

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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Chair
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In the Matter of the Missouri River Energy
Services 2006 - 2020 Resource Plan

ISSUE DATE: November 16, 2006

DOCKET NO. ET-10/RP-05-1102

ORDER ACCEPTING RESOURCE PLAN,
FINDING COMPLIANCE WITH
RENEWABLE ENERGY OBJECTIVES,
AND SETTING FILING REQUIREMENTS

PROCEDURAL HISTORY

On July 1, 2005, Missouri River Energy Services (MRES or the Agency) filed its 2005 integrated resource plan.

On August 16, 2005, the Department of Commerce (the Department) filed comments, indicating that it found the resource plan incomplete, in that it lacked information required under Minn. Rules 7610.0100 to 7610.0600.

On August 24, 2005, MRES filed a letter explaining why its plan filing included all the information required. On August 25, 2005, the Department filed a letter indicating that it had changed its recommendation to a finding of completeness.

On September 15, 2005, MRES filed an update to the resource plan.

On May 9, 2006, MRES filed a supplement to the resource plan. On September 8, 2006, MRES filed a final addendum to the plan.

On October 26, 2006, the Commission met to consider the matter.

FINDINGS AND CONCLUSIONS

MRES's Renewable Energy Objectives Filing

I. Introduction

In 2001, the Minnesota Legislature passed Minn. Stat. § 216B.1691, setting renewable energy objectives (REO) for Minnesota's investor-owned utilities, generation and transmission cooperatives, and municipal power agencies. The statute requires these utilities, cooperatives and power agencies ("utilities") to make good faith efforts to generate or otherwise secure enough electricity from qualifying renewable energy technologies to represent ten percent of total retail electric sales by the year 2015.

In 2003, the Legislature amended the statute to require the Commission to supervise and facilitate these good faith efforts. Each electric utility is required to demonstrate in its resource plan filings under Minn. State. § 216B.2422 or in a separate report that it is making the required good faith effort to meet the REO.¹

II. The Department's Comments

The Department made comments on MRES's compliance with its REO statutory obligations on December 1, 2005. The Department examined MRES's good faith efforts in meeting both its renewable objective and its biomass objective under five different allocation approaches: full, system, or vintage based (allocation method) and variable or fixed (allocation factor).

The Department noted that MRES is expected to have a temporary REO deficit in 2006 and from 2016 - 2020. For the biomass objective, the Department indicated that MRES did not have any biomass generation and did not have any plans for biomass generation. The Department thus concluded that MRES had not demonstrated sufficient plans regarding the biomass objective.

MRES's supplement to the resource plan, filed May 9, 2006, contained updated information regarding its plans to meet the REO and biomass objectives. The Department noted that MRES has plans to meet the ten percent renewable energy objectives requirement by 2015. After review, the Department concluded that MRES is in compliance with the non-biomass portions of the renewable energy objectives statute in 2005, and that MRES made a good faith effort to comply with the non-biomass renewable energy objectives in 2006.

To address the biomass objective, MRES agreed to purchase biomass generated energy and/or green credits (generated from biomass) in the short term. The Department therefore concluded that MRES had made a good faith effort to comply with the biomass objective in the short term, but would need to take additional action to comply in the long term.

¹ Minn. Stat. § 216.1691, subd. 3.

III. Commission Action

The Commission finds that MRES is in compliance with the non-biomass portions of the renewable energy objectives in 2005, and MRES made a good faith effort to comply with the non-biomass objective in 2006.

Compliance with the renewable energy objectives statute is an ongoing process, not an event, but at present MRES appears to be substantially on track to meet the statutory requirement that by 2015 it generate ten percent of retail sales with eligible renewable technologies.

Given MRES's agreement to purchase biomass generated energy and/or green credits, the Commission also finds that, in 2005 and 2006, MRES made a good faith effort to comply with the biomass objective portion of the REO statute, although it was not able to meet the biomass objective.

