

September 20, 2019

Minnesota Public Utilities Commission
121 7th Place East, Suite 350
Saint Paul, MN 55101-2147

Comments submitted by e-mail to: publicadvisor.puc@state.mn.us

Re: PUC Docket Number(s): E-999/M-17-123
COMMENT PERIOD ON DEPARTMENT OF COMMERCE WORKING GROUP ON
DECOMMISSIONING OF WIND AND SOLAR FACILITIES REPORT AND RECOMMENDATIONS;
Comments due September 20, 2019

To whom it may concern,

The Minnesota Pollution Control Agency, Resource Management and Assistance Division, is pleased to submit the following comments regarding the Report and Recommendations of the Department of Commerce Working Group on Decommissioning of Wind and Solar Facilities.

The Agency believes it is very important to establish clear and detailed criteria and processes for permittees and owners to plan, finance, and implement environmentally sustainable decommissioning plans for energy production facilities that are intended to be and are publicly represented and promoted as environmentally sustainable energy production facilities. Reliance on disposal or failure to recover low to high value materials and embodied energy is not consistent with the overall societal and technological goals of renewable energy production. The Agency assists Commerce, PUC, and facility owners with solid waste and hazardous waste disposal expertise related to operations and decommissioning of energy generation and transmission infrastructure. The Agency, with the assistance of Commerce staff, is currently conducting a stakeholder process to develop recommendations for end of life management of photovoltaic panels and ancillary equipment used in all types and sizes of solar energy installations.

The format of the Agency comments starting on the next page is a numbered list of the Department of Commerce Requests in the Notice of Public Comment Period and an Agency Response to each Request.

If there are questions or a need for additional information regarding these comments, please contact John Gilkeson at 651-757-2391 or john.gilkeson@state.mn.us, or Shelly Siewert at 651-757-2723 or shelly.siewert@state.mn.us.

Respectfully submitted,



Tina Patton
Supervisor, Product Sustainability and Partnerships Unit
Sustainability and Environmental Assistance Section
Resource Management and Assistance Division

PUC/Commerce Requests in Notice of Public Comment Period and Agency Responses

1. Commerce Request:

- Comments or information on the decommissioning funding mechanisms specified, recommendations on what funding types should be utilized (or not), for whom, and why.

MPCA response:

- MPCA recommends that the initial plan and each 5 year update include detailed cost estimates for all aspects of decommissioning. Financing mechanisms must be in place ahead of decommissioning, but do not necessarily need to be put in place at time of installation. Financing mechanisms and financing can be put in place after permitting and installation when there is cash flow from the power purchase agreement. The decommissioning plan needs to be fully funded before decommissioning. Financing needs to reflect spot repairs not covered by operating funds and financing needs to reflect replacement costs not covered by insurance, warranty, or other operating funds in case of a catastrophic event.

2. Commerce Request:

- Discussion of stepwise decommission funding mechanisms, and input on milestones or timeframes in which increases or modifications in funding should be required.

MPCA response:

- Recommend that Commerce use its existing authority to require a decommissioning plan update every 5 years to obtain a detailed decommissioning plan update from the permittee with adjusted funding levels and mechanisms. Specificity of plans and financing, plus increased fund reserves, should increase as the end of the facility's permitted life approaches.

3. Commerce Request:

- Whether the information listed in the Report would be sufficient for a decommissioning plan (page 12), and if not, why and how should it be modified.

MPCA response:

- Decommissioning plans for wind and solar need a requirement to maximize recycling and minimize disposal through landfilling or incineration. This needs to be part of the initial plan and the regular update that we recommend Commerce require every five years under its existing authority. It is fine for a permittee to estimate scrap value, but it should not be relied on for covering any decommissioning costs, because there may not be any scrap value at the time of the plan update or at the time of decommissioning. If there is reliance on scrap value in the plan, and then it does not materialize, the permittee will be short of funds and will likely not be able to or will not be willing to decommission in an environmentally sound or sustainable manner. If there is scrap value, then it is a bonus that the permittee can keep.

4. Commerce Request:

- Reasonable timeframes or milestones that would trigger Commission evaluation of established decommissioning plans and cost estimates.

MPCA response:

- Use the existing 5 year update requirement. Early retirement would require the final plan.

5. Commerce Request:

- Whether the recommendations sufficiently address potential default scenarios or other issues that may arise.

