

BEFORE THE MINNESOTA PUBLIC UTILITIES COMMISSION

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Chair  
Commissioner  
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In the Matter of Minnesota Power's 2013 – 2027  
Integrated Resource Plan

ISSUE DATE: November 12, 2013

DOCKET NO. E-015/RP-13-53

ORDER APPROVING RESOURCE  
PLAN, REQUIRING FILINGS, AND  
SETTING DATE FOR NEXT  
RESOURCE PLAN

**PROCEDURAL HISTORY**

On March 1, 2013, Minnesota Power filed its resource plan for the years 2013 – 2027.

On May 10, 2013, the Commission found the resource plan filing complete, required supplemental filings to further develop the record, and established a procedural schedule for considering the resource plan.

On May 15, 2013, the Company filed the supplemental information required by the May 10 Order.

On June 3, 2013, the following parties filed comments:

- The Minnesota Department of Commerce, Division of Energy Resources (the Department)
- ArcelorMittal USA (Minorca Mine); UPM-Blandin Paper Company; Boise, Inc.; Hibbing Taconite Company; Mesabi Nugget Delaware, LLC; NewPage Corporation; PolyMet Mining, Inc.; Sappi Cloquet, LLC; USG Interiors, LLC; United States Steel Corporation (Keewatin Taconite and Minntac Mine); and United Taconite, LLC (the Large Power Intervenor)
- The Izaak Walton League of America – Midwest Office, Fresh Energy, Sierra Club, and Minnesota Center for Environmental Advocacy (the Environmental Intervenor)

Each recommended modifications to the resource plan, and the Department sought additional information from Minnesota Power in reply comments.

On July 3, 2013, Minnesota Power filed reply comments in support of its preferred resource plan, and the Large Power Intervenors and the Environmental Intervenors filed reply comments reiterating their preferred modifications to the plan. The Department filed reply comments recommending approval of the plan with modifications.

On September 25, 2013, the matter came before the Commission.

## **FINDINGS AND CONCLUSIONS**

### **I. Introduction and Background**

Minnesota Power is a winter-peaking utility that serves approximately 144,000 retail electric customers and 16 municipal electric systems in central and northeastern Minnesota. The Company generates a majority of its electricity from coal-fired generating plants at the Boswell, Laskin, and Taconite Harbor Energy Centers. According to the Company, roughly 80% of Minnesota Power's electricity is coal generated, down from 95% in 2006.

#### **A. The Resource Planning Process**

Minnesota Rule 7843.0300, subpart 2 generally requires electric utilities to submit proposed resource plans to the Commission every two years. The resource planning statute and rules are detailed, but basically require integrated resource plans to address (1) the projected energy needs of the utility's service area over the next 15 years; (2) the utility's plans for meeting projected need; (3) the analytical process the utility used to develop its plans for meeting projected need; and (4) the utility's reasons for adopting the specific resource mix proposed to meet projected need.<sup>1</sup>

The resource planning process is designed to strengthen utilities' long-term planning by providing input from the public, other regulatory agencies, and the Commission. The process is 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 resource planning statute requires utilities to develop plans for meeting 50% and 75% of new and refurbished capacity needs with conservation and renewable energy. *Id.*, subd. 2. The statute also requires them to factor into resource decisions the environmental costs of different generation technologies. *Id.*, subd. 3.

Although the Commission must approve, reject, or modify the resource plans of investor-owned utilities, the resource planning process is largely collaborative and iterative.

The process is collaborative because there are few hard facts dictating resource choices or deployment timetables. The facts on which resource decisions depend—such as how quickly an area and its need for electricity will grow, or how much conservation potential the service area holds and at what cost—all require the kind of careful judgment that sharpens with exposure to the views of engaged and knowledgeable stakeholders.

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<sup>1</sup> Minn. Stat. § 216B.2422 and Minn. Rules Ch. 7843.

The process is iterative because analyzing future energy needs and preparing to meet them is not a static process; strategies for meeting future needs are always evolving in response to changes in conditions in the service area. When demographics, economics, technologies, or environmental regulations change, a utility may need to adapt its resource strategy.

