

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

October 25, 2024

Rich Davis
Minnesota Department of Commerce
85 7th Place East, Suite 280
St. Paul, MN 55101

**RE: In the Matter of the Joint Application of Northern Crescent Solar LLC for a Solar Energy
Generating System Site Permit and a Battery Energy Storage System Site Permit for the up to
150 MW Northern Crescent Solar and 50 MW Storage Project in Faribault County, Minnesota**

Dear Mr. Davis,

The Minnesota Department of Natural Resources (DNR) has reviewed the Joint Application of Northern Crescent Solar LLC (Applicant) to construct a 150 MW solar array project and a 50 MW battery energy storage system (Project). Based on the review of the application, the DNR offers the following comments regarding potential environmental and wildlife impacts that should be considered in scoping for the Environmental Assessment (EA).

Security fencing

Section 4.1.7 of the permit application describes the security fencing that will be installed along the perimeter of each group of solar arrays. The permit application describes the Applicant's intended fencing, which would consist of agricultural woven wires that will reach a maximum total height of approximately 10 feet along the perimeter of the Project. The DNR recommends the security fence reaches a minimum height of 10 feet along the entire perimeter of the solar facility to prevent white-tailed deer and other large wildlife from entering the Project which could cause harm or injury. Our agency recommends the security fence be designed in accordance with the DNR's *Commercial Solar Siting Guidance*. We appreciate that barbed wire will not be used on top of the perimeter security fence.

Fencing around solar energy facilities can disrupt wildlife and has the potential to push wildlife towards the nearby US Highway 169 and county roads. The setback outlined in the application is greater than the recommended minimum fencing setback of 50 feet specified in the DNR's *Commercial Solar Siting*

Guidance. The Applicant indicates a plan to locate the fencing setback 130 feet from Highway 169 and 100 feet from county roads. While the Applicant's proposed setback is greater than DNR's minimum recommendation, our agency recommends the EA discuss the potential impacts fencing will have on wildlife movement, particularly along the Highway 169 corridor. Travel corridors for small and large wildlife should be included in the project design and throughout the project area. Deer egress gates should also be discussed in the EA.

Dust

The Applicant's project will include approximately 12.1 miles of gravel access road. Section 5.4.1.1 of the permit application states that Northern Crescent may employ dust suppression methods, like watering and treating access roads, to minimize the amount of fugitive dust. The DNR recommends the EA address fugitive dust and specific dust suppression measures that will be taken during construction and once the facility is operational. The DNR advises against the use of chloride products as a method for dust suppression. Chloride products like calcium chloride and magnesium chloride do not break down and can accumulate to levels that are toxic to plants and wildlife.

Lighting

The DNR recommends the EA discuss measures to mitigate light impacts associated with the Project. Section 5.2.1.1 states that security lighting will be installed at the O&M facility and substation. Wildlife depends on the daily cycles of light and dark for survival behaviors. Potential project impacts related to illumination can be avoided or minimized by using shielding and downward facing lighting.

Animals depend on the daily cycle of light and dark for behaviors such as hunting, migrating, sleeping, and protection from predators. In addition to the undesirable effects of upward facing lighting, the hue of lights can also affect wildlife. LED lighting has become increasingly popular due to its efficiency and long lifespan. However, these bright lights tend to emit blue light, which can be harmful to birds, insects, and fish. The DNR recommends choosing products that emit the lowest levels of blue hue possible. Our agency also advises using luminaires with the lowest levels of backlight and glare possible. The Applicant should coordinate with the Minnesota Department of Transportation on Approved Products for Luminaries with respect to approved Uplight ratings and nominal color temperatures.

Wildlife-Friendly Erosion Control

The EA should address the importance of using wildlife friendly erosion control measures. Section 4.3.5 discusses the erosion control measures the Applicant intends to take. Specifically, the permit application states that native seed mixes will be planted to stabilize the soil. The Applicant intends to install silt fences, hydro-mulch, and sediment control logs as temporary erosion control measures until the vegetation has established. The DNR recommends using biodegradable erosion control materials that are flexible and rectangular. Hydro-mulches may also contain synthetic fibers (plastic) and malachite green dye. Synthetic fibers and malachite green dye can enter water bodies and pose toxicity concerns for aquatic species.

Wildlife Interactions with Solar Panels

Section 5.2.12 states that the Prescott Waterfowl Production Area is 0.2 miles east from the project area. Solar facilities outside of Minnesota have reported instances of birds and insects mistaking the reflection or glare of panels for water. Fatalities may occur when a bird attempts to land on or between panels. Some species of insects have also been documented to lay eggs on panels resulting in reproductive failure. Impacts can be minimized by installing less reflective panels or panels that contain white grids to minimize the reflective glare. The DNR recommends the EA address potential impacts the Project may have on nearby bird and insect populations, along with methods to avoid or minimize impacts to these populations.

The DNR appreciates the opportunity to comment on the Northern Crescent Solar and Storage Project. If there are questions about the DNR's comments, I may be reached at 651-259-5402 or martin.donovan@state.mn.us.

Sincerely,
/S/ Martin Donovan
Energy Review Planner

CC: Haley Byron, Minnesota Department of Natural Resources
Samantha Bump, Minnesota Department of Natural Resources

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