETF commented that Xcel's resource plan sets DSM goals without the necessary long-term plan or policy for the implementation of conservation measures necessary to reach these goals. Lack of specific policy increases the level of risk that may be associated with the ambitious DSM goals. MCETF asked that Xcel be required to develop policy that expands and clarifies its planned conservation measures and DSM proposals, to effectuate the higher DSM goals.

Xcel recognizes that the proposed goals will require a significant shift to new programs with which the Company has limited experience. This admission supports a requirement that Xcel develop a specific proposal or policy that expands and clarifies its conservation measures and DSM proposal. Specifically, MCETF is concerned that, as proposed, Xcel's strategy for DSM relies primarily on savings from commercial and industrial process improvements and lacks plans for conservation from the non-industrial commercial base, such as counties, municipalities, and other government entities. These entities can contribute substantially to successful DSM on Xcel's system.

The metropolitan counties own and operate large non-industrial institutional facilities throughout the metropolitan areas. These facilities often consume large amounts of energy. Effective management of energy consumption within these buildings is important and can be extremely cost effective for taxpayers. Counties have participated in Xcel's CIP programs, but most find that CIP program design restrains their full participation. The government does not meet Xcel's definition of large institutional consumer of electricity, and could achieve even greater reductions in energy consumption, if there were CIP program incentives designed more specifically for the government sector. MCETF believes that Xcel's CIP program should have a greater degree of flexibility, and that more imaginative project funding should be available for DSM and conservation projects within county and other government facilities.

Xcel has not addressed broad strategies to implement conservation measures over the planning period, or provided any detail in the scenario assumptions used to develop its DSM goals. MCETF and its member counties are ready to participate in DSM programs, yet there is not enough detail in Xcel's plan for the counties to determine if they can participate. Given the long planning horizon of the resource plan, such detail is important to allow Xcel's non-industrial commercial client base to plan, participate and contribute to Xcel's DSM success.

Minnesota Project comments filed August 1, 2005 (#111)

The Minnesota Project observed that Greater Minnesota is under-served by Xcel's DSM programs. Xcel's service territory covers considerable area outside of the Minneapolis/St. Paul metropolitan region. Rural communities and farm customers (who have very significant electric loads) have not been well served by the DSM programs. Partnering with other entities will allow Xcel to cost effectively tap markets which have not seen substantial CIP investment. The Minnesota Project provided the example of a successful partnership between Winona County, the South East Minnesota Clean Energy Resource Team, and Xcel's commercial lighting program contractors to bring a program to the City of Winona for the first time.

The Minnesota Project suggested that Xcel leverage resources available to rural communities, like USDA resources. The Renewable Energy/Energy Efficiency Improvement Program (Section 9006) of the Farm Bill's Energy Title will make additional funds available for implementing energy efficiency projects on farms and in rural small businesses. Even in the main agricultural title of the farm bill, there are incentives and resources for efficiency. The Conservation Security Program provides costs sharing for energy audits on farms as well as incentive payments for reduced energy usage. The Minnesota Project claimed that Xcel can provide service to its rural customers and provide value to all its customers by leveraging these programs to efficiently and effectively deliver DSM programs in rural areas.

Gerdau Ameristeel comments filed August 1, 2005 (#129)

Gerdau Ameristeel commented that Xcel proposed a significant increase to its DSM goal, yet the Company admits it has no specific plans to achieve the higher goal. Xcel noted that commercial and industrial process improvements save energy, but that the Department has historically discounted process improvements as not being worthy of funding under Xcel's CIP programs. Gerdau Ameristeel observed that Minnesota Power's CIP program successfully funds

commercial and industrial process improvements. Gerdau Ameristeel proposed more standardization of CIP program offerings for all utilities operating within the State to assist in achieving DSM goals.

Xcel reply comments, file November 23, 2005 (#162)

Xcel commented that it is open to proposals on how CIP programs could be designed in order to be more effective. The Company is willing to discuss the suggestions made by MCETF. Given its commitment to expanded DSM goals, Xcel agreed that additional program development is critical. Xcel would like to have the MCETF's insight. It does not appear that Xcel addressed the proposal by the Minnesota Project to provide DSM services to rural customers, or the proposal by Gerdau Ameristeel to expand CIP programs to include C&I process improvements and to be more standardized in line with other utility CIP programs statewide.

Staff discussion (CIP strategies to meet DSM goal)

A number of parties are concerned that Xcel proposed higher levels of DSM without detailing or proposing a strategy for accomplishing the higher level of savings. The Metropolitan Counties Energy Task Force (MCETF), the Minnesota Project, and Gerdau Ameristeel each proposed strategies for increasing the level of cost effective DSM on Xcel's system.

Given the unquestionable value of additional DSM borne out in this record, staff proposes that the Commission request that Xcel review and consider proposals, as follows:

- Require Xcel to develop a more specific strategy or plan to expand its DSM activities to meet its DSM goals over the 2005-2019 planning horizon. Xcel should file this plan within 90 days of the Order in this matter.
- Require Xcel to provide a plan for additional incentives and flexibility to facilitate participation by local government in CIP programs, as proposed by MCETF.
- Encourage Xcel to direct more DSM services to its rural customers, including the leveraging of federal funds available for energy efficiency for farms and rural small businesses, as proposed by the Minnesota Project.
- Encourage Xcel to provide CIP funding for commercial and industrial process improvements, and to consider the standardization of its CIP programs with those of other utilities across the State, as proposed by Gerdau Ameristeel.

The Commission should note that in November 2005 the Commission sponsored a workshop that took a broad look at potential next steps to help utilities to take the next step in reaching a higher level of cost effective DSM.

Commission decision alternatives on specific proposals and policies for meeting higher levels of DSM

1. Require Xcel to develop and file a more specific proposal or strategy to expand and clarify its conservation measures and DSM activities to meet its DSM goals over the 2005-2019 planning period. Xcel should file a compliance report, within 90 days of the Order in this matter, that outlines its plans for meeting the higher DSM goals.
2. Require Xcel to provide a plan for additional incentives and flexibility to facilitate participation by local government in CIP programs. Xcel should work with MCETF in developing this plan. The plan should be filed with the Commission within 90 days of the Order issue date in this matter.
3. Encourage Xcel to direct more DSM services to its rural customers, including a requirement that Xcel attempt to leverage federal funds available for energy efficiency for farms and rural small businesses, as proposed by the Minnesota Project. Xcel should file a compliance report that outlines its plans for carrying out this provision, within 90 days of the Order issue date in this matter.
4. Encourage Xcel to provide CIP funding for commercial and industrial process improvements, and to consider the standardization of its CIP programs with those of other utilities across the State, as proposed by Gerdau Ameristeel.

Renewable Energy Objectives (REO)

Xcel's resource plan filed November 1, 2004 (#1)

Xcel discussed its compliance with the REO in Section 9 of the resource plan, pages 9-10 to 9-28. The Commission should review this section of the Company's plan, as well as Xcel's reply comments (#162).

Xcel stated that its initial resource plan filing would meet the REO. The Company intends to meet the REO requirement (as defined in Commission Orders, in Docket No. E-999/CI-03-869), subject to the availability of cost effective resources. Currently, wind energy is the most cost effective resource available to Xcel to meet the REO. Xcel claimed its initial plan included sufficient additions of wind generation to meet the REO requirement through 2019. However, in response to the Department, Xcel agreed to bring additional renewable resources onto its system to meet the REO.

In its REO assessment, Xcel considered existing and planned biomass generation (including landfill gas generation), Minnesota and Wisconsin hydro generation, and existing and planned wind generation. From the Strategist base case, Xcel projected energy production from all Xcel Energy owned or purchased renewable resources, and included this generation in its REO assessment. The projected generation from renewable resources mandated prior to the 2001 REO legislation (825 MW of wind generation and 110 MW of biomass generation) was excluded to yield annual projections of REO-eligible renewable energy production from 2005-2019.

In allocating its system resources, Xcel assigned a weighting of 75 percent to the REO-eligible resources to which the Company committed prior to 2001. This represents the proportion of system generation on the Xcel Energy North system that serves Minnesota customers. REO-eligible system resources that the Company committed to after 2001 were assigned a weighting of 100 percent.

Xcel compared annual projections of weighted REO-eligible renewable energy production to the Company's forecast of Minnesota retail energy sales, by year, for 2005-2019. Assuming that all of the wind and biomass generation presently under contract comes on line as expected (including the 300 MW mandated by the Legislature that Xcel included in its REO assessment), Xcel concluded it will generate or purchase sufficient renewable energy to meet the REO requirements through 2010. Beginning in 2011, Xcel will need additional renewable resources to overcome a projected REO deficit. Overcoming this deficit by 2015 under Xcel's Preferred Plan would require the addition of 560 MW of wind (above the 1125 MW required by other sections of the statutes and the 1999 Commission Order), assuming an annual capacity factor of 32%.

Xcel provided an assessment of the biomass-specific REO, which requires that Xcel produce only one-half of one percent of its REO eligible renewable energy with qualifying biomass resources by 2005, increasing to one percent of its REO eligible energy in 2010 and beyond. Under the Commission's interpretation of the REO statute, with the addition of the Itasca Power project (an 18 MW wood-fired project, with an expected commercial operation date in 2006), Xcel will be generating a surplus of biomass energy to meet the biomass REO through 2019.

Xcel explained that transmission access and non-renewal of the federal Production Tax Credit (PTC) are potential barriers to Xcel achieving the renewable goals it proposed in the plan. Xcel's five year Action Plan as it relates to renewables is to install sufficient renewables to meet the 1994 legislative requirements and the Minnesota REO, while continuing to evaluate the cost effectiveness of wind in the Company's future resource plans.

Xcel indicated that it also plans to add all or a portion of the 300 MW requirement from the 2003 legislation even without the PTC by 2010. The Company believes, at the time of its next resource plan filing, it will have a better view of whether and how to meet the REO in the latter part of the planning horizon.

Department initial comments filed August 1, 2005 (#114)

For a comprehensive discussion of the REO issue, refer to the Department's August 1, 2005 comments, pages 33-35, and Attachment 2 (pages 1-37).

In sum, the Department concluded:

- *Renewable Objective (non-biomass).* The Company's plan does not include sufficient available eligible generation to meet its Renewable Objective for the entire planning period under any of the allocation methods presented by the Department; however, regardless of allocation method, no shortfalls occur before 2009; different allocation

methods affect the timing of the Company's ability to meet its Renewable Objective; the Department assumes that capacity used for compliance with the Company's Wind Capacity Requirements is satisfied first and cannot be used to meet the REO.

- *Wind Capacity Requirement.* The Company's plan meets the Wind Capacity Requirement; under Minn. Stat. 216B.1691, subd. 6(a), Xcel has the obligation of adding 300 MW of wind capacity by 2010, with at least 100 MW of small wind of less than 2 MW.
- *Biomass Objective.* The Company's plan includes sufficient available biomass generation to meet the REO biomass objective, under all of the allocation methods presented.
- *Biomass PPA Requirement.* The Company has complied with requirements of Minn. Stat. 216B.1691, subd. 6(c), the "Biomass PPA Requirement" (under this subdivision, Xcel has the obligation of entering into a PPA for 10 to 20 MW of biomass energy and capacity by January 1, 2004, with an operational date of June 30, 2005; the Department noted that Xcel has presented an offer with terms that are more generous than required by statute and the proposal has not been accepted).
- The Department asked that in reply: (1) Xcel provide a discussion of the manner in which the Renewable Objective is incorporated into the Strategist modeling and the adjustment that would be needed to bring the Company into full compliance with the REO; and (2) Xcel modify the modeling of the REO wind under the Department's Recommended Plan so that the Company will meet its Renewable Objective and include the results (expansion plans, etc) in its reply comments.

The Department noted that the REO places an additional condition on Xcel compared to other Minnesota utilities. In the case of Xcel, the Renewable and Biomass Objectives are a requirement rather than an objective subject to least cost planning and resource planning objectives.

The Department also noted that under the Minnesota REO Xcel has the additional obligation of adding 300 MW of nameplate capacity of wind energy by 2010, with at least 100 MW of small wind of less than 2 MW, which is not eligible for the Minnesota production incentive.

