BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

LeRoy Koppendrayer	Chair
Marshall Johnson	Commissioner
Ken Nickolai	Commissioner
Thomas Pugh	Commissioner
Phyllis A. Reha	Commissioner

In the Matter of Great River Energy's 2005 Integrated Resource Plan

ISSUE DATE: August 4, 2006

DOCKET NO. ET-2/RP-05-1100

ORDER NEITHER ACCEPTING NOR REJECTING FILING FOR RESOURCE PLANNING PURPOSES, FINDING COMPLIANCE WITH RENEWABLE ENERGY OBJECTIVES STATUTE, AND SETTING FILING REQUIREMENTS

PROCEDURAL HISTORY

On June 30, 2005, Great River Energy (GRE or the Cooperative) filed its 2005 integrated resource plan.

On August 16, 2005, the Department of Commerce (the Department) submitted a letter indicating that it found GRE's filing to be complete. On November 8, 2005, the Department submitted comments on the proposed resource plan. On December 8, 2005, the Department filed comments on GRE's compliance with Minn. Stat.§ 216B.1691, renewable energy objectives.

The following organizations filed comments on the Company's filings (Joint Intervenors):

- Izaak Walton League of America - Midwest Office
- Minnesotans for an Energy-Efficient Economy
- Union of Concerned Scientists
- Minnesota Center for Environmental Advocacy
- Excelsior Energy Inc.

On March 23, 2006, the Department submitted supplemental comments regarding GRE's ability to properly model its resource options.

On April 6, 2006, GRE filed a response to the Department's March 23 comments.

On July 20, 2006, the Commission heard oral argument on GRE's filing. Having reviewed the entire record herein and having heard the arguments of the parties, the Commission makes the following findings, conclusions, and order.

FINDINGS AND CONCLUSIONS

The Company'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 10 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. Among other things, the 2003 amendments required the Commission to issue orders implementing the statute and detailing what utilities must do to demonstrate compliance. The Commission has so far issued four general orders under the statute.[1]

II. The Department's Recommendations

The Department made comments on GRE's compliance with its REO statutory obligations on December 8, 2005. The Department concluded that GRE currently is in compliance with Minn. Stat. § 216B.1691, but also concluded that it will need greater amounts of additional renewable generation by the end of the planning period than is built into the current resource plan.

The Department examined GRE's good faith efforts toward meeting the REO under three alternative allocation criteria:

- full allocation, in which generation from all eligible renewable resources is fully allocated to the REO;
- system allocation, in which all generation is assigned using an allocation factor determined by Minnesota energy sales as a percentage of total system sales; and
- vintage-based allocation, which presumes that all generation resources are system resources, but also allows for some renewable resources to be fully allocated because they are developed specifically to assist the utility in meeting its REO.

The Department also considered the effects of using a fixed or variable allocation factor over the planning period and the impact of using various capacity factors for GRE's existing and planned wind generation facilities. The Department noted that it was unable to assess whether GRE's current proposed plan for meeting the REO is the least-cost plan.

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[1] *See* Commission orders of June 1, 2004, August 13, 2004, and October 19, 2004 in docket E-999/CI-03-869, *In the Matter of Detailing Criteria and Standards for Measuring an Electric Utility's Good Faith Efforts in Meeting the Renewable Energy Objectives Under Minn. Stat.§ 216B.1691*, and Commission order of February 21, 2006 in docket E-999/CI-04-1616, *In the Matter of a Commission Investigation Into a Multistate Tracking and Trading System for Renewable Energy Credits*.

The Department asserted that GRE meets the biomass objective for the entire planning period, without regard to the allocation scheme. GRE does not have any plans for additional biomass facilities during this period.

Finally, the Department indicated that vintage-based allocation is a reasonable methodology for evaluating GRE's good faith efforts toward meeting the REO. The Department recommended that for future resource plan filings GRE include annual generation from existing and planned wind facilities and the reasons for significant changes in output.

III. Commission Action

A. Current Compliance

Compliance with the renewable energy objectives statute is an ongoing process, not an event, but at present - and at least through 2006 - GRE is in full compliance. The Company appears to be on track to meet the statutory requirement that by 2015 it generate 10 percent of retail sales with eligible renewable technologies, including specified percentages of biomass technologies.

This finding, of course, does not imply any finding that particular generation projects are countable under the statute; it is a general finding that the plan filed by the Company demonstrates compliance, subject to confirmation of individual project eligibility through normal regulatory processes.