## **B. Minnesota Power's Baseload Diversification Study**

When the Commission accepted Minnesota Power's last resource plan, it directed the company to study diversifying the sources of electricity relied upon for its baseload demand.<sup>2</sup> Upon completion of the study, and in light of the study's results, the Commission directed that Minnesota Power address the following items in its next resource plan filing:

- A proposal to address the viability of Laskin Energy Center, Units 1 and 2, and Taconite Harbor Energy Center, Unit 3.
- An evaluation of the consequences – including all relevant costs and the consequences for transmission adequacy – of retiring Boswell Energy Center, Units 1 and 2 by 2020.
- Scenarios that add 100 to 200 MW of wind capacity in the 2014-2016 time frame.
- Scenarios that add 400 to 600 MW of natural gas capacity in the 2014-2016 time frame.
- A comprehensive socioeconomic impact analysis by customer class in conformance with the Commission's resource planning rules.<sup>3</sup>

## **II. Positions of the Parties**

### **A. Minnesota Power**

Minnesota Power proposes converting units one and two of its Laskin Energy Center to gas peaking generation facilities, retiring unit 3 of its Taconite Harbor Energy Center facility, and adding wind and natural gas capacity in the 2014 – 2016 time frame. The Company asserts that its plan specifically addresses the requirements set forth in the Commission's September 13, 2012 order accepting the Company's baseload diversification study.

Minnesota Power contends that its plan reflects the Company's aim to shift from primarily coal-based generation to a more diverse and flexible portfolio of generation resources. According to the Company, it is "aiming for an energy mix of approximately one-third renewable resources such as wind, wood, and hydropower, one-third natural gas/other and one-third coal" over the long term.

Over the short term, the Company plans to convert Laskin Energy Center to natural gas and to pursue bilateral market purchases between 2014 and 2020, when a Power Purchase Agreement for hydroelectric generation with Manitoba Hydro is expected to begin.

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<sup>2</sup> *In the Matter of Minnesota Power's 2010 – 2014 Integrated Resource Plan*, Docket No. E-015/RP-09-1088, Order Accepting Resource Plan and Requiring Compliance Filings (May 6, 2011).

<sup>3</sup> *In the Matter of Minnesota Power's 2010 – 2014 Integrated Resource Plan*, Docket No. E-015/RP-09-1088, Order Accepting Study, Closing Docket, and Establishing Requirements for Next Resource Plan (September 13, 2012).

## **B. The Large Power Intervenors**

The Large Power Intervenors, along with the Company, dispute the propriety of considering anticipated future costs of carbon regulation in resource plan modeling. The Large Power Intervenors assert that the modeling Minnesota Power uses to support its decision to convert or retire coal generating units at Laskin and Taconite Harbor Energy Centers improperly considers CO<sub>2</sub> costs. They state that varying assumptions about the cost or timing of CO<sub>2</sub> regulation would justify different resource decisions. The Large Power Intervenors suggest that a plan to retrofit Minnesota Power's small coal plants for reduced emissions should be chosen over the Company's preferred plan.

## **C. The Environmental Intervenors**

The Environmental Intervenors argue that Minnesota Power should be required to retire all three units of the Taconite Harbor Energy Center by 2017. They assert that the modeling results support near-term retirement of all three Taconite Harbor units in nearly all contingencies that reflect at least the Commission's minimum estimated likely cost of CO<sub>2</sub> regulation (\$9/ton).

The Environmental Intervenors also recommend that Minnesota Power be required to evaluate energy efficiency in a manner that includes more of its customers. They assert that, though a large portion of Minnesota Power's customer load is exempt from the Conservation Improvement Program (CIP), Minnesota Power should be required to consider the possibilities for conservation among those customers as part of its resource planning process. The Environmental Intervenors argue that 2013 legislation established statutory energy conservation goals that apply to utilities on a system-wide basis, independent of the CIP participation of their customers.

## **D. The Department**

The Department recommends that the Commission approve Minnesota Power's resource plan, with modifications. The Department supports Minnesota Power's decision to retire unit 3 of Taconite Harbor and convert to natural gas units 1 and 2 of Laskin by the end of 2015. It concluded, however, that requiring retirement of Taconite Harbor units 1 and 2 at this time, as recommended by the Environmental Intervenors, would not be the best option.

The Department also recommends that the Commission require Minnesota Power to acquire 100 to 200 MW of wind capacity in the 2014 – 2016 time frame, and 200 MW of intermediate capacity in the 2015 – 2017 time frame, provided the resources are reasonably priced. At the Commission meeting, the Department clarified that its recommendations are essentially consistent with Minnesota Power's plan to obtain 200 MW of energy and capacity through bilateral contracts, assuming the agreements are cost-effective.

The Department also recommended setting Minnesota Power's energy savings goal at 1.87% of retail sales, based on its estimate that Minnesota Power could cost-effectively achieve an additional 0.2% above the Company's Department-estimated baseline energy savings of 1.67%.