The Department, through information requests, identified renewable obligations for Xcel that should not be counted toward Xcel's REO, as follows:

- the PI legislative mandates, which include a wind power mandate and a biomass mandate
- the Windsource Program obligations, the Company's green pricing program
- the Wisconsin Renewable Portfolio Standard (WI RPS)
- other non-eligible renewable resources

After allotment of these resources for Xcel's other renewable obligations (as noted above), the Department applied three different allocation methods (full, system, and vintage-based) to the remaining eligible renewable generation to determine compliance with the Renewable Objective.

In addition to evaluating the status of Xcel's REO compliance based on existing renewable resources, the Department also examined Xcel's "good faith efforts" including planned renewable resources, as presented by Xcel in the resource plan filing. The Department noted that the Department's inclusion of these planned resources as part of the determination of the "good faith effort" does not guarantee that these planned resources will be eligible once developed. The Department intends to examine the eligibility of these planned resources once developed to ensure that the resource is consistent with the REO and related Commission Orders.¹

In order to assess the availability of Xcel's renewable resources to meet the REO, the Department made specific allotments of Xcel's renewable resources to the Company's various renewable obligations. The Department understands that the Company may choose to allot its resources differently in the future, and that the allotment presented in the Department's analysis does not commit the Company to assign its resources in such a manner in future resource plans.

Under any of the allocation methods discussed, the Department analysis shows that the Company is expected to experience shortfalls in meeting its Renewable Objective. The Department asked that, in reply comments, Xcel provide a discussion of the way in which the Renewable Objective is incorporated into the Strategist modeling and the adjustments that would be needed to bring the Company into full compliance with the REO.

The Department noted that, in response to Information Request No. 76, the Company proposed guiding principals for the allocation or assignment of renewable resources in determining compliance with the Renewable Objective (see page 16, DOC Attachment 2). However, the Department evaluated compliance using the three allocation methods, which are described on page 17, of the DOC Attachment 2 (i.e. Full, System, and Vintage-based Allocation).

The Department indicated that, of the three allocation methods, the Full Allocation method does not treat REO compliance by system resources as system resources are treated in other areas of resource planning. On the other hand, the System Allocation method fails to give utilities full credit for resources developed explicitly for REO compliance. The Vintage-based Allocation method provides a middle ground where the nature of system resources is considered and utilities receive appropriate credit for resources developed explicitly for the REO. The Department recommended the Vintage-based method as a reasonable methodology for evaluating Xcel's compliance towards meeting its Renewable and Biomass Objectives under the REO.²

¹For example, REO eligibility for Xcel's Velva Windfarm is contingent on completion of the MISO approval process for the delivery of generation from this project to Minnesota.

²The Vintage-based allocation method presumes all generation resources are system resources but also allows for the fact that some renewable resources may have been developed specifically to assist the utility in meeting its REO and thus these resources should be fully allocated (100 percent to the REO). Generation from eligible facilities with an operation date prior to 2001 is subject to system allocation and generation from eligible facilities with a date 2001 or later are fully allocated.

The Department also provided the results of each allocation method using both a variable and a fixed (average) allocation factor. The fixed allocation factor used by the Department for 2005-2019 was 75.74%. The Department indicated that the selection of the appropriate allocation factor, variable or fixed, has minimal impact on the Company's "good faith efforts" to meet the REO. While the variable allocation factor is more reflective of the actual relationship between the Minnesota share and the total system over the planning period, the fixed allocation factor and the Xcel-proposed factor (75%) provide a constant reference for the planning period. The Department noted that the variable allocation factor for Xcel is expected to decrease slightly throughout the planning period.

Under a Full Allocation approach (see Table 11, page 14, DOC Attachment 2), Xcel's resource plan does not have sufficient renewable energy to meet the REO beginning in 2011. Under a System Allocation approach, Xcel will have sufficient renewable generation to meet its Renewable Objective through 2008 (see Table 15, page 20, DOC Attachment 2). Under a Vintage-based Allocation, Xcel will have sufficient available eligible generation to meet its Renewable Objective through 2009 (see Table 18, page 21, DOC Attachment 2).

Department Recommended Plan. The Department presented a "Recommended or Preferred Plan" to replace the Company's Preferred Plan. The Department's Preferred Plan increases the Company's wind additions available for compliance with the REO three-fold over the planning period (see Table 20, page 22, DOC Attachment 2). The Department's Preferred Plan included the assumption that wind be hardwired to ensure that the Company complies with the REO. However, even under the Department's Preferred Plan, the Company is still expected to experience shortfalls in meeting the Renewable Objective. Therefore, the Department proposed that Xcel modify the modeling of REO wind under the Department's Preferred Plan, and include the results in its reply comments.

The Department's analysis included a study of the renewable energy shortfalls using Xcel's Preferred Plan and before meeting the Wind Capacity Requirement (i.e. allowing Xcel to count the additional 300 MW toward the REO requirement). Based on this analysis, the Department concluded that Xcel still will not have sufficient available eligible generation to meet its Renewable Objective for the entire planning period (under any allocation method presented). Therefore, the Department again recommended that in reply Xcel provide a revised plan for addressing this shortfall.

Biomass Objective. The Department concluded that, under all the allocation methods, the Company has more than sufficient available eligible biomass generation to meet its Biomass Objective (see pages 30-33, DOC Attachment 2).

Biomass PPA Requirement. The Department concluded that, despite generous terms, the PPA offered by Xcel to Itasca Power Company was not accepted. In light of this, the Department believes it is reasonable to conclude that Xcel has fully complied with the requirements of Minn. Stat. 216B1691, subd. 6(c) [see page 33-36, DOC Attachment 2].

Department comments filed August 1, 2005 (#115)

On August 1, 2005, the Department filed a separate set of comments on the issue of whether it was necessary to apply a different set of criteria and standards to Xcel under Minn. Stat. 216B.1691, subd. 2. The Department concluded, except for the application of Subdivision 6, it was not.

The Department recommended that the criteria and standards as specified in the Commission's June 1, 2004 Order should be applied in the same manner to Xcel, except as specified in the statute under Minn. Stat. 216B.1691, subd. 6. The Department argued that there is no basis to support the application of different criteria and standards to Xcel. The Department noted three issues that the Commission will need to decide regarding Xcel's compliance with Minn. Stat. 216B.1691, subd. 6, including:

- is the 300 MW requirement in addition to, or does it count towards, the Renewable Objective?
- should eligible resources be assigned first to the Wind Capacity Requirement before the Renewable Objective?
- does Subdivision 6(b) apply to only the Renewable Objective or to both the Renewable Objective and the Biomass Objective?

The Department indicated that, under the Minnesota REO, Xcel has the obligation of adding 300 MW of wind by 2010. The Department proposed to assess compliance with the 300 MW wind capacity requirement first due to the earlier compliance due date, and specific qualifications.

Minnesota Center for Environmental Advocacy (MCEA) initial comments filed August 1, 2005 (Log #117). MCEA filed joint comments on behalf of IWLA, ME3, the Union of Concerned Scientists, and MCEA. For a comprehensive discussion of the REO issue, refer to MCEA's August 1, 2005 comments, pages 30-34.

A different set of standards apply to Xcel's REO compliance. MCEA believes that the 2003 Legislature determined that Xcel would be subject to a more stringent standard than a "good faith effort" renewable energy objective. Instead of a good faith effort at an objective, the Legislature decided that the REO for Xcel is a "requirement." The 2003 Legislature's primary energy policy focus was whether to approve additional dry cask storage at the Prairie Island nuclear plant. Amendments to the REO Statute that are specific to a nuclear generation utility were among the conditions attached to the approval of continued dry cask storage.

MCEA explained that the standards and criteria for measuring a utilities' good faith efforts to meet the REO do not apply to Xcel. For Xcel, the Commission must measure only whether Xcel has reached the REO targets, i.e. that Xcel has actually delivered increased renewable energy to its retail customers. If Xcel does not reach the REO targets, then the Commission is to conduct the same type of analysis that was required for Xcel's other Prairie Island mandates.

MCEA argued that, in evaluating any forecasted noncompliance with Xcel's REO targets, the Commission must start with the presumption that Xcel must make the annual investments to increase the amount of renewable energy in their generation portfolio from 2006 to 2015. The existence of a simple cost differential will not be sufficient to overcome the presumption that the REO shall be met.

Xcel appears to be counting more of its Wisconsin renewables than is permitted under the Commission's REO Orders. MCEA commented that the Commission's October 19, 2004 Order in the REO docket permits multi-jurisdictional utilities with preexisting renewables to allocate the output from such facilities to the REO according to the percent of Minnesota customers served by the utility. In the case of Xcel, 75% of its customer base is in Minnesota, so 75% of the output from preexisting eligible renewables on Xcel's system may count toward the REO. Due to Xcel's apportionment of half of its Wisconsin renewable energy capacity to the Wisconsin RPS exemption, not all of Xcel's Wisconsin renewable resources are eligible to be counted toward the REO. For the half that is unencumbered by the competing renewable energy requirement in Wisconsin, only 75% of that output can be assigned to Minnesota's REO.

Minnesota Chamber of Commerce (MN Chamber) comments filed August 1, 2005 (#113)

MN Chamber asked that Xcel answer the following questions and incorporate the answers into its final resource plan: How much of the estimated 20% increase in rates is directly due to compliance with the renewable mandate? How much of the 20% increase is indirectly tied to the mandate?

MN Chamber commented that Xcel's REO is a mandate "unless implementation of the objective can reasonably be shown to jeopardize the reliability of the electric system" [Minn. Stat. 216B.1691, subd. 6 (b)]. The MN Chamber believes it would be proper for the Commission to issue specific criteria and standards applicable to Xcel under Minn. Stat. 216B.1691, subd. 6 (b). These criteria and standards would incorporate reliability and cost as the most important factors subject to Commission review. Xcel's filing should also address: (1) projected impact of new renewable resources on system integrity, and (2) impact of projects on cost to ratepayers' annual electric bills, divided to show the average increase to residential, commercial and industrial customers.

Xcel reply comments filed November 23, 2005 (#162)

The Commission should refer to Xcel's discussion of the REO issue in the Company's reply comments filed on November 23, 2006, see pages 36-41.

Xcel believes it has ample eligible renewable resources to meet its REO obligations in 2005 and for several years into the future. However, Xcel disagreed with the Department's reading of the REO legislation regarding the additional 300 MW of wind. Xcel argued that, given the 300 MW of additional wind required by the 2003, changes to the REO legislation should be allowed to count toward the Company's REO obligation. Xcel argued the REO did not become a requirement until the 2003 legislature passed legislation to allow expanded spent nuclear fuel storage. Xcel reads this legislation to mean the Company is to deploy 300 MW of wind as part of its REO effort.

Xcel noted that the determination of REO compliance is based on an assessment that depends on a number of changing assumptions, such as: load forecast, DSM levels, and allocation methodologies.

Since filing its initial resource plan, Xcel modified its REO compliance plan to ensure no double counting of Wisconsin resources. Xcel decided that half of the eligible Wisconsin renewable resources should be reserved for compliance with the Wisconsin RPS exemption, and the other half should be applied toward the MN REO.

Xcel revised its REO compliance plan to assume: (1) the Department's system energy requirements forecast, adjusted for the 90 percent Minnesota portion of the higher DSM goals accepted by the Company in this proceeding, and (2) one-half (or about 150 MW) of Wisconsin renewable resources are eligible for MN REO compliance. Xcel continued to assume that the 300 MW of wind resources required through Minn. Stat. 216B.1691, subd. 6, was eligible for the REO. This is a key difference with what the Department assumes.

Xcel's revised REO analysis showed a need for additional wind generation to meet the REO than indicated in the Company's initial resource plan filing. However, according to Xcel, the revised analysis did not indicate the need for as much additional renewable energy as suggested by the Department. The Company's revised REO compliance plan includes 800 MW of new wind installed to meet the REO requirements over the planning period.

Although Xcel did not repeat its modeling to reflect this change, the Company proposed to rerun the model with the higher level of wind in its next resource selection modeling, and will incorporate it into the next resource plan. The additional wind results in the deferral of one intermediate unit for three years, replacing it with a peaking unit in 2012.