MPCA response:

- One example where the recommendations may not sufficiently address potential default scenarios: a destructive storm or other circumstances where there is no longer equipment value or income producing capability that would be used to help finance decommissioning.

6. Commerce Request:

- Are there considerations that should be made for the decommissioning of a project owned by an Independent Power Producer versus a project owned by regulated utility?

MPCA response:

- IPPs may not have same financial or technical resources and capacity as a regulated utility, so financing mechanisms need to reflect their resources/capacity to ensure full and proper decommissioning. The utility regulatory environment may be less rigorous for an IPP as well, and this must be considered – the environmental standards and funding requirements for decommissioning should be the same for all owners, commensurate with the facility.

7. Commerce Request:

- If so, what should be considered and how should it be factored into the decommissioning process?

MPCA response:

- With potentially less financial and technical resources available to an IPP, Commerce must ensure that the plan update requirements are as rigorous, and that the decommissioning plans meet the same standards as those met by a regulated utility.

8. Commerce Request:

- What Information should the Commission consider in its review and implementation of decommissioning requirements for permitted and future projects?

MPCA response:

- Require owners to disclose the hazardous waste status of solar panels (e.g., TCLP results) and share this information with PUC, Commerce and MPCA.
- Require owners to be financially prepared to pay for recycling and not rely on future scrap value.
- Require owners to recycle all solar panel and electrical/electronic components as well as racking and other physical infrastructure.
- Separate permit condition for reporting of waste generated and materials recycled during installation phase, operational phase (intermittent generation of panels or invertors) and decommissioning phase. This would include but not necessarily be limited to tracking the cause of waste generation (weather, electrical or mechanical failure, etc.), number of panels or units of other materials, and where they are sent for management when removed.
- Every 5 year review should be sufficient to cover ownership changes, rather than requiring an update at time of ownership change. For permit amendments, the need for an updated decommissioning plan will depend on the type of permit amendment requested. If decommissioning would not be affected, the next scheduled 5 year review should be sufficient.
- Enforcement is necessary for points listed above, which would require an enforcement authority within the state agency that receives and reviews the reports.

9. Commerce Request:

- What level of detail is reasonable to require in a decommissioning plan, and should it vary at differing stages of a project?

MPCA response:

- All plans should be detailed, but MPCA recognizes that financial and technical details will increase with each 5 year review as the project gets closer to decommissioning and technologies and practices may change over time. The 5 year updates and decommissioning financing packages must become progressively more rigorous and complete as the project approaches the end of its permitted life. This should start no later than the 5 year update closest to when the project is halfway through its permitted life, and should ramp up to coincide with the end of the permitted project life.

10. Commerce Request:

- What other best practices or considerations on the decommissioning of facilities should be considered by the Commission.

MPCA response:

- Maximize material recovery and recycling. Minimize landfill disposal and incineration.
- Minimize leave in place disposal (e.g. wind tower foundations). If tower foundations are left in place, the MPCA requires a solid waste disposal permit. Research alternatives to leaving tower foundations in place, or alternative foundation designs that can be more easily removed, for example.
- Similarly, other states report significant issues with wind turbine blade disposal and lead contamination (from intentional use of lead as a ballast agent) in early blades. These design and material issues must be addressed to reduce overall resource use and reliance on landfilling to address a problem that should have been foreseen and avoided or minimized in the design phase.
- With decommissioning not needed for 25 to 30 years and potential state and project staff turnover, the detailed 5 year decommissioning plan update requirement will help maintain the institutional record and project continuity for both the owner and the relevant oversight agencies.

11. Commerce Request:

- Are there other issues or concerns related to this matter?

MPCA response:

- The MPCA recommends that Commerce and the Legislature establish a 5 MW permitting threshold for solar facilities to ensure consistency among the large number of small facilities currently being permitted at the local level, whether owned by utilities, Independent Power Producers, or others. This is also consistent with the state permitting threshold for wind facilities.
- The MPCA concurs with EERA that new applications contain a draft decommissioning plan incorporating the broad range of elements addressed in our comments and in existing rules.
- Installations already permitted or in the process of being permitted should be required to meet the comments suggested here at the next 5 year review milestone or in the current initial process.
- The MPCA concurs with EERA that a third party estimate of decommissioning costs should be required.

End of comments.