The renewable energy objectives statute is a long-term policy initiative and necessitates long-term reporting and monitoring. The Commission will continue to monitor MRES's compliance through periodic updates and future resource plan filings. To that end, the Commission will require a report and update on or before March 1, 2007.

MRES's Resource Plan

I. Introduction and Factual Background

A. The Resource Planning Statute

The resource planning statute and rules are detailed, but they basically require utilities to file biennial reports on (1) the projected energy needs of their service areas over the next 15 years; (2) their plans for meeting projected need; (3) the analytical process they used to develop their plans for meeting projected need; and (4) their reasons for adopting the specific resource mix proposed to meet projected need. Minn. Stat. § 216B.2422 and Minn. Rules Chapter 7843.

These requirements are designed to strengthen utilities' long term planning processes by providing input from the public, other regulatory agencies, and the Commission. They are also designed to ensure that utilities give adequate consideration to factors whose public policy importance has grown in recent years, such as the environmental and socioeconomic impact of different resource mixes. For example, the statute requires utilities to develop plans for meeting 50 percent and 75 percent of new and refurbished capacity needs with conservation and renewable energy; it also requires them to factor into resource decisions the environmental costs of different generation technologies.

Under Minn. Stat. § 216B.2422, subd. 2, the Commission's decision in resource plan dockets of municipal power agencies such as MRES is advisory only. That is, the Commission cannot direct MRES in resource plan proceedings to select or avoid any specific resource options.

MRES's statutory obligations are limited to meeting filing and reporting requirements and giving careful consideration to the guidance offered in the Commission's advisory order. This is the fourth resource plan MRES has submitted to the Commission.

B. Factual Background

MRES is a not-for-profit member-based joint action agency, headquartered in Sioux Falls, South Dakota. The agency has 60 member municipalities in the states of Minnesota, Iowa, North Dakota and South Dakota. MRES serves 23 communities in Minnesota.

Of its 60 members (59 of which are municipal utilities), 57 are "S-1" customers, who receive hydroelectric preference power from the Western Area Power Administration (WAPA). These members purchase power from MRES to meet their needs over and above their WAPA allocations. In February 2006, all 57 S-1 members took action to extend the S-1 agreements from 2030 to 2046.

On March 9, 2006, the City of Hutchinson, Minnesota, became a member of MRES. Hutchinson Utilities Commission (HUC) and MRES are parties to a long-term (35 years) power sale agreement. HUC is not an S-1 member.

MRES has no retail loads and all of its firm sales are made to municipal or other wholesale utilities. MRES member cities also buy power from WAPA under separate contracts. The power supply cost varies for each city, depending on the relative amounts of MRES and WAPA power it purchases, its monthly load factors, and the amount of load growth it experiences.

MRES obtains most of its power from Western Minnesota Municipal Power Agency (Western Minnesota), which is wholly funded by MRES and shares its staff. MRES also obtains peaking capacity through several contracts with member utilities.

C. MRES's Resource Plan

After receipt of comments from the Department regarding the method MRES utilized to address capacity expansion needs, and recommending that MRES perform capacity expansion modeling, MRES undertook such modeling.

MRES used Strategist capacity expansion computer software to develop its resource plan. This methodology allowed fossil-fueled resources to compete with renewable energy resources, conservation and energy efficiency in developing the resource plan that minimizes costs. Various amounts of different resources were studied, including: coal, integrated gasification combined cycle (IGCC), natural gas combustion turbines (CT) and wind resources. Demand side management (DSM) was also studied.

The primary conclusions of MRES's capacity expansion modeling, based on its May 8, 2006 supplement, included:

- MRES will install a third combustion turbine unit at Exira Station to add 40 MW of peaking capacity.

