

Memo

Date: January 24, 2019

To: Dan Wolf – Minnesota Public Utilities Commission

From: Suzanne Steinhauer – Environmental Review Manager, Energy Environmental Review and Analysis

Subject: Solar and Wind Decommissioning Working Group Findings and EERA recommendations

Recommendation

This memo provides additional information to the Commission based on the initial recommendations of the Solar and Wind Decommissioning Working Group. The Department intends to implement the group's recommendations and considerations into its application guidance material to allow review of the decommissioning plans earlier in the permitting process. The Department recommends the Commission:

- Establish a schedule for review of decommissioning plans.
- Establish a timeline for establishment of a funding mechanism.
- Consider whether the Commission itself should be a beneficiary of financial sureties.
- Consider whether decommissioning plans should be required for other types of facilities not owned by regulated utilities.

Site permits for wind and solar facilities issued by the Minnesota Public Utilities Commission require permittees to file decommissioning plans prior to commercial operation. The intent of the decommissioning plan is to ensure that, consistent with Minnesota Statutes, section 216F.05, subdivision 5, the site is restored at the end of the energy facility's useful life, with the costs of the restoration borne by the permittee. Each plan details the steps required to remove the facility and restore the site at the end of its life, provides an estimate of decommissioning costs, and describes how sufficient funds will be available to accomplish the required decommissioning tasks. Historically, permittees provide an estimate of anticipated decommissioning expenses, but no specific bonding or fund set-aside requirements are imposed at that time. Most plans call for a re-evaluation of cost estimates and the establishment of a funding mechanism 10-15 years after the facility begins operation.

At this time, none of the wind or solar facilities permitted by the Commission (or its predecessor, the Environmental Quality Board) has been wholly decommissioned and removed from operation. Individual turbines at the Lake Benton 1 Project (Docket WS-13-294) have been decommissioned and the original Woodstock Hills project (Docket WS-13-589) has been decommissioned prior to repowering. In addition, portions of the original turbines will be replaced with new components at several facilities being repowered. As a growing number of older wind facilities enter the final portion of their power purchase agreements, it is important to ensure that adequate funding is available and accessible to ensure that facilities are properly decommissioned.

Recognizing this need, and after advising the Commission, the Minnesota Department of Commerce (Department) solicited input from a diverse group of 12 stakeholders to recommend best practices for decommissioning of these facilities. Working group members reviewed background materials, draft reports, and met three times between April 2017 and January 2018 to discuss issues related to decommissioning of wind and solar generating facilities permitted by the Commission. On August 31, 2018, the Department's Energy Environmental Review (EERA) staff filed a report summarizing the findings and recommendations developed by the Solar and Wind Decommissioning Working Group (SWDWG) established by the Department.¹

After a general discussion of the nature of wind and solar facilities, decommissioning, and consideration of guiding questions, the group recommended that decommissioning plans be:

- **Required:** Although the evolving nature of the industry makes it difficult to project what will happen in 20 to 30 years, a decommissioning plan helps to ensure planning for the end of the facility.
- **Detailed:** Decommissioning Plans should state the goal for decommissioning and include details on anticipated tasks, costs, and financial assurances.
- **Adaptable:** In order to balance the need for standards and predictability with the reality of changing circumstances inherent in a 30-year permit, plans should be reviewed periodically and updated as needed.

Review of Decommissioning Plans

Existing permits require that Permittees file a decommissioning plan prior to commencing operation of the facility. Based on its experience in compliance review of decommissioning plans, the working group process, and public comments in other proceedings, EERA staff believes decommissioning plans can and should be available earlier in the process. Providing these plans earlier in the process allows a wider review of the plans that would inform the permitting process. EERA's updated application guidance for wind projects will recommend that new applications contain a draft decommissioning plan that incorporates the elements required in Minnesota Rule, 7854.0500, subpart 13. Consistent with the working group's recommendation, EERA also recommends that the plan include cost estimates prepared by an experienced engineer.

¹ *Solar and Wind Decommissioning Working Group Report*, August 31, 2018, eDocket ID: 20188-146145-02

The working group recommended periodic review and updates to existing plans. The decommissioning plans, as written, anticipate periodic updating, but there has not been a systematic effort to review and update these plans. Based on a preliminary review of the existing plans, it appears that all operating projects have a decommissioning plan on file. The level of detail in the plans reviewed to date varies widely. For the most part, the plans do not include detailed information on decommissioning activities or cost estimates and do not include third party estimates of decommissioning costs, as recommended by the working group. Several plans anticipate that the scrap value of the decommissioned components will cover the costs of decommissioning.

Based on a preliminary review, 19 wind facilities are operating with permits originally issued more than 10 years ago - between 1995 and 2008. Four of the 19 facilities have applied to the Commission for an amendment to repower, and one has decommissioned the existing turbines and is seeking a local permit to repower.² With the exception of two permits seeking repowering, EERA staff is not aware of any plans that have been updated since their original filing.³

EERA staff recommends the Commission establish a schedule for review of decommissioning plans. EERA staff believes that notifications of ownership changes and permit amendment requests, including repowering, should serve as triggers for review and updating of decommissioning plans. Wind and solar permits have provisions for review at 5-year review intervals, which could also serve as an opportunity to review and update decommissioning plans along with other permit conditions. Alternatively, the Commission may wish to initiate a review schedule for all decommissioning plans, without opening the entire permit.

