

STATE OF NORTH DAKOTA
PUBLIC SERVICE COMMISSION

Harmony Solar ND, LLC
Harmony Solar Project – Cass County
Siting Application

Case No. PU-18-219

FINDINGS OF FACT, CONCLUSIONS OF LAW AND ORDER

December ____, 2018

Appearances

Commissioners Randy Christmann, Julie Fedorchak, and Brian Kroshus.

Mollie M. Smith, Fredrikson & Byron, P.A., 200 South 6th Street, Suite 4000, Minneapolis, MN 55402, on behalf of the Applicant, Harmony Solar ND, LLC.

John M. Schuh, Special Assistant Attorney General, North Dakota Public Service Commission.

Timothy J. Dawson, Administrative Law Judge, Office of Administrative Hearings, 2911 North 14th Street – Suite 303, Bismarck, ND 58503, as Procedural Hearing Officer.

Preliminary Statement

On July 29, 2018, Harmony Solar ND, LLC (Harmony Solar) filed an Application for a Certificate of Site Compatibility (Application) for the proposed Harmony Solar Project (Project) to be located in Cass County, North Dakota.

On September 5, 2018, the North Dakota Public Service Commission (Commission) deemed the Application complete and issued a Notice of Filing and Notice of Hearing, scheduling a public hearing for November 1, 2018, at 10:00 a.m., at the Days Inn and Governors Conference Center, 2050 Governors Drive, Casselton, North Dakota. The Notice identified the following issues to be considered:

1. Will the location and operation of the proposed facility produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota?

2. Is the proposed facility compatible with the environmental preservation and the efficient use of resources?

3. Will the proposed facility location minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion?

On September 10, 2018, the North Dakota Geological Survey filed comments concerning the Project.

On September 19, 2018, the North Dakota Department of Health filed comments concerning the Project.

On November 1, 2018, the public hearing was held.

On November 26, 2018, Harmony Solar filed a post-hearing brief, proposed Findings of Fact, Conclusions of Law and Order, and Late-Filed Exhibits 11 through 15.

Having allowed all interested persons an opportunity to be heard and having heard, reviewed, and considered all testimony and evidence presented, the Commission makes its:

Findings of Fact

1. Harmony Solar is a wholly-owned subsidiary of Geronimo Energy, LLC (Geronimo), a utility-scale renewable energy development company headquartered in Edina, Minnesota. Geronimo has developed multiple operating wind farms and solar projects throughout the United States, and more than 1,800 megawatts (MW) of wind and solar projects developed by Geronimo are either under construction or operational.

2. Harmony Solar has been authorized to do business in the State of North Dakota since February 5, 2016, as evidenced by the Certificate of Good Standing issued by the North Dakota Secretary of State on June 25, 2018 (Case No. PU-18-220).

3. Harmony Solar proposes to construct the Project within approximately 1,662 acres of land in Harmony Township in Cass County, North Dakota (Project Area). Harmony Solar requests that the Project Area, as depicted in Hearing Exhibit Nos. 2 and 6, be designated as the site for the Project.

4. Harmony Solar plans to construct a Project substation and interconnect to the existing Bison Substation located in Section 11, Township 140, Range 51 via a 345 kV gen-tie transmission line that will be less than a mile in length (up to 0.86 miles or 4,540 feet). Pursuant to 49-22-03-6(b), the Project's transmission line is not defined as an "electric transmission facility" because it is less than one mile in length. As such, the proposed line falls outside of the Commission's siting jurisdiction.

5. Harmony Solar selected the proposed site for the Project based on a number of factors, including: the quality of the solar resource, on-site electrical infrastructure for interconnection to the grid, landowner support, community input, agency coordination, compatibility with existing land use and environmental features, compliance with the Commission's siting criteria, compliance with Harmony Township's requirements, and economic considerations.

6. Section 49-22-16(4) of the North Dakota Century Code provides that a site shall not be designated that violates the rules of any state agency, and that compliance with an agency's rules shall be presumed if the agency fails to present its position with respect to the proposed facility at the public hearing. The federal, state and local departments, agencies and entities that were consulted and provided comment are as follows:

- a. Federal – United States Department of the Army Corps of Engineers (USACE); United States Fish and Wildlife Service (USFWS);
- b. State – North Dakota Department of Health (NDH); North Dakota Department of Transportation; North Dakota Parks and Recreation; North Dakota State Water Commission; State Historical Society of North Dakota; North Dakota Department of Agriculture (NDA); North Dakota Geological Survey (NDGS); and
- c. Local – Cass County; Harmony Township; Cass County Soil Conservation District; Rush River Water Resource District; and Casselton Job Development Authority.

7. Agency consultations and comments are noted in Appendix C of the Application and in the exhibits and the testimony presented at the public hearing.

8. NDH and NDGS each submitted written comments in this docket with recommendations for minimizing and/or avoiding Project impacts. Harmony Solar presented testimony that it would comply with these recommendations.

9. In addition, a representative of NDA provided comments at the public hearing concerning Project seed mixes and weed control in the Project Area. Harmony Solar provided evidence that it has consulted further with NDA and has incorporated NDA's recommendations into its Vegetation Management Plan (see Late-Filed Hearing Exhibit No. 11).