- MRES will obtain ownership in 110 MW of the Big Stone II project, a new coal-fired plant in South Dakota.² MRES will also obtain 40 MW of Big Stone II to satisfy the Hutchinson power sale agreement.³
- MRES will expand renewable resources to meet the ten percent Minnesota renewable energy objective goal by 2015, by constructing and/or purchasing energy generated by wind, biomass and/or other eligible technologies.
- MRES will implement additional DSM programs and integrate DSM into its resource planning practices.
- MRES will continue to implement its strategic goals, including the ownership, operation and maintenance of current resources.

II. Comments of the Parties and Commentors

A. The Department's Recommendations

In its November 8, 2005, comments, the Department reported that the MRES plan was useful for planning purposes, but contained insufficient information for the Department to recommend acceptance.⁴

On May 8, 2006, MRES submitted a supplement to its plan in response to the Department's comments. The supplement provided:

- the results of additional capacity expansion modeling;
- the results of an analysis of its DSM potential;
- an update of MRES's efforts to meet the REO objective; and
- an explanation of the needs of Hutchinson, Minnesota for base load power supply.

² MRES is one of seven electric utilities that are partners in the Big Stone II coal-fired plant in South Dakota. On July 20, 2006, the Commission was advised by Otter Tail Power Company, another partner utility in the Big Stone II plant, that the price of building the coal-burning Big Stone II plant could reach \$1.8 billion, up from \$1.2 billion, because of higher costs for labor, steel, pollution control equipment and other factors.

³ Based on a separate capacity expansion model completed for HUC, which showed that it will continue to experience growth in the City of Hutchinson, MRES concluded that Big Stone II would be the least cost, optimal resource for meeting HUC's needs, along with DSM. MRES therefore determined it prudent for HUC to obtain 40 MW of Big Stone II through the Hutchinson power sale agreement.

⁴ The Department also recommended that the Commission advise MRES that its resource plan was inadequate for certificate of need proceedings.

On July 20, 2006, the Department filed updated and modified comments. The Department concluded that MRES had used appropriate means to estimate its existing and future DSM resources and had begun to utilize internal structures that will enable MRES to better coordinate the activities of its individual members to achieve DSM goals.

The Department recommended that MRES take the following steps in its next resource plan:

As part of the modeling used to select resources:

- MRES should include the costs of upgrading existing units to keep them operational;
- MRES should include as the generic unit one unit of each type of resource – base load, intermediate, peaking and wind – to fill resource needs; and
- MRES should rectify the problem created by the linear trend variable in its forecast.

In addressing environmental cost and risk issues, the Department recommended that:

- MRES should include a review of the current price and price trends of allowances and/or credits for SO₂, NO_x, and CO₂;
- MRES should continue to monitor the development of environmental regulations expected to impact electric utility operations and provide an update on the status of these issues; and

The Department recommended that the Commission accept MRES's resource plan.

B. The Joint Commentors

On December 1, 2005, Izaak Walton League of America - Midwest Office, Minnesotans for an Energy Efficient Economy, Union of Concerned Scientists, and Minnesota Center for Environmental Advocacy (Joint Commentors) filed a response to the resource plan submitted by MRES.⁵ Joint Commentors' primary concern with MRES's filing is the Agency's pursuit of and apparent reliance on the Big Stone II unit in South Dakota.

The Joint Commentors argued that MRES has:

1. Failed to properly consider the environmental, socioeconomic, and regulatory costs associated with a new coal-fired plant;
2. Overestimated costs associated with competing options, including renewables;
3. Increased the financial risk to ratepayers by locking itself into a capital-intensive and disfavored technology;
4. Reduced its ability to utilize cleaner technologies;

⁵ Joint Commentors' response to MRES's resource plan was combined with its response to another utility, Great River Energy.

5. Failed to consider Demand Side Management in its modeling; and
6. Failed to consider future CO₂ costs in the proposed resource plan.