Minnesota Center for Environmental Advocacy (MCEA), comments filed November 23, 2005 (#164), see pages 8-9

MCEA does not agree with Xcel's interpretation of the REO Statute [Subdivision 6(a)], which establishes specific requirements applicable to Xcel, among them a requirement that Xcel provide an additional 300 MW of wind capacity by 2010.

MCEA argued that it is unreasonable to read the REO Statute as Xcel does. Xcel's reading would mean that the Legislature created a new, separate, "additional" wind capacity requirement in 2003 that nevertheless counts towards the REO target in existence for Xcel before 2003. This does not make sense because Xcel would have procured that same amount of wind anyway to meet the requirements of the pre-2003 REO. In short, Xcel's reading results in a meaningless statute. The 300 MW wind capacity requirement is stated in different units of measure than the energy-measured obligation that Xcel must meet under Subdivision 2 of the REO Statute; it has a different deadline; it is a different and "additional" obligation.

MCEA noted that if the 300 MW wind capacity requirement were included within Xcel's preexisting REO targets, it would not have been necessary to state in the 2003 amendments to the REO Statute that the 300 MW wind capacity must be "beyond the amount required by law or Commission order as of May 1, 2003." The wind capacity required by law or Commission order are the Prairie Island mandates, which are already excluded from the definition of "eligible energy technologies" under subdivision 2 of the REO Statute.

Department comments filed January 13, 2006 (#179)

On page 4 of its January 13, 2006 comments, the Department noted that it is possible that neither the Department's nor Xcel's proposed expansion plans satisfy Xcel's REO obligations. Under Xcel's proposal in reply comments, Xcel will need to increase its wind additions from 560 MW of wind over the planing period to 800 MW. Xcel's reply position still assumes the additional 300 MW of wind required under the REO statute is eligible for meeting the REO.

The Department's proposed expansion plan includes sufficient total wind additions to meet Xcel's Renewable Objective by the end of the planning period even under the assumption that the additional 300 MW is not eligible for meeting the Renewable Objective. However, the timing of the wind additions under the Department's proposed expansion plan would need to be adjusted so that the additions occurred earlier for Xcel to be in REO compliance throughout the period.

The Department emphasized that its proposed plan provides a greater likelihood that Xcel will meet the REO which, for Xcel, is a requirement. Thus, the Department concluded that its resource expansion plan, proposed in its August 1, 2005 comments, is the most reasonable approach.

The Department continued to recommend that the Commission approve its modified resource expansion plan as proposed in August 1, 2005 comments. The Department's proposal for 1,680 MW of additional wind should be sufficient for REO compliance, which for Xcel is a requirement and not an objective.

Xcel's comments filed January 13, 2006 (#180)

On page 5, in comments filed on January 13, 2006, Xcel again addressed the issue of inclusion of the 300 MW of wind in the Company's REO. Xcel continued to maintain that this wind requirement was intended by the legislature to also count toward meeting the Company's REO. To support this claim, Xcel attached copies of the Senate journals and bill engrossment at the time these provisions were debated and passed on the Senate floor (see Xcel's argument, on page 5, of Log #180). Xcel argued that language requiring the 300 MW in addition to the REO was deliberately eliminated. According to Xcel, this shows legislative intent that these wind requirements were intended to be included in the REO requirement by the legislature.

Xcel comments filed January 30, 2006 (#189)

On page 3 of Xcel's January 30 comments, the Company took the opportunity to note that it has the eligible renewable energy to comply with the REO for the next several years. Xcel argued that the Company's proposed expansion plan accommodates the need for renewable resources on its system and displays a commitment to adding renewable resources. It argued, therefore, that the Commission not adopt the Department's proposed expansion plan.

Staff discussion (REO)

Should the Commission set out different criteria and standards for Xcel in meeting the REO than those set out in the Commission's June 1, 2005 Order in Docket No. E-999/CI-03-869?

On May 3, 2005, the Commission issued an Order in the resource plan docket asking parties to comment on whether the Commission should set out different criteria and standards for Xcel in meeting the REO than those set out in the Commission's June 1, 2005 Order in Docket No. E-999/CI-03-869.

Minn. Stat. 216B.1691, subd. 6 (b), states:

The renewable energy objective set forth in subdivision 2 shall be a requirement for the public utility that owns the Prairie Island nuclear generation plant. The objective is a requirement subject to resource planning and least-cost planning requirements in section 216B.2422, unless implementation of the objective can reasonably be shown to jeopardize the reliability of the electric system. The least-cost planning analysis must include the costs of ancillary services and other necessary generation and transmission upgrades.

Staff agrees with the Department's analysis of this issue (see the Department's August 1, 2005 comments, #115, which include a complete analysis of this issue). The Department concluded that the criteria and standards as specified in the Commission's June 1, 2004 Order regarding the application of renewable energy objectives under Minn. Stat. 216B.1691, subd 2, should be applied in the same manner to Xcel as to other utilities, except as specified in the statute under Subdivision 6. Subdivision 6 places three additional requirements on Xcel:

- an additional 300 MW of wind capacity, with at least 100 MW of this from small wind of 2 MW or less
- a determination that the renewable objective is a requirement rather than an objective; this requirement is subject to least cost planning and resource planning objectives
- a requirement that Xcel sign a biomass power purchase agreement

The issue of the additional 300 MW of wind and the requirement to sign a biomass power purchase agreement are discussed separately below; no party has suggested establishing specific criteria or standards for determining how to apply them.

In regard to the renewable energy objective (Minn. Stat. 216B.1691, subd 2), MCEA argued that the standards and criteria for measuring a utilities' good faith efforts to meet the REO do not apply to Xcel. For Xcel, the Commission must measure only whether Xcel has reached the REO targets, i.e. that Xcel has actually delivered increased renewable energy to its retail customers.

MCEA argued that, in evaluating any forecasted noncompliance with Xcel's REO targets, the Commission must start with the presumption that Xcel must make the annual investments to increase the amount of renewable energy in their generation portfolio from 2006 to 2015. The existence of a simple cost differential will not be sufficient to overcome the presumption that the REO shall be met.

The Minnesota Chamber suggested that the Commission begin a proceeding to establish specific criteria and standards applicable to Xcel that incorporate reliability and cost as the most important factors. Staff notes that the Commission does not have resources to undertake such a proceeding at this time. Moreover, reliability and cost are already factors to be considered in the existing set of criteria and standards adopted by the Commission.

Staff agrees with the Department that the renewable energy objective is a requirement and not an objective for Xcel, and that the Commission should apply the same criteria and standards adopted in its June 1, 2004 Order in the REO docket in considering whether Xcel is in compliance with the REO. As noted by MCEA, a simple cost differential will not be sufficient to overcome the presumption that the REO shall be met. Moreover, the Commission must use some set of criteria and standards to determine if Xcel's planned efforts are sufficient and constitute a good faith effort. The existing criteria and standards can play this role.

Does Minn. Stat. 216B.1691, subd. 6 (a), require Xcel to deploy an additional 300 MW of wind capacity in addition to the renewable energy requirements of the REO in Subdivision 2?

Minn. Stat. 216B.1691, subd. 6 (a), states:

An electric utility that owns a nuclear generation facility, as part of its good faith effort under this subdivision and subdivision 2, shall deploy an additional 300 megawatts of nameplate capacity of wind energy conversion systems by 2010, beyond the amount of wind energy capacity to which the utility is required by law or commission order as of

May 1, 2003. At least 100 megawatts of this capacity are to be wind energy conversion systems of two megawatts or less, which shall not be eligible for the production incentive under section 216C.41. To the greatest extent technically feasible and economic, these 300 megawatts of wind energy capacity are to be distributed geographically throughout the state. The utility may opt to own, construct, and operate up to 100 megawatts of this wind energy capacity, except that the utility may not own, construct, or operate any of the facilities that are under two megawatts of nameplate capacity. The deployment of the wind energy capacity under this subdivision must be consistent with the outcome of the engineering study required under Laws 2003, First Special Session chapter 11, article 2, section 21.

In assessing Xcel's compliance with the REO, the Department assumed that this section of the statute meant that Xcel has the additional obligation of adding 300 MW of wind by 2010. In its analysis of REO compliance, the Department assumed an additional 300 MW of wind is required for Xcel to meet the REO.

Xcel disagreed. It argued that the 300 MW of additional wind required by the 2003 change to the REO legislation should be allowed to count toward the Company's REO obligation. Xcel argued the REO did not become a requirement until the 2003 legislature passed legislation to allow expanded spent nuclear fuel storage. Xcel reads this legislation to mean, as part of its REO effort, the Company is to deploy 300 MW of wind.

MCEA argued that Xcel's reading of the REO Statute is unreasonable. Such a reading would mean that the Legislature created a new, separate, "additional" wind capacity requirement in 2003 that nevertheless counts towards the REO target in existence for Xcel before 2003. This does not make sense. Under this reading, Xcel would have procured the same amount of wind to meet the pre-2003 REO as the post-2003 REO. In short, Xcel's reading results in a meaningless statute. The 300 MW wind capacity requirement is stated in different units of measure than the pre-2003 energy-measured obligation that Xcel must meet under Subdivision 2 of the REO Statute; it has a different deadline, implying a different and additional obligation.

MCEA noted that, if the 300 MW wind capacity requirement were included within Xcel's preexisting REO targets, it would not have been necessary to state in the 2003 amendments to the REO Statute that the 300 MW wind capacity must be "beyond the amount required by law or Commission order as of May 1, 2003." The wind capacity required by law or Commission order are the Prairie Island mandates, which are already excluded from the definition of "eligible energy technologies" under subdivision 2 of the REO Statute.

Staff finds the position taken by the Department and MCEA on this issue to be the most reasonable, that is: the Legislature intended Subdivision 6 (a) to be an additional requirement. However, the Commission should review carefully the arguments made by all the parties, especially Xcel in reply comments (#162, pages 36-37, and #180, pages 5-6 and attachments). The Commission could also seek assistance from its AG counsel on this issue.

Compliance with the REO

Minn. Stat. 216B.1691, subd. 2, states:

Eligible energy objectives. (a) Each electric utility shall make a good faith effort to generate or procure sufficient electricity generated by an eligible energy technology to provide its retail consumers, or the retail customers of a distribution utility to which the electric utility provides wholesale electric service, so that: (1) commencing in 2005, at least one percent of the electric utility's total retail electric sales is generated by eligible energy technologies; (2) the amount provided under clause (1) is increased by one percent of the utility's total retail electric sales each year until 2015; and (3) ten percent of the electric energy provided to retail customers in Minnesota is generated by eligible energy technologies. (b) Of the eligible energy technology generation required under paragraph (a), clauses (1) and (2), not less than 0.5 percent of the energy must be generated by biomass energy technologies, including an energy recovery facility used to capture the heat value of mixed municipal solid waste or refuse-derived fuel from mixed municipal solid waste as a primary fuel, by 2005. By 2010, one percent of the eligible technology generation required under paragraph (a), clauses (1) and (2), shall be generated by biomass energy technologies.

The Department concluded that Xcel's plan meets the Wind Capacity Requirement (additional 300 MW), the biomass REO, and the biomass PPA requirement. However, it concluded that as early as 2009, Xcel's plan did not meet the REO (non-biomass). No shortfalls occur before 2009 under any allocation method. The Department assumed that capacity used for compliance with the Company's Wind Capacity Requirements (additional 300 MW) is satisfied first and can not be used to meet the REO. The Department noted that Xcel's obligation to meet the REO is a requirement and not an objective. Therefore, the Department's proposal for meeting the REO may be more appropriate.

In addition to evaluating the status of Xcel's REO compliance based on existing renewable resources, the Department also examined Xcel's "good faith efforts" including planned renewable resources, as presented by Xcel in the resource plan filing. The Department noted that, the Department's inclusion of these planned resources as part of the determination of the "good faith effort" does not guarantee that these planned resources will be determined to be eligible once developed. The Department intends to examine the eligibility of these planned resources once developed to ensure that the resource is consistent with the REO and related Commission Orders.³

The Department recommended the Vintage-based method as a reasonable methodology for evaluating Xcel's compliance towards meeting its Renewable and Biomass Objectives under the REO. Xcel's response to DOC Information Request No. 76 described the Company's proposed

³For example, REO eligibility for Xcel's Velva Windfarm is contingent on completion of the MISO approval process for the delivery of generation from this project to Minnesota.

method for the allocation of Xcel's eligible resources for compliance with the REO. Staff notes Xcel appears to be applying the Department's preferred Vintage Allocation Method.