10. After the hearing, Cass County filed a letter with comments regarding Harmony Solar's Vegetation Management Plan. Harmony Solar has committed to obtaining lab reports to confirm the absence of Palmer amaranth in the seed mixes used for the Project (see Late-Filed Hearing Exhibit No. 13).

11. Section 49-22-16(2) of the North Dakota Century Code provides that no energy conversion facility site shall be designated that violates any local land use, zoning or building rules, regulations or ordinances. Harmony Solar has obtained a conditional use permit for the Project from Harmony Township, and will comply with applicable township zoning ordinance requirements.

Project Design

12. The Project will have a nameplate capacity of up to 200 MW, and the Project's facilities will include solar modules (panels) and racking, inverters, security fencing, laydown areas, a Project substation, an operations and maintenance (O&M) facility, on-site underground electrical collection and communication lines, at least two weather stations, and access roads.

13. The Application included a preliminary Project layout. Harmony Solar has site control within the Project Area, and the location of Project facilities shown in the Application may be modified. Harmony Solar presented evidence showing that siting flexibility within the Project Area is needed to accommodate issues that may arise prior to or during construction, including but not limited to avoid unanticipated cultural resources or underground infrastructure identified during construction. In addition, siting flexibility is needed to accommodate the results of the Project's interconnection studies, which could result in moving the location of the Project's interconnection facilities (including the Project substation).

14. Harmony Solar reviewed a study area consisting of the area within a three-mile radius of the Project Area (Study Area) for its environmental analysis to provide a description of the natural and human environment in which the Project will be constructed.

15. The Project will communicate directly with the Supervisory Control and Data Acquisition (SCADA) system for performance monitoring, energy reporting, and troubleshooting.

16. Construction of the Project is anticipated to begin as early as spring of 2019 and be completed by the end of 2020. Commercial testing is anticipated to begin as early as fourth quarter 2020, following the completion of construction, with commercial operations beginning after the completion of testing.

17. The estimated cost for construction of the Project is approximately \$250 million.

Siting Criteria

18. North Dakota Administrative Code Chapter 69-06-08 sets forth certain criteria to guide the Commission in evaluating the suitability of granting an application for a certificate of site compatibility. The criteria, as set forth in North Dakota

Administrative Code Section 69-06-08-01, are classified as Exclusion Areas, Avoidance Areas, Selection Criteria and Policy Criteria. With the exception of prime farmland and unique farmland, an energy conversion facility shall not be sited within an Exclusion Area. The exception for prime and unique farmland is if the Commission finds the prime farmland and unique farmland that will be removed from use for the life of the facility is of such small acreage as to be of negligible impact on agricultural production, then such exclusion shall not apply. An energy conversion facility must not be sited within an Avoidance Area unless the applicant shows that under the circumstances there is no reasonable alternative. In determining whether an Avoidance Area should be designated for a facility, the Commission may consider, among other things, the proposed management of adverse impacts; the orderly siting of facilities; system reliability and integrity; the efficient use of resources; and alternative sites. In accordance with the Commission's Selection Criteria, a site shall be approved if it is demonstrated that any significant adverse effects resulting from the location, construction, and operation of the energy conversion facility will be at an acceptable minimum or that the effects will be managed and maintained at an acceptable minimum. In accordance with the Commission's Policy Criteria, preference may be given to an applicant demonstrating certain benefits of the proposed energy conversion facility.

Exclusion Areas

19. With respect to Exclusion Areas, land within the Project Area is considered prime farmland or prime farmland if drained. The Project will directly impact 41.4 acres of prime farmland or prime farmland if drained that are also classified by USGS GAP as agricultural, and will result in up to approximately 1,662 acres of agricultural land designated as prime farmland or prime farmland if drained being converted to a different use during the life of the Project. This equates to only approximately 4.5 percent of the prime farmland or prime farmland if drained in the Study Area, and only approximately 0.17 percent of the prime farmland or prime farmland if drained within Cass County.

20. During the life of the Project, approximately 1620.6 acres of the Project Area may continue to be used for agricultural production in the form of grazing for sheep, bee-keeping, and/or haying. Once the Project is decommissioned, the Project Area will be able to return to agricultural use following decommissioning of the Project, if the landowners so choose.

21. The Commission finds the prime farmland and prime farmland if drained that will be removed from use for the life of the Project is of such small acreage as to be of negligible impact on agricultural productions.

22. There are no other Exclusion Areas within the Project Area.

Avoidance Areas

23. There are no Avoidance Areas within the Project Area. The closest inhabited rural residence is owned by a participating landowner and is approximately 1,085 feet from the edge of a solar array.

Selection and Policy Criteria

24. Direct impacts and conversion of land currently used for agricultural production will not result in a significant impact to agricultural production in the Study Area. The Project is anticipated to reduce the amount of agricultural land currently available for production in the County by only approximately 0.17 percent. Agricultural production would be allowed to continue in adjacent areas during construction and operation of the Project. Any revenue lost by removing land from agricultural production will be offset by solar energy production and the associated Land Lease and Solar Easement payments to the associated landowners. Further, the Project Area will be able to return to agricultural use following decommissioning of the Project.