B. Vintage Allocation, Fixed Allocation Factor Adopted

GRE, like many utilities subject to the renewable energy objectives statute, operates in more than one state,[2] raising the issue of how to allocate the Company's renewable generation between states. However, since only one of GRE's member cooperatives has customers in Wisconsin, selection of an allocation factor is a very minor issue for the Cooperative's REO compliance.

The Department has long supported the vintage allocation method. Under that method, generation from renewable facilities that were operating prior to the statute's 2001 enactment are considered system resources and allocated to all jurisdictions based on jurisdictional sales. Renewable generating facilities that began operating after the statute was enacted, however, can be allocated to Minnesota alone, if the utility demonstrates that they were developed to comply with the Minnesota statute and that they are not being counted toward any other jurisdiction's renewable energy requirements.

A related issue, in allocating system resources between jurisdictions based on jurisdictional sales, is whether to use a fixed allocator, based on average sales, or a variable allocator, tracking actual sales. The Department recommended a fixed allocator, for purposes of certainty and efficiency.

The Company's filing appeared to use the full allocation method without explicit discussion. At oral argument the Company stated that it had no objection to using the vintage method with a fixed allocator on a going-forward basis. The Commission concurs with the Department that these are reasonable, practical, and equitable allocation tools and will direct the Company to use them in

[2] One of GRE's 28 cooperatives has customers located in Wisconsin. However, nearly all GRE's customers are in Minnesota.

future filings.

C. Future Filings

The renewable energy objectives statute is a long-term policy initiative and necessitates long-term reporting and monitoring. The Commission will continue to monitor GRE's compliance through periodic updates, future resource plan filings, and, when intervals between resource plans exceed two years, future stand-alone biennial filings under the renewable energy objectives statute.

To that end, the Commission will require a report and update by October 1 of this year, demonstrating continuing compliance with the renewable energy objectives statute and providing any information requested by the Department for purposes of preparing its January 2007 report to the Minnesota Legislature on utility compliance with the statute.

Great River Energy'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 cooperatives is advisory only. That is, the Commission cannot direct GRE in resource plan proceedings to select or avoid any specific resource options.

The Cooperative'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.

B. Factual Background

GRE is a generation and transmission cooperative formed in 1999 by the merger of United Power Association (UPA) and Cooperative Power Association (CPA). GRE is owned by the 28 member distribution cooperatives that own the merged companies. GRE's distribution cooperatives serve about 600,000 end-use consumers in Minnesota and Wisconsin. GRE has a summer peaking system with a 2004 summer peak of 2,312 MW. GRE presently controls approximately 2,500 MW of electric generation capacity.

GRE's planning process first included the development of the demand and energy forecasts – GRE utilized a "high" demand scenario that assumes normal weather with more optimistic economic assumptions. It then compared its demand, plus a reserve margin, to its existing resources.

GRE then evaluated its supply-side and demand-side options, in an effort to cover future deficiencies. From that, it prepared and analyzed thirteen alternative resource plans.[3] GRE conducted scenario analysis to examine compliance with the renewable energy objectives (REO), the impact of environmental externalities, and the plans to meet 50 and 75 percent of future capacity needs with demand-side management (DSM) and/or renewables, as required under Minn. Stat. § 216B.2422, subd.4.

Finally, GRE selected its preferred resources to cover projected deficiencies over the next five years and developed its short-range plan.

II. Comments of the Parties and Intervenors

A. The Department's Recommendations

In its November 8, 2005, comments, the Department noted that GRE's resource plan as filed was useful for planning purposes, but that it contained insufficient information for the Department to recommend acceptance.[4] The Department criticized the Cooperative's inclusion of the Big Stone II plant in all of the 13 scenarios considered.

The Department recommended that the Commission take several actions for GRE's next integrated resource plan and all certificate of need proceedings.

The Department recommended that GRE:

1. Include the following action steps in its forecasting and analytical practice:

    a. forecast system level energy and demand requirements using an econometric model;
    b. reconcile the data to explain what appears to be negative line losses;
    c. incorporate a weather variable into the econometric model;
    d. file an annual forecast with the Department;
    e. update its forecast data annually; and
    f. use monthly data in its forecast.

2. Use a capacity-expansion model to determine the least-cost expansion plan;

3. Include wind as a generic resource that the capacity expansion model can choose, and the wind input assumptions should include a capacity value;

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[3] GRE simply assumed that its purchase of 109 MW of the Big Stone II power plant was authorized as a supply-side addition. The Cooperative did not prepare any scenarios that excluded this resource addition.

[4] The Department also recommended that the Commission advise GRE that its resource plan was not a sufficient basis for receiving approval of facilities in upcoming certificate of need proceedings.