The Department presented a "Recommended or Preferred Plan" to replace the Company's Preferred Plan. The Department's Preferred Plan increases the Company's wind additions available for compliance with the REO three-fold over the planning period (see Table 20, page 22, DOC Attachment 2). The development of the Department's Preferred Plan included the assumption that wind be hardwired to ensure that the Company complies with the REO.

Even under the Department's Preferred Plan (and before meeting the additional 300 MW requirement), the Company is still expected to experience shortfalls in meeting the Renewable Objective in 2014 and 2016. Therefore, the Department proposed that Xcel modify the modeling of REO wind under the Department's Preferred Plan, and include the results in its reply comments. The Department explained that before a Commission decision on the appropriate forecast, DSM goal, wind expansion plan, and additional 300 MW, Xcel would not be able to rerun the Strategist model to determine the appropriate level of annual renewable generation needed to meet the REO.

The Department's analysis included a study of the renewable energy shortfalls using Xcel's Preferred Plan and before meeting the Wind Capacity Requirement (i.e. allowing Xcel to count the additional 300 MW toward the REO requirement). Based on this analysis, the Department concluded that Xcel still will not have sufficient available eligible generation to meet its Renewable Objective for the entire planning period (under any allocation method presented). Therefore, the Department again recommended that in reply Xcel provide a revised plan for addressing this shortfall.

In reply comments, Xcel indicated that it would make changes to its plan so as to be in compliance with the REO, and it also increased the level of incremental wind over the planning period from 560 MW to 800 MW. However, it indicated that it would not rerun its Strategist model but instead would include the higher level of incremental wind (800 MW) in its next run, most likely in the Company's next resource plan filing. Since Xcel believes that it meets the REO in the near term, it argued that waiting to rerun the model is appropriate.

On page 39, in Xcel's reply comments (#162), Xcel provides an updated REO compliance plan, showing the annual incremental wind additions beginning in 2009. However, in response, the Department continued to argue that its resource expansion plan (with the additional 1,680 MW of wind) is the most reasonable approach. The Department believes Xcel's additional 800 MW will not be sufficient to allow Xcel to meet the REO requirement over the planning period. The Department argued that its proposed expansion plan includes sufficient total wind additions to meet Xcel's REO by the end of the planning period, even under the assumption that the additional 300 MW is not eligible for meeting the REO.

The Department noted that the timing of the wind additions under the Department's proposed expansion plan will need to be adjusted so that the additions occur earlier for Xcel to be in compliance throughout the period. Nonetheless, the Department believes its proposed expansion plan provides a greater likelihood that Xcel will meet the REO which, for Xcel, is a requirement.

The Department's expansion plan: (1) allows Xcel to meet the requirements of Minnesota's statute pertaining to certificates of need, and (2) provides a greater likelihood that Xcel will meet the requirements of the REO. Thus, the Department concluded that the resource expansion plan proposed in its August 1, 2005 comments should be adopted by the Commission.

Staff notes that if the Commission adopts the Department's proposed expansion plan, it can then find Xcel has made a good faith effort to meet the REO. However, if the Commission adopts Xcel's proposal, and given the Department's concerns, the Commission may not be able to make such a finding.

Xcel's biomass PPA requirement

Minn. Stat. 216B.1691, subd. 6 (c), states:

Also as part of its good faith effort under this section, the utility that owns a nuclear generation facility is to enter into a power purchase agreement by January 1, 2004, for ten to 20 megawatts of biomass energy and capacity at an all-inclusive price not to exceed \$55 per megawatt-hour, for a project described in section 216B.2424, subdivision 5, paragraph (e), clause (2). The project must be operational and producing energy by June 30, 2005.

The Department concluded that Xcel has complied with requirements of Minn. Stat. 216B.1691, subd. 6 (c), the "Biomass PPA Requirement." Under this subdivision, Xcel has the obligation to enter into a PPA for 10 to 20 MW of biomass energy and capacity by January 1, 2004, with an operational date of June 30, 2005, for a project described in Minn. Stat. 216B.2424. The only generating facility that meets the statutory description in Minn. Stat. 216B.2424 is the facility proposed by Itasca Power Company.

The Department noted that Xcel has presented an offer with terms that are more generous than required by statute to the Itasca Power project and the proposal has not been accepted. Based on this, the Department concluded that Xcel has fully complied with all requirements of the law in this matter. The Commission will need to determine if Xcel's actions in this matter constitute compliance with the Biomass PPA requirement under the REO.

This matter has been under review by the Commission in Docket No. E-002/CI-03-2044, *In the Matter of the Requirement Under Minnesota Statutes 216B.1691, subd. 6 (c), for Northern States Power Company d/b/a Xcel Energy to Enter Into a Purchased Power Agreement.*

Is Xcel counting more of its Wisconsin renewables towards meeting the Minnesota REO than is permitted under the Commission's REO Orders?

MCEA argued that the Commission's October 19, 2004 Order in the REO docket permits multi-jurisdictional utilities with preexisting renewables to allocate the output from such facilities to the REO according to the percent of Minnesota customers served by the utility. In the case of Xcel, 75% of its customer base is in Minnesota, so 75% of the output from preexisting eligible renewables on Xcel's system may count toward the REO. Due to Xcel's apportionment of half

of its Wisconsin renewable energy capacity to the Wisconsin RPS exemption, not all of Xcel's Wisconsin renewable resources are eligible to be counted toward the REO. MCEA argued that, for the half that is unencumbered by the competing renewable energy requirement in Wisconsin, only 75% of that output can be assigned to Minnesota's REO.

In reply comments, Xcel argued that it had modified its REO compliance plan to ensure no double counting of Wisconsin resources. Xcel allocated half of the eligible Wisconsin renewable resources toward compliance with the Wisconsin RPS, and the other half it applied toward the Minnesota REO. The Department provided an explanation of the method it used to allocate eligible Wisconsin facilities to the Minnesota REO (see Attachment 2, page 7-8, in the Department August 1, 2005 comments). Staff suggests the Commission adopt the method proposed by the Department for allocating the eligible Wisconsin renewable resources toward the Minnesota REO.

The Department's method for allocating Wisconsin resources to the MN REO is described in Department Attachment 2, pages 7-8. In determining the eligible resources the Company has available for compliance with the MN REO, the Department allotted 70 percent of the generation from Xcel's eligible Wisconsin resources for compliance with the REO. The Department allotted the capacity from the Bayfront facility wholly to Xcel's Wisconsin renewable requirement because this facility is not eligible for the MN REO. This was done prior to applying the 70 percent allocation factor noted above. Staff believes this the Department's method for allocating Wisconsin resources to the MN REO is appropriate given past Commission Orders.

Commission decision alternatives for REO issue

Criteria and standards to be applied to Xcel

1. Find that the criteria and standards as specified in the Commission's June 1, 2004 Order should be applied to Xcel to evaluate its efforts under Minn. Stat. 216B.1691, subd. 6.
2. Open a proceeding to determine specific criteria and standards applicable to Xcel under Minn. Stat. 216B.1691, subd. 6.

Wind Capacity Requirement

1. Find that the additional 300 MW of wind required under Minn. Stat. 216B.1691, subd. 6(a), cannot be counted towards Xcel's REO requirement in Minn. Stat. 216B.1691, subd. 2.
2. Find that the additional 300 MW of wind required under Minn. Stat. 216B.1691, subd. 6(a), can be counted towards Xcel's REO requirement in Minn. Stat. 216B.1691, subd. 2.

Compliance with the REO

1. In meeting its REO under Minn. Stat. 216B.1691, Xcel shall apply a fixed allocation factor to determine its total Minnesota energy sales relative to total system sales.

Renewable Objective

2. Find that Xcel is in compliance with the REO through 2008, and require Xcel to file an revised plan for meeting its REO over the planning period as described below.
3. Find that with the additional 1,685 MW of wind over the planning period, as proposed by the Department in its expansion plan, Xcel has made a good faith effort to meet the REO over the planning period.
4. Clarify that a finding by the Commission that Xcel is in compliance with the REO does not represent approval of the eligibility of “planned” resources for meeting the REO. The eligibility of “planned” resources for meeting the REO will be considered once these planned facilities are developed and deliverability has been assessed in another resource plan filing or REO related filing.

Biomass REO

5. Find Xcel’s plan includes sufficient biomass generation to meet the REO biomass objective through the planning period.

REO Compliance filings

1. Require Xcel to rerun the Strategist model incorporating the decisions made by the Commission in this case (e.g. forecast, DSM goals, wind expansion, additional 300 MW etc.) and to file a revised plan for meeting the REO over the planning period based on the results of the rerun of the model. This should be included in the compliance filing described below.
2. Require Xcel, on or before October 1, 2006, to file a report and update showing its compliance with the REO with the Commission. This report should include the information sought in the decision alternative above and any information sought by the Department for its January 2007 report to the Legislature on utility REO compliance.

Nuclear issues

Xcel Energy (Xcel)

All of Xcel's resource plans have included its nuclear facilities at Prairie Island and Monticello. The plants provide approximately 20 percent of the capacity and 30 percent of the energy on Xcel's system. Given the spent fuel storage issue, Xcel has continually analyzed the economic and environmental impacts of continued operation of the facilities. The 2004 Resource Plan is no exception.

Xcel's analysis of nuclear generation can be found in Section 8 of the 2004 Resource Plan. Xcel argued that its power supply is more economical and its air impacts lower with the continued operation of Monticello and Prairie Island. In its analysis, Xcel tested variations around three different futures: the facilities run an additional 20 years beyond their current license, both facilities are shutdown at the end of their licensed life; and one in which Monticello is shutdown, but Prairie Island is allowed to re-license and operate for an additional 20 years. The PVRR values of continued operation of both facilities and the shutdown of both facilities at the end of their licensed life are shown in Tables 8-1 and 8-2, respectively. The incremental air emissions associated with these scenarios can be found in Table 8-3.

Xcel concluded that continued operation of both of its nuclear power plant is between \$1.3 to \$1.7 billion less expensive than if these facilities are shut down at the end of their licensed life, even with a billion dollars of investments in the facilities. Xcel suggested its biggest concern with its nuclear generation assets is the issue of spent nuclear fuel storage.

Staff Note: As the Commission knows, Xcel currently has an Application for a Certificate of Need to allow for additional dry storage of spent nuclear fuel at its Monticello facility Docket No. E-002/CN-05-123. An ALJ Report on the application is expected in mid-July. Staff intends to bring this item before the Commission in September.

Department of Commerce (Department)

The Department concluded that the relicensing of Xcel's nuclear plants should be included in the preferred plan.

Staff discussion (Nuclear Issues)

Staff believes the Company's analysis of nuclear issues is reasonable and requires no specific Commission action at this time.

Transmission Issues

Xcel Energy (Xcel)

Xcel highlighted some of the transmission issues that will affect this resource plan. These issues include state transmission planning taking place in a separate forum, the role and impact of MISO on transmission planning, the development of CAPX 2020 and other issues specific to the upper midwest. Xcel also discussed the Buffalo Ridge Lines and its negotiations with the Western Area Power Administration regarding interconnection. Finally, Xcel briefly discussed the development of the MISO Transmission and Energy Markets Tariff.

Joint Intervenors (MCEA et al)

The Joint Intervenors (MCEA et al) asserted that Xcel must improve its transmission planning to facilitate the development of wind generation. Xcel needs to file certificates of need for new transmission facilities, particularly for those facilities associated with an additional 400 to 600 MW (above 825 MW) and the study of a 345 kV transmission line from southwestern Minnesota for wind generation outlet.

Minnesota Project

The Minnesota Project argued that Xcel provided a rather cursory discussion of transmission planning and the issues the Company is contemplating. According to Minnesota Project, the resource plan should assume increasing diversity in the size and location of new generating capacity. Small and medium wind sized projects should be an assumed part of the mix. In order for planners to design a transmission system that can accommodate such resources, focus should be on 69 kV and 115 kV lines.

Staff discussion (Transmission issues)

No Commission decision is required with regard to transmission.