## **III. Commission Action**

The Commission will approve Minnesota Power's 2013 – 2027 resource plan, including its plan to convert Laskin units 1 and 2 to operate on natural gas, and to retire Taconite Harbor unit 3, by 2015.

The Commission agrees with the Department that the Company's proposed near-term plan to obtain 200 MW of intermediate capacity and energy through bilateral contracts, assuming they are cost effective, is appropriate to address Minnesota Power's system needs over the next five years.

The Commission also makes the following determinations concerning the use of carbon dioxide cost information in resource plan modeling, Minnesota Power's energy conservation goal, and data requirements for future filings.

### **A. Externality Values**

The Commission disagrees with Minnesota Power and the Large Power Intervenors concerning the role of anticipated future costs of carbon dioxide regulation in resource acquisition modeling. The Commission will require Minnesota Power, in its next resource plan, to include in its modeling base case assumptions the midpoint of the Commission's CO<sub>2</sub> cost range (currently \$21.50/ton).

This requirement is consistent with the statutory requirement to use the Commission-established estimated likely cost of future carbon dioxide regulation in resource plan proceedings.<sup>4</sup> The CO<sub>2</sub> cost range reflects a financial risk relevant to the development of long-term resource plans. Requiring a specific CO<sub>2</sub> cost assumption in a utility's base case does not exclude consideration of scenarios that reflect different possible future CO<sub>2</sub> costs, and the Commission determines the weight of scenarios as appropriate on a case-by-case basis. Because the Commission requires other utilities to use externality costs in this way, this requirement also promotes uniformity among different utilities' resource plan filings.

### **B. Energy Conservation Goal**

The Commission agrees with the Department that 1.87 percent of Minnesota Power's retail sales is an appropriate energy conservation benchmark, which the Commission will establish until the Company's next resource plan. Based on the Department's calculations, this savings goal reflects a 0.2 percent increase over current savings that could be cost-effectively achieved.

However, the Commission concludes that, going forward, more detailed information on conservation on Minnesota Power's system is needed to perform a detailed cost-benefit analysis of energy savings. The specific additional information will be discussed in further detail and set forth in the ordering points, below.

### **C. Data Requirements for Future Filings**

Because resource planning is an ongoing and iterative process, rather than require additional conservation data and analysis in this resource plan, the Commission believes it is appropriate for Minnesota Power to include additional information and analysis relating to energy conservation and modeling in its next resource plan filing.

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<sup>4</sup> Minn. Stat. § 216B.2422, subd. 3.

### **i. Energy Savings Data**

A utility may recover from certain of its customers expenses that result from energy conservation improvement programs that the utility implements. However, large customer facilities that face competitive or economic pressures to conserve energy may petition for an exemption from recovery.<sup>5</sup> Commonly, customers that have requested and received an exemption from recovery of CIP expenses are called CIP-exempt.

The Commission agrees with the Environmental Intervenors that the energy savings goals described in Minn. Stat. §§ 216B.2401 and 216C.05 do not exclude consideration of savings that may be achieved by Minnesota Power's CIP-exempt customers. A significant amount of demand on Minnesota Power's system comes from CIP-exempt customers, but Minnesota Power's resource plans—which must consider energy conservation as an energy resource—serve CIP and CIP-exempt customers alike. Accordingly, resource planning should reflect the possibility of energy conservation among all of Minnesota Power's customers.

The Commission will therefore require Minnesota Power's next resource plan filing to include more detailed information concerning system-wide energy conservation. Specifically, analysis and aggregated energy savings data for CIP-exempt customers will be required. This information will help paint a more complete picture of the possibilities for energy conservation on Minnesota Power's system.

### **ii. Taconite Harbor Energy Center**

The Commission will also require the Company's next resource plan to include an analysis of the effects of retiring the remaining Taconite Harbor Energy Center generating units. The Commission agrees with the Department's analysis and conclusion that the most reasonable plan does not require that Taconite Harbor units 1 and 2 be retired at this time. However, the Commission recognizes that in a number of possible future scenarios, retiring those units is likely to be part of a least-cost plan. Retirement of those generating units must therefore be thoroughly analyzed in the next iteration of Minnesota Power's resource plan.