4. Refrain from including any resources not already procured, such as 109 MW from the Big Stone II power plant, in all of the resource planning scenarios; and

5. Include in its future assessments of DSM resources an analysis of the cost-effectiveness of additional amounts of DSM.

Finally, the Department made the following recommendations for GRE's next integrated resource plan filing:

- GRE should include a review of the current price and price trends of allowances and/or credits for SO_2, NO_x, and CO_2, as well as a comparison of the cost of implementing control technologies for these emissions; and
- GRE should monitor the development of future pending and potential environmental regulations that might affect electric utility operations and provide an update on the status of these issues.

On March 23, 2006, the Department made additional comments and recommendations on GRE's proposed resource plan. The Department stated that improper modeling of resource options in the resource planning process would not produce the least-cost results desired and expected from the process, and would result in the failure to meet statutory requirements for the certificate of need process.

B. The Joint Intervenors' Comments

The Joint Intervenors recommended that the Commission find that GRE's filing was so flawed that is it not useful in the resource planning process. The Joint Intervenors concurred with the Department that GRE had not supported its resource plan with valid analyses.

The Joint Intervenors' primary concern with GRE's filing is the Cooperative's pursuit of and apparent reliance on a new coal-fired plant, the Big Stone II unit in South Dakota.[5] The Joint Intervenors argued that GRE has subverted the primary goal of the resource planning requirements by including the Big Stone II unit in all its modeling runs, and has not made the cost comparisons required by Minnesota law between renewable and non-renewable options, before such a non-renewable option may be built. The Joint Intervenors further argued that GRE 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;

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[5] At the Commission meeting on July 20, 2006, the Commission heard oral argument regarding the 2006 - 2020 resource plan for Otter Tail Power Company (Otter Tail), as well as the resource plan for GRE. Otter Tail and GRE are two of seven electric utilities that are partners in the Big Stone II coal-fired plant in South Dakota. Otter Tail officials told the Commission 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.

4. Reduced its ability to utilize cleaner technologies;

5. Failed to consider Demand Side Management in its modeling; and

6. Failed to consider future CO_2 costs in the proposed resource plan.

C. Excelsior Energy's Comments

Excelsior Energy[6] criticized GRE's failure to consider integrated gasification combined cycle (IGCC) technology as a generation option. Excelsior stated that the Commission should ensure that a proposal from an innovative energy project is considered once GRE seeks the Commission's approval of a particular fossil-fuel facility.

D. Reply Comments of Great River Energy

GRE responded to some of the Department and Joint Intervenors' comments and recommendations on February 21, 2006. GRE contended that the resource plan and certificate of need proceedings have different purposes and that the level of detail required in a certificate of need should not be required to obtain Commission acceptance of a resource plan.

GRE defended its ownership interest in the Big Stone II project, stating that it previously identified the need for base-load resources in the 2010 to 2013 time frame, and that its share in the Big Stone II unit (116 MW) amounts to only a small portion of its future needs. It further claimed that the resource planning process should not be a rigorous analysis of a particular resource, such as Big Stone II, but, instead, a consideration of generic resource types.

GRE also provided an update of its recent actions with respect to the resource plan. GRE committed to adopt the following actions recommended by the Department and/or the Joint Intervenors:

1. To include a capacity expansion model as part of its modeling process;

2. To analyze whether wind generation in excess of that required by the REO might be a cost-effective alternative; and

3. To attempt to improve its analytical process for DSM and for its 50 percent and 75 percent conservation/renewable scenarios (e.g., by separating existing DSM from new DSM).

III. Commission Action

A. The Filing is Useful for Resource Planning

Based upon the existing record, the Commission cannot accept or reject GRE's proposed resource plan. The resource plan falls short of full acceptability because of missing information and analytical deficiencies pointed out by the Department and the Joint Intervenors.

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[6] Excelsior Energy is the developer of the Mesaba Energy Project, an IGCC power plant being proposed for northern Minnesota.

However, the Commission does find the filing useful for resource planning purposes. The Commission finds that the proposed resource plan would maintain reliability over at least the next several years in GRE's system. The Commission does not, by its decision in this matter, make any finding with respect to the acceptability or need for future energy facilities.

B. Analytical Process Changes and Items to be Included in GRE's Next Resource Plan

As indicated above, GRE has agreed to certain of the Department and/or Joint Intervenors' recommendations regarding analyses and information to be included in its next resource plan. The Commission commends these commitments, and endorses GRE's efforts to improve the analytical capability to be employed in this process.