Northern Flood Agreement (NFA), monitoring

Xcel's Northern Flood Agreement Monitoring Report filed November 1, 2004 (#2)

Xcel's NFA report contains an executive summary, the report, and sixteen exhibits. Xcel indicated that the goal of the report is to present the Commission with a summary description of the implementation of the NFA and to describe Xcel's monitoring activities. The Report will not be summarized here; the Commission should refer to it directly.

Xcel reported many different actions in connection with NFA implementation activities. It concluded that the relationships among Manitoba Hydro, the Canadian government, and the five First Nations, as governed by the agreements, are complex and not easily measured or

monitored. Xcel claimed it is difficult if not impossible to evaluate the complex rights and broader relationships of the NFA. Xcel noted that while its monitoring was focused on the NFA, factors beyond the confines of the agreement are significant.

Xcel stated that the NFA is being implemented. Although disputes remain, projects are underway, and money is being spent under the various implementation agreements and action plans. Xcel noted that the NFA dispute resolution mechanism is being utilized, and a new arbitrator has been appointed. Thus, according to Xcel, the NFA is addressing the socio-economic impacts arising out of construction and use of the dams.

Xcel recommended that future monitoring reports be provided directly by Manitoba Hydro, the First Nations, and the Canadian government, to the extent the Commission desires them. Xcel explained that its perspective is limited and that it had been hampered by an inability to observe directly talks between PCN and Manitoba Hydro.

In order to provide a context for the NFA and its monitoring activities, Xcel's report also included background on Manitoba Hydro, the Northern Flood Committee, the history of the NFA, the NFA itself, the NFA dispute resolution process, and the limits of the NFA. The report also explained the creation and history of the NFA Implementation Plans, and provided a discussion of each of the four master Implementation Agreements.

Xcel's NFA report explained that the PCN did not agree to a comprehensive implementation agreement but instead worked out an action plan for the NFA. This 15-month action plan is attached as an exhibit to Xcel's report. Xcel listed the items, under the 2003-2004 action plan, that Manitoba Hydro was to spend money on (see page 23 of Xcel's NFA report). Xcel reported that Manitoba Hydro spent \$11,053,553 of a planned \$11,395,525, under the first action plan.

A final report (Xcel's Exhibit 6), prepared by Manitoba Hydro, shows work was done and money was spent under the action plan. Xcel recognizes that there is some dispute about the efficacy of the amounts spent and other matters pertaining to the first action plan. On pages 25-29 in Xcel's NFA report, the Company attempts to say what was accomplished under the first and second action plans.

Xcel argued that it cannot qualitatively assess the relief provided by the NFA. However, it does believe that the implementation agreements and action plans have set up some structure for providing environmental and socio-economic relief for the First Nations. Xcel is concerned that efforts by the Company to qualitatively judge the performance of parties to the NFA may be construed as arrogant.

Xcel said its monitoring activities were reviewing the NFA and master implementation agreements as well as the first and second action plans between PCN and Manitoba Hydro. Xcel also reviewed PCN's proposed third action plan, and tried to learn about the process for potential resolution on the third action plan. Xcel traveled to Winnipeg and Northern Manitoba in 2003 and 2004 to meet with stakeholders and non-stakeholder third parties. The Company invited comments about its monitoring role and received and considered comments from Manitoba Hydro, ME3, the Split Lake First Nation, and the Displaced Residents of South Indian Lake.

Xcel was directly involved in one implementation discussion between PCN and Manitoba Hydro, but was not allowed access to further discussions. On page 33-36 of the report, Xcel described its various trips to Canada as part of its information gathering effort. Xcel asked interested parties to comment on the implementation of the NFA. Comments received are summarized on pages 36-38 of the report.

In its report, Xcel described the issues of the South Indian Lake community (Association of Displaced Residents of South Indian Lake), a group left out of the NFA, despite the fact that their lake was flooded by the hydro development. Xcel observed that the issues between Nelson House and the South Indian Lake group are indicative of ongoing tensions among signatories to the NFA.

In conclusion, Xcel believes that although it has worked to fulfill the Commission's order, it is concerned that its monitoring is inefficient, limited, and potentially distracting to other forums available to the participants. Implementation of the NFA is not susceptible to easy monitoring because there are many conflicting issues. Xcel argued that it is difficult for any outsider like Xcel to assess performance. Xcel believes future monitoring reports should be requested directly from the participants if the Commission wants these reports. Xcel believes its monitoring shows that parties to the NFA are engaged in efforts regarding its implementation, and that money is being spent in efforts to implement the NFA.

Minnesota Center for Environmental Advocacy (MCEA) comments filed August 1, 2005 (#112)
MCEA comments are filed on behalf of IWLA, ME3, the Union of Concerned Scientists, and MCEA. Staff will refer to ME3, since ME3 Just Energy participated in the development of the monitoring proposal.

ME3 noted that Xcel was ordered to "monitor and report" on implementation of the NFA by the Commission as a condition of approval of the purchase power agreement between Manitoba Hydro and Xcel. The purpose of this requirement was to allow Xcel to address concerns over environmental and socio-economic impacts of hydroelectric development in Manitoba pursuant to Minn. Stat. 216B.2422, subd. 3. ME3 believes Xcel's report fails to monitor and report key socio-economic or environmental indicators related to the NFA, and thus does not meet the promise made to the Commission and the State Court of Appeals. Xcel's emphasis on lump-sum financial settlements, and the lack of reporting on tangible outcomes, is not sufficient. A discussion of "implementation agreements" is not a replacement for the impact of these agreements on unemployment, or on the restoration and mitigation of past damages.

The report fails to provide adequate information to allow Minnesota consumers and the Commission to determine if the external costs of hydroelectric generation imported from northern Manitoba have been accounted for in accordance with the NFA. The bulk of the report focuses on negotiations and planning activities rather than the outcomes from NFA implementation. The report is not outcome-based and instead focuses on processes, not results. A few specific instances of implementation are cited but this information is incomplete and narrow in scope, with no focus on specific indicators or measurement.

ME3 noted that all affected communities, such as the South Indian Lake (SIL) community, should be included in the monitoring. The SIL community was flooded and the entire community was relocated in order to create the second largest Manitoba Hydro reservoir.

ME3 also noted that in order to monitor implementation of the NFA, one must determine whether the amount and method of settlement compensation approximates the costs imposed on the communities by hydro development. Simply listing settlement proceeds is not showing that NFA obligations have been effectively met. A comparison of Manitoba Hydro profits realized through the use of traditional indigenous territory, with the settlement payments received by the communities is surprising. Historically, Manitoba Hydro has claimed that it has met its NFA obligations by distributing blocks of monies for the purpose of alleviating unemployment and poverty in NFA communities. However, this has been done without any substantive monitoring or reporting regarding actual progress toward ameliorating these problems.

Xcel's report over-emphasizes the arbitration clause of the NFA. Arbitration was originally intended as a mechanism of last resort. Nevertheless, there was a period of two years up to April 1, 2004, when there was no functioning arbitrator. Parties to the NFA were forced to begin proceedings in order to get an arbitrator appointed. During this period, hundreds of claims were not handled. Arbitration is a slow, costly and complicated process, which leaves First Nations with very little control over the implementation process. Because Manitoba Hydro and other parties have stated that arbitration is one of the appropriate mechanisms within the NFA to resolve socio-economic and environmental issues, ME3 believes it would be appropriate for Xcel to track arbitration claims and settlements as part of their monitoring and reporting requirement.

The Commission and the Minnesota Court of Appeals found the NFA to be an appropriate instrument for addressing the environmental and socio-economic impacts of northern hydro development. Xcel was found to be the party responsible for demonstrating the efficacy of the NFA. Although Xcel recognizes that hydroelectric development causes socio-economic and environmental impacts, it is apparently unable to delineate boundaries or measurement for monitoring. The result is that Xcel's report does not provide clarity on the incidence or efficacy of NFA implementation.

ME3 recommended a systematic analysis over time of key indicators to allow for an assessment of NFA implementation. If these indicators are monitored over time, a more complete picture of the situation in northern Manitoba can be developed. Xcel should adopt a plan to fit existing data into a framework that can establish a quantitative description of the situation in northern Manitoba. Collecting data and organizing it systematically will make it possible for Minnesota consumers and other interested stakeholders to determine whether the NFA is an appropriate mechanism for internalization of the socio-economic and environmental costs of hydroelectric development.

Indicators that are relevant, reliable, outcome-based, easy to understand, and based on accessible data are a useful method for translating monitoring regimes into outcomes. ME3, and the University of Minnesota Human Rights Center, as well as the Upper Midwest Human Rights Fellow, presented a detailed plan to the Commission on October 25 and 27, 2004, with a

proposal for indicators linked to specific NFA provisions that could be applied to Xcel's monitoring and reporting on the NFA as required in the resource plan.

ME3 argued that such indicators would assure Minnesotans that externalities are accounted for. These indicators could then measure whether the NFA is being successfully implemented. A systematic approach would be more productive than reporting on ever-changing negotiations and action plans under development.

ME3 recommended that Xcel monitor a minimum of four specific NFA provisions (see discussion of these indicators on pages 5-28, of ME3's August 1, 2005 comments, #112):

- employment and income data
- shorelines
- water fluctuations
- drinking water quality

According to ME3, gathering the data needed to monitor these indicators will in no way interfere with Canadian processes or the rights of sovereign indigenous nations. Reporting indicators is a matter of identifying appropriate information sources and aggregating the data. Xcel can obtain data on water quality, employment, average household incomes and other socio-economic and environmental indicators from agencies such as Statistics Canada and Northern and Indian Affairs, and from local governments, including the Cree and Metis governments.

ME3 recommended that the Commission require Xcel to submit a report on the status of the implementation of the NFA every two years as part of the Company's resource plan. Consistency of reporting will help to reassure all parties that progress is being made in the implementation of the NFA.

ME3 and the University of Minnesota Human Rights Center offer to provide support to Xcel and the Commission to develop a systematic framework for monitoring and reporting the external costs associated with hydroelectric development in Manitoba. The NFA contains specific provisions for which data can be gathered to develop a quantitative description. Using indicators as a measure of implementation, would allow the Commission to assess whether the NFA is being implemented, the assumption upon which the Commission approved the PPA between Xcel and Manitoba Hydro.

Displaced Residents of South Indian Lake (DRSIL) comments filed July 28, 2005 (#109)

The Displaced Residents of South Indian Lake (DRSIL) are an association of 400 individuals displaced from their ancestral home at South Indian Lake due to the flooding caused by Manitoba Hydro for the Churchill Nelson River Hydro Project. DRSIL has filed for compensation under the NFA. (A brief historical overview of DRSIL is included in Appendix I, of the DRSIL's July 28, 2005 comments.)

DRSIL believes there is a need for independent comprehensive monitoring and reporting on the NFA and all other agreements and actions undertaken by Manitoba Hydro to address ongoing

environmental and socio-economic impacts of past hydro development. This includes the monitoring and reporting of the progress in the resolution of all outstanding claims related to the Treaty. DRSIL finds it unfortunate that bringing in an entity from outside Manitoba and Canada to monitor and report on implementation of the NFA is necessary. This is an indictment of the policies and actions of Manitoba Hydro, and the Governments of Manitoba and Canada in their treatment of those impacted by past hydro development.

There have been 400 plus claims filed under the NFA by the DRSIL. This includes the recognition of significant groups, who have serious reservations and concerns with the process being followed to “sell” a new wave to hydro dam development on traditional Cree Indian territory (see Appendix II, of the DRSIL July 28 comments). DRSIL has serious concerns about the failure of Manitoba Hydro, Manitoba, and Canada to allow claimants to pursue and present their claims as they should be entitled to under the NFA.

DRSIL commented that the report by Xcel leads the reader to believe that the NFA Implementation and Arbitration process is working satisfactorily for all parties involved, which in the case of DRSIL is highly disputed. DRSIL asked that for accurate monitoring, Xcel should not rely primarily on information and dialogue with Manitoba Hydro, Government of Manitoba and Chiefs and Council of Cree Indian First Nations who are pushing for hydro development in partnership with Manitoba Hydro. There are strong divisions in the community of Nelson House and among the NCN between NCN Chief and Council who are pushing the hydro dam in partnership with Manitoba Hydro and the Elders and many in the community who have serious concerns about future hydro development.