### **iii. MISO Attachment Y Requests**

Participants in the Midcontinent Independent System Operator (MISO) energy markets must submit an approval request to MISO, called Attachment Y, concerning planned generation unit retirements. MISO then studies the generation unit, and may designate it as a System Support Resource, necessary for reliability of the MISO system. The Commission previously requested that Minnesota Power file with the Commission any Attachment Y applications to MISO.<sup>6</sup> The Commission will restate as a requirement Minnesota Power's obligation to file Attachment-Y-related documents with the Commission.

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<sup>5</sup> Minn. Stat. § 216B.241, subd. 1a.

<sup>6</sup> Docket No. E-015/RP-09-1088, Letter to Christopher Anderson Re: System Support Resource Requests (December 4, 2012).

#### **iv. Modeling Information**

To improve the parties' and participants' ability to conduct the modeling involved in resource planning in a timely fashion, the Commission will require that Minnesota Power file its energy and demand forecast and Strategist commands<sup>7</sup> in advance of its next resource plan filing. The Company, the Large Power Intervenors, the Environmental Intervenors, and the Department all supported this requirement at the Commission meeting. The Commission believes this requirement will help expedite resource plan review.

#### **ORDER**

1. The Commission approves Minnesota Power's 2013 – 2027 resource plan. This approval does not extend to particular projects that are currently under review in other proceedings or will be subject to review in future proceedings, but is a general finding that the plans filed by Minnesota Power appear to be reasonable in light of the entire record.
2. The Commission finds that Minnesota Power's proposal to refuel Laskin units 1 and 2 to operate on natural gas by 2015 is reasonable.
3. The Commission finds that Minnesota Power's proposal to remove Taconite Harbor unit 3 from Minnesota Power's system by the end of 2015 is reasonable.
4. If Minnesota Power pursues refueling Laskin units 1 and 2 to operate on natural gas, or removing Taconite Harbor unit 3 from Minnesota Power's system, then, within nine months of the date of this Order, Minnesota Power shall file updated project costs and associated schedules.
5. Minnesota Power shall obtain approximately 200 MW, subject to need, of intermediate capacity (and associated energy) in the 2015 – 2017 timeframe by constructing the resource itself, by sharing in the ownership of the resource, or by procuring the resource through bilateral contracts, whichever option is most cost-effective.
6. The Commission finds that with Minnesota Power's proposed retirement of Taconite Harbor unit 3, the current resource plan demonstrates Minnesota Power's need for an additional 50 MW of capacity in 2015, increasing up to 100 MW by 2019. Based on the modeling in the record, adding intermediate resources most appropriately reflects the nature of Minnesota Power's system needs.
7. When Minnesota Power commits to a specific bilateral contract, the Company shall file pertinent details of the contract, such as the duration, price, and amount of capacity and associated energy to be procured.
8. Minnesota Power shall file with the Commission all relevant MISO Attachment Y requests and the results of each, including whether Minnesota Power has requested MISO to evaluate any Minnesota Power unit as a System Support Resource.

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<sup>7</sup> Strategist is the name of the software package used to conduct Minnesota Power's resource plan modeling, and used by the Department to evaluate the resource plan.

9. On or before September 1, 2015, Minnesota Power shall make its next resource plan filing.
10. Thirty days prior to its next resource plan filing date, Minnesota Power shall file its energy and demand forecast and Strategist commands.
11. The Commission approves an energy savings goal of 1.87 percent of Minnesota Power's retail sales by its next resource plan filing.
12. For its next resource plan, Minnesota Power shall:
  - a. Identify the amount of energy savings embedded in each year of its load forecast, in terms of total savings (kWh) and as a percentage of non-CIP-exempt retail sales;
  - b. Identify the amount of system-wide energy savings, including aggregate data for CIP-exempt customers, embedded in each year of its load forecast;
  - c. Evaluate additional conservation scenarios for its CIP-exempt and non-CIP-exempt customers, that would achieve greater energy savings beyond those in the base case; and
  - d. Provide cost assumptions for achieving every 0.1 percent of savings above 1.5 percent of non-CIP-exempt retail sales.
13. In its next resource plan filing, Minnesota Power shall include the midpoint of the Commission's approved CO<sub>2</sub> range in its base case assumptions.
14. In its next resource plan filing, Minnesota Power shall include a full analysis of the effects of retiring or repowering the Taconite 1 and 2 plants, including transmission and distribution effects.
15. In its next resource plan filing, Minnesota Power shall provide a summary of its compliance with new statutory measures and how the legislative changes impact its resource plan.
16. This Order shall become effective immediately.

BY ORDER OF THE COMMISSION

Burl W. Haar  
Executive Secretary



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