The Joint Commentors argued that, although the Commission's order in response to this plan will be advisory, MRES will argue in the pending transmission certificate of need proceeding for Big Stone II, that the Commission's findings and conclusions herein will constitute prima facie evidence.⁶ The Joint Commentors therefore urged the Commission to find:

- The MRES resource plan does not establish that Big Stone II (or any other resource) is needed or more cost effective than energy conservation and load management because MRES does not directly compare the cost of Big Stone II with demand side options.
- MRES's resource plan does not establish that Big Stone II (or any other resource) is less expensive, including environmental costs, than renewable options.
- Big Stone II (or any other resource) cannot be shown to be less expensive than DSM or renewable alternatives absent a full cost comparison which analyzes, among other things, the cost of reasonably anticipated carbon regulatory costs over the life of the plant.

On July 20, the Joint Commentors filed a letter requesting that no further Commission action be taken on the MRES resource plan until MRES provided updated models of all resource options based on the updated cost of the Big Stone II project, and the completion of the Big Stone II certificate of need proceedings.

On September 28, 2006, the Joint Commentors filed comments urging the Commission to reject portions of MRES's resource plan related to Big Stone II, arguing that modeling flaws steered Strategist to Big Stone II and away from the statutorily preferred efficiency and wind options.

C. Excelsior Energy Inc.

Excelsior Energy⁷ criticized MRES's analysis of integrated gasification combined cycle (IGCC) technology as a generation option, arguing that MRES's analysis is incomplete and contains inaccuracies. Excelsior also argued that MRES disregarded significant environmental and health benefits from use of IGCC.

⁶ See Minn. Stat. 216B.2422, subd. 2:

In the resource plan proceedings of all other utilities, the commission's order shall be advisory and the order's findings and conclusions shall constitute prima facie evidence which may be rebutted by substantial evidence in all other proceedings.

⁷ Excelsior Energy is the developer of the Mesaba Energy Project, an IGCC power plant being proposed for northern Minnesota. Excelsior reported that the Mesaba project will be in service by 2011, which would enable it to supply MRES's base load energy needs.

D. Minnesota Chamber of Commerce

The Minnesota Chamber of Commerce filed comments congratulating MRES on its resource plan. The Chamber noted that the plan, however, provided no information on the impacts on retail customer rates.

E. Reply Comments

On September 8, 2006, MRES filed an addendum to its resource plan, providing the results of additional capacity expansion modeling related to the reported cost changes in the Big Stone II plant. As with the supplement filed in May, in the addendum MRES utilized Strategist capacity expansion software to re-analyze the base case and preferred alternative.

The analysis included the same types of resources used in the resource planning process,⁸ and used updated information on the costs for each of the resources. Capacity expansion analysis was performed for each scenario, assuming both a 2011 and 2012 commercial operation date for the Big Stone II project.

The new analysis concluded that the increases in capital costs for the Big Stone II project, as well as generation resources in general, had no material effect on the resource selection results for MRES. The new analysis continues to demonstrate that despite the increased cost, it remains prudent for MRES to participate in the proposed Big Stone II project to meet anticipated need.

On September 28, 2006, the Department filed comments responding to the addendum, recommending that the Commission accept MRES's resource plan as supplemented, with the addendum.

III. Commission Action

A. The Resource Plan is Accepted

The Commission accepts the MRES resource plan as being in compliance with all applicable filing requirements, as reflecting careful and comprehensive analysis, and as representing one reasonable approach to meeting MRES's resource needs over the 15-year planning period. The Commission does not, however, approve or adopt the substance of the plan nor does it make any finding on the merits of the resource choices it proposes.

One of those resource choices – partial ownership of and long-term reliance on a proposed coal-fired plant in South Dakota, the Big Stone II plant – is both controversial *and* the subject of a

⁸ MRES included one additional resource – unaccredited wind.

certificate-of-need application currently pending before this Commission.⁹ Since under Minn. Stat. § 216B.2422, subd. 2, findings and conclusions in this case constitute prima facie evidence in other proceedings – presumably including the pending certificate of need proceeding – the Commission clarifies that its acceptance of the MRES resource plan includes no finding on the relative merits of the Big Stone II plant and does not shift the burden of proof in the pending certificate of need proceeding.