DRSIL explained that the fact that the arbitration process has been invoked many times does not provide a measure of whether it is working satisfactorily, when no results were reported. DRSIL described its experiences with the Arbitration process and other issues under the NFA (see pages 6-15 of the DRSIL July 28 comments). DRSIL believes the report from Xcel should be considered an initial work in progress, which should be expanded and updates on a regular basis to provide an ongoing accurate assessment of what is actually happening in regards to the implementation of the NFA.

DRSIL made extensive recommendations to Xcel and the Commission for monitoring and reporting on the NFA and hydro development in Manitoba, as follows:

1. Xcel and the Commission should make concerted efforts to visit the communities impacted, and to consult with all interested parties, not just Chiefs and Councils, Manitoba Hydro and the Government of Manitoba.
2. Require Xcel to provide clear explanations and substantiation for its claims that NFA is being implemented.
3. Xcel’s current reporting and monitoring should be expanded to include a review and assessment of all agreements, communities and measures taken to address the impacts of hydro development in northern Manitoba, including arbitration of individual compensation claims filed under the NFA.
4. Xcel should be required to report on a regular basis on the implementation and success of the NFA, the NFA Master Implementation Agreements, and other related agreements such as the 1992 CASIL Agreement in meeting the goals and objectives of the NFA and the socio-economic needs of the communities and people involved.

5. Require Xcel to consult directly with interested stakeholders to improve and expand reporting and monitoring, focusing on the development of measurable and relevant performance indications.
6. Require Xcel to develop an appropriate results based reporting system for monitoring and reporting of the NFA and other agreements and actions to address the impacts of hydro development on First Nations and other aboriginals in northern Manitoba.
7. Xcel, the Commission and the Minnesota Legislature should independently verify and report publicly on the accuracy of information being provided by Manitoba Hydro and the Government of Manitoba in regards to the NFA implementation and the sale of power from new hydro dam developments; other affected First Nation members, besides Chiefs and Councils who support hydro development with Manitoba Hydro, should be consulted.
8. Require Xcel to report on the status of whether Manitoba Hydro is adequately addressing the environmental and socio-economic impacts of past hydro development in relation to the letter, spirit and intent of the NFA Treaty; Xcel should be required to consider the NFA as a modern day treaty and therefore apply a “liberal and generous” interpretation consistent with the Supreme Court of Canada.
9. Require Xcel to provide an overall assessment of the ongoing environmental and socio-economic conditions currently being endured by Manitoba First Nation and other aboriginal communities impacted by hydro dam developments in relation to the value of the benefits being accrued by outside parties, including Xcel and the people of Minnesota. This assessment should provide verifiable information and conclusions that show the costs of hydro dam development in Manitoba are sufficiently being internalized by the implementation and not just the existence of the NFA Treaty.
10. Require Xcel to report on the status of the 400 plus DRSIL claims under the NFA Treaty incorporating the concerns of DRSIL.

Nisichawayasihk Cree Nation (NCN) comments filed November 1, 2005 (#155)

NCN indicated that South Indian Lake (SIL) suffered adverse effects from the Churchill River Diversion (CRD). However, most of the residents of SIL were NCN members, and SIL was not a “reserve” as defined by the Indian Act.

NCN noted that the NFA includes provisions allowing individuals, groups and Cree Nations to file claims regarding adverse effects of the CRD. If claims are not settled, they can be referred to arbitration. The NFA contains provisions for arbitration. NCN agrees that it would have been positive if the NFA had contained a simple, enforceable commitment by Manitoba Hydro (and/or Canada and/or Manitoba) to eliminate poverty and unemployment in the NFA Cree Nations. Unfortunately, it does not.

NCN reviewed the history of the SIL community, including an \$18 million dollar payment by Manitoba Hydro, under a 1992 Agreement, to the Community Association of South Indian Lake (CASIL) and South Indian Lake Housing Association (SILHA). NCN claimed Manitoba Hydro has signed other agreements with SIL groups over the years. NCN provided background on the Displaced Residents of South Indian Lake (DRSIL) and the 1996 Implementation Agreement (see pages 4-5, in NCN’s November 1, 2005 comments).

NCN indicated that the 1996 Implementation Agreement was approved with a “double majority” of NCN members in a secret ballot vote. From the NCN perspective, the 1996 Agreement contained many improvements upon the NFA (see list of specific benefits, page 4 of NCN comments).

Manitoba Hydro and NCN are currently discussing a proposed 200 MW hydro project in the Nelson House Resource Management Area, called Wuskwatim. In 2001, NCN and Manitoba Hydro signed an Agreement in Principle (AIP) about Wuskwatim. NCN voters approved the AIP by a large margin. Manitoba Hydro and NCN are now negotiating a Project Development Agreement, and have tentatively agreed that NCN will be a limited partner in the Wuskwatim Power Limited Partnership, which would own the Wuskwatim Generation Project. NCN could essentially own up to 33% of any future profits on the project. Some NCN members oppose the Wuskwatim project. One of the opponents is Ms. Carol Kobliski, an unsuccessful candidate in the last NCN Council election. The DRSIL has provided some of Ms. Kobliski’s newsletters to the Commission, but NCN feels these are completely irrelevant to any Commission decisions.

NCN argued that the NFA is a treaty not a contract, and parties must live with it. It believes the Commission should not pass judgement on whether the NFA process serves the needs of the DRSIL. NCN argued that DRSIL is not a party to the 1996 Agreement, and has no legal interest in how the Agreement is being implemented. In its comments, NCN addressed what it believes are inaccuracies in the comments filed by the DRSIL.

NCN argued that ME3's proposal to monitor indicators like average income at SIL is far too ambitious, or not nearly ambitious enough. The fact that some Canadian First Nations have been affected by hydro projects is not the main reason why most Canadian First Nations face serious socio-economic problems. NCN proposed a comprehensive study of all the causes of poverty amongst Canadian First Nations, but not as a project for Xcel.

NCN believes Xcel has made an honest attempt to understand the complexities of the NFA and the recent history of northern Manitoba. As a party to the NFA, Manitoba Hydro must comply with it. Canada is a constitutional democracy with an independent judiciary. When Canadian parties feel their legal rights have been infringed, they are free to pursue legal avenues of redress. NCN argued it is not the proper function of the Commission to attempt to duplicate Canadian legal process, and it is not practical.

NCN recommended that the Commission accept Xcel’s report and require no further action by Xcel at this time.

Minnesota Witness for Environmental Justice comments filed August 2, 2005 (#122)

Minnesota Witness for Environmental Justice (MWEJ) commented that Minnesota state law requires the Commission to consider environmental and socio-economic impacts when approving sources of electric power for Minnesota. The Commission, upon approving a long-term contract between Xcel and Manitoba Hydro, asserted that the NFA internalizes the severe environmental damages and associated socio-economic costs arising from Manitoba Hydro's projects in northern Manitoba. The Commission directed Xcel to monitor and report on the implementation of the NFA.

MWEJ noted that Xcel characterizes the situation in Manitoba as complex and not susceptible to easy measurement and reporting, yet concludes that the NFA is being implemented. MWEJ finds nothing in Xcel's report to support the conclusion that socio-economic or environmental conditions have substantially improved in northern Manitoba, either through the NFA or by any other means. Some activities and processes and expenses are detailed, but there is no indication of whether the people of northern Manitoba have more jobs, better health, clean water to drink, or good food to eat. Therefore, MWEJ finds that Xcel's submission does not comprise a report on the implementation of the NFA.

MWEJ believes that as long as Xcel continues to do business with Manitoba Hydro, the Commission should continue to require Xcel to monitor and report on progress on the NFA, using objective and outcome-based measures. The proposal by the University of Minnesota Human Rights Center and ME3 (Exhibit 11 in Xcel's report) provides a practical framework and mechanisms for Xcel to monitor implementation of the NFA. This framework is based on measuring carefully chosen indicators that are relevant, reliable, outcome based, easy to understand and based on accessible data. The proposal does not require extensive travel or observation or evaluation of processes and relationships. The cost of gathering this information should be minimal. MWEJ recommended the Commission require Xcel to use the framework offered by ME3 to monitor and report on the implementation of the NFA.

Department of Commerce comments filed, August 1, 2005 (#114)

The Department concluded that Xcel satisfied Order Point 5 in the Commission's March 18, 2003 Order, which required Xcel to monitor and report on the status of the on-going implementation of the NFA in its next resource plan. The Department did not propose further monitoring.

Tataskweyak Cree Nation (TCN) comments filed November 2, 2005 (#153)

The TCN, also known as Split Lake Cree First Nation, recommended that the Commission reject all comments of DRSIL, ME3 and the University of Minnesota's Human Rights Center. It proposed the Commission accept Xcel's report and require no further action by Xcel to monitor implementation of the NFA.

TCN is an Indian Band in Manitoba, an original party to the NFA. TCN signed a 1992 NFA Implementation Agreement with Manitoba Hydro, Canada and Manitoba. TCN took issue with

specific statements contained in the comments filed by DRSIL and ME3, and responded directly to these statements (see pages 2-8, in TCN comments filed November 2, 2005). TCN argued that material in the record of this case would allow the Commission to conclude the following:

- that the NFA is a document freely and voluntarily entered in to by the involved First Nations, and provides those First Nations with rights and interests capable of implementation, whether by voluntary action, agreement, or failing either, through arbitration.
- that the subsequent Implementation Agreements, entered into by four of the five First Nations, have been freely and voluntarily entered into, and that those Agreements implement the obligations of the Crown parties under the NFA to the satisfaction of the majority of First Nation members, at the date those Agreements were executed.
- that the First Nations who entered into Implementation Agreements have continuing rights under those Agreements and, in several matters, continuing rights under the NFA.
- while not all claims of all affected First Nations, and in particular, the First Nation that has not entered into an Implementation Agreement, have been settled by Agreement or by arbitration, that every NFA First Nation has remedies through processes that are enforceable against Manitoba Hydro and the two levels of government, in Canada, a country that is a constitutional democracy.
- that the Commission and Xcel are not equipped to attempt to further investigate the implementation of the NFA in any meaningful way, nor would it be in the interests of Minnesotans for the Commission or Xcel to attempt to do so.

Manitoba Hydro comments filed August 1, 2005 (#116) and November 23, 2005 (#159)

Manitoba Hydro recommended that the Commission accept Xcel's report and require nothing further of Xcel at this time. It argued that no amount of monitoring by Xcel will change two fundamental facts: (1) implementation of NFA is a dynamic and ongoing process, and (2) the NFA process is governed by Canadian law.

Manitoba Hydro is a Crown Corporation owned by the Province of Manitoba, with capital assets in service exceeding \$7 billion (CDN), making it the fourth largest electrical utility in Canada. Manitoba Hydro has traded with Minnesota utilities for over three decades. These trades provide efficient use of the region's power supply, help maintain reliability, and keep costs reasonable, all of which strengthen Minnesota's economy. According to Manitoba Hydro, Manitoba hydroelectricity has helped displace more than 157 million tons of greenhouse gas emissions in the region.

Manitoba Hydro noted that, in Docket E-002/M-99-888, PCN recommended that the Commission reject the 500 MW power purchase agreement between Xcel and Manitoba Hydro. However, the Commission rejected PCN's arguments and approved the PPA, concluding that Canadian law governs the complex relationships between the parties. The Court of Appeals

affirmed the Commission's findings. In the 99-888 docket, other Cree Nations, including TCN and NCN, supported Commission approval of the PPA.

Manitoba Hydro believes Xcel took the Commission's request seriously and made a good effort to monitor NFA implementation. Manitoba Hydro appreciates Xcel's observation that efforts by Xcel to "judge the performance" of parties to the NFA could be viewed as "arrogant at best."

Manitoba Hydro does not agree with the comments and recommendations of ME3, the University of Minnesota, DRSIL, or Minnesota Witness for Environmental Justice (MWEJ). To require anything further from Xcel at this time, according to Manitoba Hydro, would be ill-advised micro-management and monitoring of complex relationships between sovereign First Nations, Manitoba Hydro, and Canadian and provincial governments. Manitoba Hydro believes any further requirements would be interference in a distinctly Canadian NFA process, and would go well beyond what is prudent and what the Commission asked Xcel to do in the 99-888 docket. Manitoba Hydro agrees with and supports many of the arguments made by NCN and TCN.