It is clear that there is not a single forecasting methodology appropriate for use by all utilities in this state, which differ markedly in size, customer makeup and analytical resources. The Commission is also cognizant of the requirements of the federal Rural Utilities Service, which GRE must adhere to in assisting its member cooperatives in preparing energy and peak demand forecasts. The Commission therefore urges GRE and the Department to continue to discuss further improvements to the forecasting methodology to be employed by GRE in its next resource plan.

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 GRE 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, SO_2, and CO_2, including cost estimates, the technology needed to capture and ship CO_2 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, 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 GRE system, including:

- S 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.
- S determination of total technical distributed generation potential;
- S calculations of grid benefits of distributed generation; and
- S 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 GRE'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,[7] 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, GRE'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 November 1, 2007, to give the Company adequate time to react to the outcome of the western Minnesota transmission certificate of need docket, should significant resource plan changes be necessary.

The Commission finds that this four-month 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 Cooperative, 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.

GRE's next resource plan will therefore be due on or before November 1, 2007.

ORDER

Renewable Energy Objectives

1. The Commission hereby finds GRE in compliance with the renewable energy objectives (REO) statute in 2005 and 2006; the Commission will continue to monitor future compliance through compliance filings, updates and future resource filings.

[7] Minn. Rules, part 7843, subp. 2.

2. GRE shall apply the Vintage Allocation method and the Fixed Allocation Factor, both discussed above, in gauging its compliance with the renewable energy objectives statute.

3. On or before October 1, 2006, GRE shall file a report and update showing its compliance with the renewable energy objectives statute. This report shall include any information sought by the Department of Commerce for its January 2007 report to the Minnesota Legislature.

Integrated Resource Plan

4. The Commission cannot accept or reject GRE's proposed integrated resource plan. The resource plan falls short of full acceptability because of missing information and analytical deficiencies.

5. GRE's resource plan filing is useful for resource planning purposes and will maintain reliability over at least the next several years in the Cooperative's system. The Commission makes no finding with respect to the acceptability or need for future energy facilities.

6. The Commission accepts GRE's commitment to adopt the following actions:

    a. To include a capacity expansion model as part of its modeling process;
    b. To analyze whether wind generation in excess of that required under the renewable energy objectives might be a cost-effective alternative; and
    c. To attempt to improve its analytical process for demand side management (DSM) and for its 50 percent and 75 percent conservation/renewable scenarios (e.g., by separating existing DSM from new DSM.

7. The Commission encourages GRE, when preparing future resource plans, to adopt the following:

    a. Include wind as a generic resource that the capacity-expansion model can choose, and also include a capacity value in the wind input assumptions;
    b. Refrain from including any resources not yet procured (e.g., the Big Stone II power plant in the current filing) in all of the resource planning scenarios;
    c. Include in its future assessments of DSM resources an analysis of the cost-effectiveness of varying amounts of DSM (i.e., various additional amounts above the statutory minimum amounts.
    d. Include consideration of DSM in its 50 percent and 75 percent conservation/ renewable scenarios;
    e. Work with its member cooperatives to develop DSM projects, and clearly communicate to those members the benefits of DSM (e.g., mitigation of future rate increases).

8. The Commission encourages GRE, when preparing future resource plans, to consider and adopt the following actions, and if it determines not to implement any of them, to provide an explanation in GRE's next resource plan filing:

    a. Forecast system level energy and demand requirements using an econometric model;
    b. Reconcile the historical data to explain what appears to be negative line

losses;

c. Incorporate a weather variable into the econometric model;
d. File an annual forecast with the Department; and
e. In at least its contingency plan modeling, use a final CO_2 value of $8 per ton as an annual levelized cost in 2004 with higher values thereafter, as was done in California.

9. GRE shall include the following informational items in its next resource plan filing:

a. A review of the current price and price trends of allowances and/or credits for SO_2, NO_2, and CO_2, as well as a comparison of the cost of implementing control technologies for these emissions;
b. An update on the development of future pending and potential environmental regulations that may impact electric utility operations, based upon its monitoring of those issues;
c. Demand and energy goals for its demand side management projects, and a report on actual performance in the projects by its member cooperatives (e.g., expenditures, generator kilowatt-hour savings, and generator kilowatt savings): and/or
d. Annual generation from existing and planned wind facilities and the reasons for significant changes in output.

10. GRE shall seek 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 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, SO_2, and CO_2, including cost estimates, the technology needed to capture and ship CO_2 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 GRE 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.

Next Resource Plan

11. GRE shall file its next resource plan on or before November 1, 2007.

12. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar
Executive Secretary

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