The certificate of need case has been referred to the Office of Administrative Hearings for full evidentiary development and will provide a much better vehicle for examining the issues surrounding the Big Stone project and associated transmission facilities than this case, in which the Commission’s role is purely advisory.¹⁰

B. Analytical Process Changes and Items to be Included in MRES’s Next Resource Plan

The Commission finds that in all future resource plans MRES should, as part of the modeling used to select resources:

- Include the costs of upgrading existing units to keep them operational;
- Include as the generic unit one unit of each type of resource – base load, intermediate, peaking and wind – to fill resource needs;
- Rectify the problem created by the linear trend variable in its forecast.

The Commission finds that in all future resource plans MRES should, in addressing environmental cost and risk issues:

- Include a review of the current price and price trends of allowances and/or credits for SO₂, NO_x, and CO₂;
- Continue to monitor the development of environmental regulations expected to impact electric utility operations and provide an update on the status of these issues; and
- Work with the Joint Commentors and the Department to develop a more comprehensive CO₂ risk analysis strategy to be applied in its next resource plan.

⁹ *In the Matter the Application of Otter Tail Power Company and Others for Certification of Transmission Facilities in Western Minnesota*, Docket No. ET-6131, ET-2, ET-6130, ET-10, ET-6444, E-017, ET-9/CN-05-619. In that case the applicants do not seek a certificate of need for the plant itself, which is located out of state, but for associated high-voltage transmission lines, which would be located within the state.

¹⁰ *In the Matter the Application of Otter Tail Power Company and Others for Certification of Transmission Facilities in Western Minnesota*, Docket No. ET-6131, ET-2, ET-6130, ET-10, ET-6444, E-017, ET-9/CN-05-619, Notice and Order for Hearing (December 19, 2005).

C. Additional Concerns

The Commission has recently had occasion to consider certain factors critical to Minnesota state energy policy, in its recently issued order approving the resource plan of Xcel Energy, docket No. E-002/RP-04-1752. In that order, the Commission highlighted:

1. the need for increased reliance on wind generation;
2. the costs of implementing mitigation strategies and control technologies for various emissions; and
3. the further study and effort needed to develop the potential of distributed generation.

The Commission placed new responsibilities on Xcel to conduct investigation into these technologies, in an effort to secure an accurate picture of current realities and future possibilities.

The Commission recognized, however, that not only Xcel, but other Minnesota utilities would need to be involved in the research and development of alternative technologies in their resource plan filings. The Commission will therefore require MRES to cooperate with other utilities, including Xcel, to develop information and be prepared to participate in a Commission-sponsored technical issues workshop on the following topics:

1. Wind energy storage research and development;
2. The cost of implementing various mitigation strategies and control technologies for the costs of NO_x, SO₂, and CO₂, including cost estimates, the technology needed to capture and ship CO₂ from an integrated gasification combined cycle plant to another appropriate location, and the cost of the various regulatory strategies under consideration for reduction of those emissions;
3. With respect to distributed generation of heat and power, what the components of a more comprehensive distributed generation strategy might entail: a technical evaluation of the opportunities, technical potential and economics of distributed generation within the MRES system, including:
 - evaluation of large customer sites to determine appropriateness and willingness to consider distributed generation, including possible combined heat and power initiatives with the ethanol industry and other industries;
 - determination of total technical distributed generation potential;
 - calculations of grid benefits of distributed generation; and
 - economic screening to determine the total economic impact of distributed generation, under either utility ownership or customer ownership of distributed generation.

D. Filing Date for MRES's Next Resource Plan

The resource planning statute does not specify how often resource plans should be filed, leaving that to Commission discretion. The Commission's rules specify biennial filings,¹¹ but as resource plans have become more complex, the Commission has sometimes varied the biennial filing requirement. It is sometimes possible to defer these filings with no harm to the public interest and significant cost savings for utilities, other stakeholders, and regulatory agencies.