Senator Ellen Anderson letter filed August 1, 2005 (#128)

Senator Anderson asked the Commission to adopt the monitoring and reporting proposal submitted by ME3 and the University of Minnesota Human Rights Center. The Senator believes it provides an appropriate and effective method for monitoring, and takes into account the actual conditions of life in northern Manitoba.

Senator Anderson indicated that the report filed by Xcel is inadequate. Xcel asked to "monitor and report" on the NFA. The purpose of the report was to address concerns about whether the NFA is being sufficiently carried out. Instead, it focuses on implementation strategies and procedures, rarely citing true examples of successful compensation.

The environmental and socio-economic damage caused by Manitoba Hydro's hydroelectric dams in northern Manitoba is devastating and far-reaching. The NFA, which came into effect in 1977, promised four acres of land for every one acre flooded; compensation for lost hunting, fishing and trapping; and the eradication of mass poverty and unemployment. To date, these promises have not been fulfilled. Conditions in northern Manitoba would not meet U.S. human rights standards and environmental regulations.

Adequate information was not provided in Xcel's report to allow consumers to determine whether the provisions of the NFA are being implemented. However, ME3 and the University of Minnesota have created a proposal that specifies ways to obtain this information through existing Canadian agencies. Xcel should be asked to monitor the implementation of the NFA every two years as part of its resource plan process.

Xcel reply comments filed November 23, 2005 (#162), January 30, 2005 (#189), and March 8, 2006 (#195)

Reply to ME3 and Minnesota Witness for Environmental Justice (MWEJ). Xcel believes that the ME3/University of Minnesota proposal would expand Xcel's role beyond reporting and would make Xcel an on-site monitor of Canadian affairs, including the standard of living of First Nations. Xcel maintained that pursuit of additional data should be directed to Manitoba Hydro, Manitoba and Canada, rather than to Xcel.

Xcel noted that the type of data collection proposed is similar to an approach used by multinational corporations, and is far beyond the scope of activity directed by the Commission. It may be appropriate for investors of projects in developing or Third World nations, but not for use by a Minnesota corporation in Canada. There are Canadian legal and governmental processes in place to judge and comment on the success, failures and necessary improvements to the NFA implementation effort.

Reply to Displaced Residents of South Indian Lake (DRSIL). Xcel believes the expanded role DRSIL is seeking for Xcel is not appropriate. Xcel is not the only purchaser of hydro-power from Manitoba Hydro. Expanded monitoring, independent verification of facts, and commentary on the effectiveness of the Canadian legal system is not the appropriate role for Xcel.

Xcel noted that the relationship of DRSIL, CASIL, the community of South Indian Lake and other stakeholders with Manitoba Hydro, Manitoba and Canadian governments is complex. Some of the members of these groups are also members of First Nations but seek to be recognized as organized communities. Positions advocated by DRSIL are not universally accepted (see comments of NCN and TCN). Xcel provided information on DRSIL in its report to acknowledge both their existence and point out some of the processes being used to address their issues. However, Xcel focused mainly on the NFA implementation efforts between PCN and Manitoba Hydro.

Reply to Manitoba Hydro, TCN and NCN. Xcel agreed with the conclusions of these parties, that not further reporting should be undertaken. These parties point out the fact that not all Canadian aboriginal communities or nations desire or see benefit from expanded Xcel monitoring. TCN and NCN provide significant context for their position that an expanded role for Xcel could interfere with their use of the NFA and Canadian process to achieve progress on issues with Manitoba Hydro.

Xcel reply comments filed on January 30, 2006 and March 8, 2006. On January 30, 2006, Xcel filed reply comments indicating that it had been asked to address some additional issues by PCN (as indicated in the PCN November 23, 2005 filing). Xcel explained that, since PCN filed comments on November 23, Xcel had met with representatives of PCN and Manitoba Hydro. In its January 30 comments, Xcel indicated that it would file a supplement on the issues discussed with PCN and Manitoba Hydro.

However, on March 8, 2006, Xcel filed a letter with the Commission noting that it would not be filing a supplement as indicated. Xcel claimed it did not have access to, nor had anyone

submitted information that would allow Xcel to conduct an analysis of the NFA as requested. Xcel agreed with Manitoba Hydro that the time for new filings in the docket had passed and the information sought would be onerous to collect. Moreover, Xcel stated that the proper forum for resolution of the issues sought to be developed in a supplement may be before an arbitrator in a proceeding in Canada.

Staff discussion (NFA monitoring)

The issues in this docket arise mainly from different parties' interpretations of the Commission's Order issued March 18, 2003, in which it stated:

“Xcel shall monitor and report on the status of the on-going implementation of the NFA in its next Resource Plan.”

(See Ordering Point 5, page 28, in *Order Declining to Reconsider February 7, 2001 Order, Finding Contested Case Unwarranted, and Approving Xcel's Power Purchase Agreement with Manitoba Hydro*, in Docket No. E-002/M-99-888.)

Xcel's report in this docket provides a long accounting of various activities, including numerous trips to Manitoba to meet with tribal officials, and a wide-ranging set of information. However, the report develops no criteria for monitoring the NFA consistent with internalizing socio-economic and environmental externalities, the very issues which gave rise to the Commission's monitoring order. While monitoring the NFA should not jeopardize the larger PPA, it can continue to assure that the NFA is implemented in a manner consistent with successful social and environmental development of hydroelectric resources on aboriginal lands.

As noted in the filing from MCEA, including ME3 and the University of Minnesota Human Rights Center, it should not have proven difficult or burdensome for Xcel to have provided specific monitoring on the status of (1) employment and income data, (2) shoreline, (3) water fluctuations and (4) drinking water quality, for which publicly available data exist. If a clear and specific method of reporting these data had been developed from the start, much of the difficulty and confusion evident in Xcel's report would have been avoided.

ME3 recommended a systematic analysis over time of key indicators to allow for an assessment of NFA implementation. Collecting data and organizing it systematically will make it possible for Minnesota consumers and other interested stakeholders to determine whether the desired results of the NFA, as an appropriate mechanism for internalization of the socio-economic and environmental costs of hydroelectric development, are being achieved.

As stated by ME3, carefully chosen indicators that are relevant, reliable, outcome-based, easy to understand, and based on accessible data are a useful method for translating monitoring regimes into tangible, measurable outcomes. ME3 and others presented a detailed plan to the Commission on October 25, 2004, providing a draft set of indicators linked to specific NFA provisions that could be applied to Xcel's requirement to monitor and report the NFA in the resource plan. Xcel included this proposal in its report.

In separate comments by Manitoba Hydro, emphasis is given to the sovereignty of Canada, the province of Manitoba, and the various Cree Nations. The suggestion is that monitoring the NFA amounts to “arrogant” interference by Xcel and the Commission in the affairs of Canada, Manitoba and the Cree Nations. Staff disagrees. It is important to note that the Commission clearly stated an interest in such monitoring in its original order. It stated:

IV. NFA Monitoring

Progress made implementing the NFA by four of the five affected Cree Nations testified to by Split Lake Cree Nation and NCN and the prospects for similar use of the NFA by PCN have been key factors in the Commission’s determination that the environmental and socioeconomic harms done by the Manitoba Hydro Project have been adequately internalized, taken into account, and considered in this matter. The Commission, therefore, has an interest in the NFA and the ongoing ability of the parties to that treaty to use the treaty and related processes to address the environmental and socioeconomic harms done the Manitoba Hydro Project.

(See page 26, in *Order Declining to Reconsider February 7, 2001 Order, Finding Contested Case Unwarranted, and Approving Xcel’s Power Purchase Agreement with Manitoba Hydro*, in Docket No. E-002/M-99-888.)

It bears emphasis that the Commission stated its “*interest in the NFA and the ongoing ability of the parties to that treaty to use the treaty and related processes to address the environmental and socio-economic harms done by the Manitoba Hydro Project.*”

This expression of interest is logically connected to the order to monitor the NFA, which appears in the sentence following the quoted paragraph (page 27). Collecting data on employment and income, shorelines, water fluctuations and drinking water is not interjecting either Xcel or the Commission into the affairs of Canada, Manitoba or the Cree Nations (nor it is “arrogant”). Rather, it is the Commission’s intent, entirely consistent with a tradition of U.S.-Canada cooperation on issues of energy and the environment.

Staff recommends that, given the admitted inadequacy of Xcel’s report (which the company itself describes as “inefficient” and “limited”), and its general failure to develop a clear and systematic approach to monitoring, that a new and simpler approach be identified. Specifically, at a minimum, staff supports monitoring of:

- employment and income data
- shorelines
- water fluctuations
- drinking water quality

Data on these issues is available, and support in developing simple and easy methods has been offered to Xcel by the University of Minnesota and ME3. Xcel could work with these parties in further developing a such a proposal.

Second, the argument that Xcel, in pursuing the Commission's order to monitor, is acting "arrogantly" and in violation of national, provincial or tribal sovereignty, should be rejected. Minnesota, the U.S. and Canada have longstanding records of cooperation on issues of energy and environment, which the order supports and reflects.

Finally, the wider policy relevance of the Commission's order for monitoring should be appreciated. Canadian hydroelectricity is a clean, renewable resource which could become increasingly important to Minnesota and the nation in the years ahead. However, concerns exist over the environment and socioeconomic impacts of its development. Appropriate monitoring practices could work to allay these concerns and clear the way for further development of the resource, to the benefit of Xcel, Minnesota ratepayers, and the affected tribes, provinces and Canadian hydro power interests. Accountability and transparency can only enhance these interests.

The proposal by ME3 and the University does not require extensive travel, observation or evaluation of processes and relationships. The cost of gathering this information should be minimal. From the record provided in this case, it appears Xcel expended significant effort at ratepayer expense in attempting to address the Commission's order requirement, without much result.

Commission decision alternatives for NFA monitoring

1. Require Xcel to work with and use the framework offered by ME3 and the University of Minnesota to monitor and report on the implementation of the NFA.
2. Require Xcel to submit a report on the status of the implementation of the NFA every two years as part of the Company's resource plan, and compare these to earlier benchmarks.
3. Accept Xcel's NFA report and require no further action by Xcel at this time.

Additional separate comments by the parties

Minnesota Project comments filed August 1, 2005 (#111)

Minnesota Project noted the potential significance of combined heat and power (CHP), which was given limited attention in Xcel's plan. The U.S. Department of Energy estimates that 850-1,320 MW of additional CHP potential exists in Minnesota; industrial customers are looking for more efficient and cost effective ways to serve thermal loads.

Among the opportunities for CHP are ethanol facilities, which if included in a Commission order as a source of added power, could be brought on line more quickly and efficiently than a large central station power plant. CHP in the ethanol industry alone could potentially supply much of the base load that Xcel's preferred option calls for in 2013. Minnesota Project asked that the

Commission direct Xcel to incorporate plans for CHP generally, and to initiate a collaborative effort with the ethanol industry to identify and implement the most viable CHP projects in new and existing plants.

Separately, Minnesota Project noted a variety of renewable energy sources given inadequate attention in Xcel's plan including biodiesel, which could be used in combustion turbines; biodigesters especially near food and agricultural commodity processing and livestock facilities; and manure digesters such as those pursued by Dairyland Power.

The Community-Based Energy Development (CBED) Tariff, passed in the 2005 Legislature, creates an additional tool for Xcel to use in pursuit of wind energy projects. This tool post-dates Xcel's 2004 resource plan, but should be included in an updated draft or compliance filing. Utilities that have not met the REO must take steps to determine if CBED projects are available to provide some or all of the identified need at an acceptable price. Further, the utility is to describe its efforts to contract with CBED projects in their IRPs. The CBED tariff will be helpful to Xcel in achieving some of its specific statutory and administrative obligations.

Minnesota Project's discussion of forecasting, transmission for wind, and DSM are discussed elsewhere in these briefing papers.

