



**DEPARTMENT OF
NATURAL RESOURCES**

Minnesota Department of Natural Resources
Division of Ecological & Water Resources
500 Lafayette Road
St. Paul, MN 55155-4040

August 10, 2017

[Electronic Submittal]

Tricia DeBleekere
Minnesota Public Utilities Commission
121 7th Place East, Suite 350
St. Paul MN 55101

RE: In the Matter of the Aurora Distributed Solar, LLC Site Permit for the 100 MW Solar Energy Project
Located at Multiple Facilities in Minnesota

PUC Docket Number: IP6928/GS-14-515

Dear Ms. DeBleekere,

The Minnesota Department of Natural Resources (DNR) has reviewed the current Agricultural Impact Mitigation Plan and Vegetation Management Plan for the Aurora Distributed Solar Project located at multiple facilities in Minnesota. From the DNR's perspective, it is not necessary to amend the site permit for the 16 sites that have already been constructed. If any of the remaining sites are problematic due to their location, perhaps these sites should be eliminated. Most of the problems associated with the 16 constructed sites were due to high rain events and poor site selection. Our agency supports retaining a third-party independent inspector to ensure that the project conforms to the site permit requirements and has no strong preferences regarding the inspector's reporting intervals.

The DNR offers the following recommendations regarding vegetation monitoring, appropriate site selection, and specific construction practices.

Vegetation Monitoring

To ensure successful site restoration, the DNR recommends ongoing site monitoring to meet benchmarks and evaluate success. The following actions are recommended for the establishment and maintenance phases:

Establishment Phase

For the establishment phase (through year three), the DNR recommends that each site be mapped individually, including a summary of weed problems and a general timeline for addressing these weeds with a brief justification for the designated actions. An experienced contractor will know how to evaluate site needs and develop an action plan.

Photo documentation of each site is suggested to track the progression of vegetation establishment at the site over time. It would be helpful to establish fixed photo points so the pictures are taken from the same place, facing the same direction.

Maintenance Phase

For the maintenance phase, the DNR suggests including a timeline for when monitoring will occur and how it will be accomplished. The Minnesota Board of Soil and Water Resources (BWSR) assessment form is recommended to facilitate monitoring. The BWSR assessment form will ensure that pollinator habitat standards are met and diversity is maintained through time. Monitoring with the use of the assessment form need not occur annually, but should occur on a set timeline (e.g., every 3-5 years).

For each site, a plan describing the type of maintenance that will be used (e.g., grazing prescribed burn, etc.) should be developed. If grazing is used, a grazing plan that includes the stocking rate and pasture rotation should be provided.

The DNR strongly recommends securing monitoring services from a company specializing in native seed and installing/maintaining prairie restoration projects for the duration of the project for both the establishment and maintenance phases. An experienced company with a history of successful prairie restoration projects should be selected.

Site Selection

To avoid issues such as compaction, erosion, and vegetation establishment, the DNR suggests placing more emphasis on appropriate siting of solar facilities. The DNR offers the following recommendations that would prevent many of the water-related issues that occurred at the Aurora Solar sites. Although these suggestions are primarily related to future projects, they are worth noting now.

- Greater efforts are necessary to avoid wetlands. Wetlands should have a buffer of at least 25 feet. The buffer will keep construction equipment from getting into the soil saturation zone during high water and prevent sediment deposits/impacts to the wetlands.
- Greater efforts are necessary to avoid farmed wetlands. During significant rain events, farmed wetlands retain water and stay wet which results in equipment getting stuck, trenches filling with water, and surface erosion.
- Avoid locating solar facilities in floodplains. Facilities are damaged by floodwaters and additional erosion can occur at the site during construction.
- Locate solar facilities outside of the shoreland zone to prevent flooding issues.
- Require an outer 25 foot buffer around the perimeter of the site that is planted to a pollinator friendly mix with a cover crop that is planted a minimum of 30 days prior to construction. The buffer would be marked so no contractors go into the planted area. This would help prevent soil runoff from the site.

Construction Practices

Sites currently under cultivation should be required to plant a cover crop to stabilize the soil if more than 21 days will elapse after grading and before construction. After grading the site, the site should be immediately

planted with a cover crop if construction activities are not expected to start within 21 days. The cover crop will prevent erosion and reduce issues during rain events. Part of the Marshall solar site had a cover crop and the site looked significantly better and construction was accomplished with fewer problems in this area compared to the area where work was initially started in bare soil.

Construction activity should be limited to areas that are going to be disturbed. That is, areas not needed for actual construction should be marked as off limits, not disturbed if vegetated, or planted if in bare soil. Establishing construction area boundaries limits impacts to a smaller surface area and would result in fewer issues with contractors accessing areas where they should not be working.

The DNR appreciates the opportunity to comment on the Agricultural Impact Mitigation Plan and Vegetation Management Plan for the Aurora Distributed Solar Project. If you have any questions, please contact me at cynthia.warzecha@state.mn.us or 651-259-5078.

Sincerely,

A handwritten signature in cursive script that reads "Cynthia Warzecha". The signature is written in black ink and has a fluid, connected style.

Cynthia Warzecha
Principal Planner

CC: Suzanne Steinhauer, Minnesota Department of Commerce
Hans van Lingen, Enel Green Power North America, Inc.
ERDB 20140201