Decommissioning Funding

The working group recommended that a variety of financial Instruments be available to owners to ensure the availability of funds for decommissioning activities. Though it is expected that most project owners will find the terms of letters of credit or bonds meet their responsibilities in an affordable manner, escrow accounts may be preferable for some owners who lack access to capital. Although the group did not rule out establishment of a pooled investment fund, EERA staff notes that the establishment, maintenance, and disbursement of this option would require a level of expertise currently beyond the limits of the staff.

The working group considered at length at what point financial assurances should be required. Following discussion, group members agreed that a surety is probably not necessary at the outset. Even if the facility's owner were to become insolvent within the early (first 10 years) life

² The Commission has issued orders amending the site permits to permit repowering for the Lake Benton I Project (Docket WS-13-294) and the Trimont Wind Project (WS- 13-258). Amendment requests are under review for the Lake Benton II project (Docket WS-13-205), and the Fenton Project (Docket WS-05-1707). The Woodstock Hills project has decommissioned the project permitted by the Commission in Docket WS-13-589; the owners of that project are seeking approval from Pipestone County to repower the project.

³ Lake Benton II wind project that recently sought repowering (eDocket ID: 20187-145261-01) and the Lake Benton I Project (eDocket ID: 20146-100509-01)

of the permit, the value of the facility would likely make it an attractive asset for another owner. Group members recommended that assurances be implemented in a step-wise way, beginning with initial payments in approximately year 10 and stepping up to ensure full funding no later than the end of the power purchase agreement.

The working group did not discuss facilities selling directly into the MISO market. Without the assured revenue stream of a long-term PPA, there is an increased possibility that revenue may fall off at the same time that operations costs increase as the project ages. Without the assurance of a contract, a date certain should be set.

A handful of wind facilities are owned by regulated utilities, and decommissioning funding for these facilities are handled as they are for other generation assets.⁴ In these cases, estimated decommissioning costs (anticipated cost of removing an asset at the end of its useful life less the anticipated salvage value) are included in the depreciation expense for each facility. The depreciated plant balance is included in the utility's rate base. Funds collected for removal and restoration are included in the depreciation reserve for the facility. The Commission reviews these costs periodically to ensure that ratepayers are responsible only for reasonable and prudent costs. The working group did not discuss in detail the treatment of facilities owned by regulated utilities. EERA staff is not aware of any reason to treat the utility-owned wind and solar assets differently from other types of generation assets.

With the exception of the above-mentioned utility-owned facilities, few projects appear to have established a financial assurance instrument. In its 2007 decommissioning plan, the Prairie Star Project (Docket (WS-06-1520) states it has established an escrow account at a local bank, and a couple projects indicate that expenses for depreciation are carried on their books as an asset retirement obligation.⁵

EERA staff recommends that the Commission establish a timeline for the establishment of a funding mechanism.

Designation of Surety Beneficiary

Regardless of the surety instrument selected, the assignment of a beneficiary is an important consideration. After some discussion, the working group recommended that county or state governments, rather than individual landowners, be designated as beneficiaries of any financial surety. Because projects, particularly wind projects, often involve multiple landowners, participants believed that the designation of governmental units rather than landowners would be simpler to administer and monitor. County governments are often designated as beneficiaries

⁴ Grand Meadow (WS-07-839), Nobles Wind (WS-09-584), Pleasant Valley Wind (WS-09-1197) are owned by Xcel Energy; Taconite Ridge (WS-07-676) is owned by Minnesota Power; and the Bent Tree Wind (09-573) is owned by Wisconsin Power and Light. The Oak Glen project (WS-10-119) is owned by the Minnesota Municipal Power Agency, which incorporates decommissioning costs into the rates it sets for its members.

⁵ See Lake Benton II (eDockets ID) and Jeffers Wind (eDocket ID: 20139-91101-01)

of bonds for community solar, small wind, and other types of projects. The Department of Natural Resources is designated as the beneficiary of bonds required to ensure mining facilities.

As review of decommissioning plans, and the establishment of financial assurances, moves forward, the Commission might also consider whether the Commission itself would be the appropriate designee.

Additional items for consideration

Currently only site permits for LWECS and solar facilities require decommissioning plans. Site permits have been issued to three gas-fired power plants owned by independent power producers (Faribault Energy Park, Mankato Energy Center, and Cannon Falls Energy Center).⁶ More recently, several High Voltage Transmission Lines (HVTLs) associated with wind facilities have been issued to independent power producers (Odell, Blazing Star, Freeborn Wind) with one more 345 kV transmission line currently under review and another anticipated in the near future.

The Commission may wish to consider whether those types of projects present decommissioning concerns and, if so, how to best ensure proper decommissioning of those facilities at the end of their useful lives.

⁶ The Commission's predecessor, the Environmental Quality Board, issued permits for the Faribault Energy Park and the Calpine Energy Center in 2004 and to the Cannon Falls Energy Center in 2005. Shortly after the initial permit was issued, the site permit for the Faribault Energy Center was transferred to Minnesota Municipal Power Agency. The Commission issued a permit for an expansion to the Mankato Energy Center (formerly the Calpine Energy Center) in 2016; ownership of that facility is currently being transferred to Xcel Energy.