(Staff Note: On May 3, 2006, the Commission issued its *Order Approving Xcel's Community-Based Energy Development Tariff As Modified in Docket No. E-002/M-05-1887*. The 2005 CBED legislation, Minn. Stat. 216B.1612, subd. 5 (b) requires that each utility include in its resource plans "a description of its efforts to purchase energy from CBED projects, including a list of the projects under contract and the amount of CBED energy purchased." Also, subd. 5 (c) directs the Commission to consider the efforts and activities of a utility to purchase energy from CBED projects when evaluating its good faith effort towards meeting the REO. Therefore, Xcel will be required to file the above information in its next resource plan (and all future plans), and the Commission will have to consider these efforts in its future REO evaluations.)

Commission decision alternatives on CHP and CBED

1. Order Xcel to report on opportunities for CHP, biodiesel and biodigester energy development as part of an expanded 2005-2019 resource plan.
2. Order Xcel to initiate a collaborative effort with the ethanol industry to identify and implement the most viable CHP projects in new and existing plants.
3. Order Xcel to develop a plan for CBED tariff use for wind power projects as part of an expanded resource plan.
4. Direct Xcel, in its next resource plan, to include a description of its efforts to purchase energy from CBED projects, including a list of the projects under contract and the amount of CBED energy purchased, pursuant to Minn. Stat. 216B.1612, subd. 5 (b).

5. Direct Xcel to include a description of its efforts and activities to purchase energy from CBED projects so that the Commission can consider these efforts in evaluating Xcel's good faith effort towards meeting the REO, pursuant to Minn. Stat. 216B.1612, subd. 5 (c).

Green Institute comments filed August 2, 2005 (#121)

Comments by Green Institute focused on Xcel's failure to include a complete strategy for the use of distributed generation resources (DG) for future energy needs. This is especially important given the enormous amount of new generating load (over 3,000 MW, a significant part proposed to be new coal generation) and corresponding transmission infrastructure forecasted by Xcel.

Minn. Stat. 216B.2421, subd. 3.6 states that DG must be considered as an alternative in a Certificate of Need process. Other statutory directives promoting distributed generation include:

- Minn. Stat. 216B.2426, as amended by the 2005 legislative session, which states: The commission shall ensure that opportunities for the installation of distributed generation, as that term is defined in 216B.169, subd. 1 (c), are considered in any proceeding under 216B.2422, 216B.2425, or 216B.243
- Minn. Stat. 216B.1611, which directs the Commission to establish standard interconnection tariffs
- Minn. Stat. 216B.2411, which authorizes utilities to utilize a portion of CIP funds towards clean distributed generation projects

Green Institute asked that the Commission require Xcel to provide a more thorough consideration of the DG resource. Green Institute provided evidence of: (1) the benefits of developing a DG strategy for the state of Minnesota, (2) why generic interconnection tariff standards are necessary but not sufficient for a successful DG strategy, and (3) suggestions for how the Commission could start to integrate DG in the Xcel resource planning process.

Green Institute recommended that:

- the Commission require Xcel to commission a study by DG experts to evaluate what the components of a more comprehensive DG strategy might entail, similar to the Wind Integration Study mandated by the legislature and ordered by the Commission; a technical evaluation of the opportunities, and economics of DG within the Xcel system. Such an effort would include the following tasks:
 - evaluation of large customer sites to determine appropriateness and willingness to consider DG
 - determination of total technical DG potential
 - calculations of grid benefits of DG
 - economic screening to determine the total economic impact of DG, under either utility ownership or customer ownership of DG

- the Green Institute also asked that the Commission order a pilot study on a constrained area of the grid in order to get the best possible indication of whether an expanded DG strategy makes sense (see description on page 4 of Green Institute comments, #121); a qualified contractor, perhaps chosen by the Department and Xcel, should: (1) work with the Department, Xcel and other stakeholders to identify appropriate study objectives and metrics; (2) work with Xcel engineers to identify an appropriate constrained area of the grid; (3) review appropriate DG technologies and identify an appropriate DG approach; (4) identify appropriate methodology for implementing a DG approach (e.g. providing incentives, co-owning facilities, directly installing); and, (5) assess and measure all appropriate costs and benefits, including direct project costs, distribution, transmission, environmental, diversified generation benefit.

Staff discussion (Transmission and DG)

Several parties in this proceeding, in addition to the Green Institute, supported further analysis of distributed generation including its potential to provide additional supply to the system and its potential for alleviating transmission constraints and improving the efficiency of the transmission system.

Staff notes the Commission recently addressed this issue. On May 31, 2006, the Commission issued its *Order Accepting Biennial Transmission Projects Report and Requiring Further Action*, in Docket No. E-999/TL-05-1739. In this Order, the Commission noted that the issue of the potential of the state-wide transmission system to receive power from distributed generation was being addressed in a variety of ways at the present time, as follows: (1) Minnesota Transmission Owners (MTO) released its *White Paper on Distributed Generation*, in February 2005, and (2) MTO is presently undertaking a study in the West Central Planning Zone to determine the potential for CBED development and the impacts such development might have on the transmission system; MTO is committed to undertake a similar study in another planning zone upon completion of the West Central Study. The Commission declined to order a state-wide analysis until the MTO study is concluded (expected in summer 2006) and analyzed.]

Commission decision alternative on distributed generation resources (DG)

1. Require Xcel to commission a study by DG experts to evaluate what the components of a more comprehensive DG strategy might entail. Similar to the Wind Integration Study mandated by the legislature and ordered by the Commission, this would be a technical evaluation of the opportunities, technical potential and economics of DG within the Xcel system. Such an effort would include the following tasks:
 - evaluation of large customer sites to determine appropriateness and willingness to consider DG
 - determination of total technical DG potential
 - calculations of grid benefits of DG
 - economic screening to determine the total economic impact of DG, under either utility ownership or customer ownership of DG

2. Order Xcel to perform a pilot study on a constrained area of the grid in order to get the best possible indication of whether an expanded DG strategy makes sense. Xcel and the Department should select a qualified contractor to: (1) work with the Department, Xcel and other stakeholders to identify appropriate study objectives and metrics, (2) work with Xcel engineers to identify an appropriate constrained area of the grid, (3) review appropriate DG technologies and identify an appropriate DG approach, (4) identify appropriate methodology for implementing a DG approach (e.g. providing incentives, co-owning facilities, directly installing), and (5) assess and measure all appropriate costs and benefits, including direct project costs, distribution, transmission, environmental, diversified generation benefit.

Communities United for Responsible Energy (CURE) comments filed August 2, 2005 (#123)

CURE submitted comments detailing the failure of the Commission to follow policy directions established in statute, and emphasizing the need for fresh approaches to the resource planning process in light of growing consensus over global climate change. Specifically citing Minn. Stat. 216C.051, subd. 7, noting the “shared responsibility” for conservation and DSM, and the minimization of “long-term environmental, social and economic burdens,” CURE emphasized that enforcement of these statutes occurs through the resource planning and Certificate of Need proceedings. Minn. Stat. 216B.2422, subd. 4 calls for the resource plan to show a clear preference for renewable energy facilities based on efficiency as a primary goal, as well as preventing and minimizing waste and byproducts (externalities).

CURE argued that the legislative statement of public policy to assess preferred generation sources suggests a four factor matrix for testing resource strategies and investments in utility planning. CURE proposed a full discussion of Xcel’s plan under this four factor matrix.

CURE thus proposed supplements to Xcel’s resource plan in four areas:

- Xcel should provide the status and details of its gas refurbishment study; this gas fleet refurbishment study is critical and within the planning horizon; it will affect the analysis of alternatives in future proceedings; disclosure of details of this study and input into the study from interested parties is necessary.
- Xcel failed to provide a “phase-out” plan for its nuclear reactors as required by the Commission; referring to the resource plan analysis of replacement power is not the same as a phase out plan; a phase out plan should be done for both Prairie Island and Monticello.
- Xcel should provide a dispersed wind study to address how it will comply with the 2003 legislative mandate; Xcel is planning the addition of 300 MW by 2010; however, Xcel should provide an outline of how it is planning to fill this requirement, including transmission, MISO reservation and interconnection plans; parties should be given the opportunity to comment and participate on the study/plan, and it should be provided as a supplement to the current resource plan.

- Xcel should provide a supplement outlining the opportunity for DG (see CURE's discussion of this proposal in #123).

Commission decision alternatives based on CURE comments

1. Require Xcel to provide its report on the status and details of gas fleet refurbishment as part of a supplemental resource plan filing. Allow interested parties an opportunity to comment on the study.
2. Require Xcel to provide a nuclear phase out plan for nuclear power generation at Prairie Island and Monticello.
3. Require Xcel to provide a plan for dispersed wind development (to meet the 300 MW requirement in statute), including details on transmission, MISO reservation and interconnection.
4. Require Xcel to provide a dispersed wind study to address how it will comply with the legislative mandate for the addition of 300 MW by 2010. The study should include an outline of how Xcel is planning to fill this requirement, along with transmission, MISO reservation and interconnection plans. Allow interested parties an opportunity to comment and participate on the study/plan. Xcel should provide the information as a supplement to the current plan, addressing this issue within the 2005-2019 resource planning horizon.

Gerdau Ameristeel comments filed August 1, 2005 (#129)

Gerdau Ameristeel, Xcel's largest industrial customer, filed comments emphasizing the need to expand bidding to all Xcel generation projects, not just those larger than 2 MW. Gerdau Ameristeel also offered short reactions to a wide range of issues raised in the resource plan. Included were observations on the distance of generation sites such as Excelsior's proposed coal gasification plant from base customers, the need for standardized DSM programs, and objections to legislative mandates for "socially motivated" power generation and other matters. (The Commission should refer directly to Gerdau Ameristeel's comments of August 1, 2005.)

Sierra Club North Star Chapter (Sierra Club) comments filed August 1, 2005 (#118)

The Sierra Club filed comments focusing on a critique of a bias in Xcel's resource plan in favor of new base load resources from coal. Emphasizing coal costs, risks and inefficiencies, the Sierra Club noted health effects and environmental contamination from mercury pollution and particulates, especially in relation to air quality. These effects require costly new technologies to remediate, imposing risks to ratepayers if new regulations that force remediation occur. For these reasons, the Sierra Club advocated that Xcel meet the REO with cleaner, more efficient energy sources, notably wind, and an action plan for the elimination of nuclear waste storage. (The Commission should refer directly to Sierra Club's comments of August 1, 2005.)

North American Water Office (NAWO) comments filed August 1, 2005 (#115a)

NAWO filed comments offering a generally critical appraisal of Xcel's resource plan. It criticized Xcel's continuing reliance on coal and nuclear power in the face of a developing paradigm shift toward community scale energy efficiency and clean energy projects. NAWO advocated a return to the sector-by-sector end-use analysis suggested by the Department in 1988, as well as decoupling utility earnings from energy consumption, and instead tying earnings to efficient use of energy, more similar to the DSM shared savings performance based approach. In sum, NAWO argued that the resource plan process "serves primarily to create and promote an illusion of responsiveness to societal interests while blithely continuing business as usual utility management." NAWO also noted that Xcel failed to respond to its obligations regarding the worker transition plan and the nuclear phase-out plan.

Minnesota Chamber of Commerce comments filed August 1, 2005 (#113)

Minnesota Chamber of Commerce (MN Chamber) indicated that ratepayers expect rates that compare favorably with those of Xcel's competitors across the globe. Thus, it believes it is necessary to adopt a new standard for defining the least cost alternative. The Commission should require the Company to show that its administrative, overhead and contingency costs are competitive with other investor-owned utilities and with other publicly traded companies in other industries. Xcel should compare itself to a multi-industry standard to determine if it is operating its business in a least cost manner. Once expenses have been minimized using this standard, the Company can proceed with its process for selecting the least cost resource alternative. (MN Chamber comments on REO and DSM are discussed elsewhere in these briefing papers.)

Xcel next resource plan filing date

The Commission will need to decide when Xcel should file its next resource plan. Given the timing and the size of Xcel's future baseload needs, the Commission may wish to require Xcel to file its next plan mid-year 2007, or earlier. However, the Commission may want to seek input on this from Xcel and other parties.

1. Require Xcel to file its next resource plan on November 1, 2006, two years from the date of its last plan filing.
2. Vary Minnesota Rules and require Xcel to file its next resource plan by:
 - a. January 1, 2007
 - b. July 1, 2007
 - c. November 1, 2007