Here, MRES's next resource plan filing would be due July 1, 2007, using the two-year interval set forth in the rules. The Commission will extend that filing date to May 1, 2009, to give the Company adequate time to react to the outcome of the Big Stone II project certificate of need docket, should significant resource plan changes be necessary.

The Commission finds that this extension will adequately protect the public interest, while conserving the resources of all concerned and facilitating a more useful filing. The Commission will therefore vary the two-year filing requirements as permitted under Minn. Rules, part 7829.3200, making the following findings:

1. Enforcing the two-year filing requirement would impose an excessive burden on the Agency, the Department, other stakeholders, and the Commission, by requiring a time-consuming and less informative filing than one submitted at a later date.
2. Extending the filing deadline will not adversely affect the public interest.
3. Extending the filing deadline does not conflict with any standards imposed by law.

MRES's next resource plan will therefore be due on or before May 1, 2009.

ORDER

1. The Commission hereby accepts MRES's resource plan, as updated and supplemented, including its September 8, 2006 addendum.
2. The Commission finds that the plan meets the requirements of all applicable statutes and rules.
3. By accepting this resource plan, the Commission makes no finding on the relative merits of the Big Stone II plant and does not shift the burden of proof in the pending certificate of need proceeding.

¹¹ Minn. Rules, part 7843, subp. 2.

4. The Commission finds that in all future resource plans MRES should, as part of the modeling used to select resources:
 - a. Include the costs of upgrading existing units to keep them operational;
 - b. Include as the generic unit one unit of each type of resource – base load, intermediate, peaking and wind – to fill resource needs;
 - c. Rectify the problem created by the linear trend variable in its forecast.

5. The Commission finds that in all future resource plans MRES should, in addressing environmental cost and risk issues:
 - a. Include a review of the current price and price trends of allowances and/or credits for SO₂, NO_x, and CO₂;
 - b. Continue to monitor the development of environmental regulations expected to impact electric utility operations and provide an update on the status of these issues;
 - c. Work with the Joint Commentors and the Department to develop a more comprehensive CO₂ risk analysis strategy to be applied in its next resource plan.

6. The Commission finds MRES in compliance with the non-biomass portions of the renewable energy objectives (REO) statute in 2005, and that MRES made a good faith effort to comply with the non-biomass REO in 2006.

7. On or before March 1, 2007, MRES shall file a report and update the Commission on actions and steps taken to come into compliance with the REO.

8. The Commission finds that, in 2005 and 2006, MRES made a good faith effort to comply with the Biomass Objective portion of the REO statute, although it was not able to meet the Biomass Objective.

9. On or before March 1, 2007, MRES shall file a report to update the Commission on actions and steps taken to come into compliance with the Biomass Objective.

10. MRES shall seek to cooperate with other utilities, including Xcel, to develop information and be prepared to participate in any Commission-sponsored technical issues workshops on the following subjects:
 - a. Wind energy storage research and development;
 - b. the cost of implementing various mitigation strategies and control technologies for the costs of NO_x, SO₂, and CO₂, including cost estimates, the technology needed to capture and ship CO₂ from an integrated gasification combined cycle plant to another appropriate location, and the cost of the various regulatory strategies under consideration for reduction of those emissions;

c. With respect to distributed generation of heat and power, what the components of a more comprehensive distributed generation strategy might entail: a technical evaluation of the opportunities, technical potential and economics of distributed generation with the MRES system, including:

- evaluation of large customer sites to determine appropriateness and willingness to consider distributed generation including possible combined heat and power initiatives with the ethanol industry and other industries;
- determination of total technical distributed generation potential;
- calculation of grid benefits of distributed generation; and
- economic screening to determine the total economic impact of distributed generation , under either utility ownership or customer ownership of distributed generation.

11. MRES shall file its next resource plan filing on or before May 1, 2009.

12. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

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