25. Post-construction, the Project will utilize seed mixes across all but 41.4 acres that will promote biodiversity, create stable habitat, attract pollinators, and provide the potential for agricultural production in the form of grazing for sheep, bee-keeping, and/or haying.

26. Landowners have not expressed concerns about or identified irrigation systems on their properties, and no known irrigation systems are present within the Project Area.

27. Harmony Solar submitted evidence to demonstrate that any significant adverse effects resulting from the location, construction, and operation of the Project as they relate to the Selection Criteria set forth in Section 69-06-08-01(5) of the North Dakota Administrative Code will be at an acceptable minimum or managed and maintained at an acceptable minimum.

28. Harmony Solar submitted evidence to demonstrate its commitment to maximize the benefits of the proposed energy conversion facility as far as is possible to meet the Policy Criteria set forth in Section 69-06-08-01(6) of the North Dakota Administrative Code.

29. During construction, the Project will likely result in a temporary increase in traffic on county and township roads. County and township roads will be restored in accordance with the Certification Relating to Order Provisions – Energy Conversion Facility Siting (Hearing Exhibit No. 10). During operation, no adverse effects to transportation facilities or networks are anticipated.

30. The proposed Project is not anticipated to have significant adverse impacts on the ability of the affected area to provide community services, such as

housing, health care, educational services, police and fire protection, water and sewer, or solid waste management.

31. The Project is anticipated to benefit the local economy through the creation of construction and operation and maintenance jobs; easement payments to landowners; state and local tax revenue; and local expenditures for equipment, fuel, operating supplies, products and services.

Cultural Resources

32. Class I and Class III cultural resources inventories were completed for the Project Area. The Class I and Class III inventory report was submitted to SHPO in December 2016.

33. No archaeological or historic sites, or historic architectural resources were identified during Class I and Class III inventories of the Project Area; therefore, the construction and operation of the Project will not impact historic properties listed in, eligible for, or potentially eligible for listing on the National Register of Historic Places. In a letter dated September 28, 2017, SHPO concurred with the inventory report results.

34. Before construction of the Project begins, Harmony will prepare an Unanticipated Discoveries Plan (UDP) that will outline the steps to be taken if previously unrecorded cultural resources or human remains are encountered during construction.

Wetlands, Woodlands, and Wildlife

35. No woodlands are located in the Study Area. As such, no impacts to woodlands will result from the Project.

36. The potential for wetlands in the Study Area was analyzed by reviewing desktop National Wetlands Inventory (NWI) data, followed by formal wetland delineations within the Project Area. The wetland delineations confirmed the absence of wetlands within the Project Area. As such, the Project will not impact wetlands.

37. Harmony Solar conducted environmental studies of the Project Area, and impacts to wildlife are anticipated to be minimal. Because the Project Area is currently used as cropland, occurrence of wildlife within the Project Area is likely low. As a result, impacts on wildlife are anticipated to be minor and not significant. In addition, post-construction restoration of the Project Area may result in benefits to wildlife because the majority of the Project Area would be restored as grassland during the life of the Project using a pollinator-friendly seed mix, thereby potentially benefitting and increasing the overall populations of wildlife species in the area, including small mammals, reptiles, and pollinator insects.

38. Harmony Solar developed a Vegetation Management Plan (Application, Appendix G) for the Project. The Vegetation Management Plan identifies how the

Project will promote pollinator habitat, establish stable ground cover, reduce erosion and runoff, and improve infiltration. The Vegetation Management Plan includes two seed mixes; one will be used if the Project uses grazing for vegetation management, and the other will be used if the Project uses mowing for vegetation management. Harmony Solar consulted with the Cass County Soil Conservation District, Cass County Board of Commissioners, and the NDA on the proposed seed mixes, and the agencies provided positive feedback regarding the seed mixes.

Sound

39. A sound analysis was conducted for the Project. The analysis demonstrates that sound levels for the Project will be less than 50 dBA between 85 to 160 feet from the Project's inverters, which will be the primary source of sound from Project facilities. The closest home to the Project is 1,085 feet away from the edge of a solar array. Therefore, although it does not apply to solar facilities, the Project will comply with the Commission's Avoidance Area requirement for wind energy facilities, i.e., that sound levels within 100 feet of an inhabited residence or community building not exceed 50 dBA unless a waiver is obtained.

Additional Mitigative Measures

40. Harmony Solar has agreed to a number of measures to mitigate potential Project impacts, as indicated by the attached Certification Relating to Order Provisions – Energy Conversion Facility Siting (Hearing Exhibit No. 10).

41. Harmony Solar will utilize best management practices (BMPs) to minimize impacts on ground and surface water, and to prevent soil erosion. Harmony Solar will implement the erosion control measures required under the National Pollution Discharge Elimination System (NPDES) permit and the associated Stormwater Pollution Prevention Plan. Construction of the Project is not anticipated to have a significant adverse impact on surface or ground water resources or soils.

42. Harmony Solar will participate in the North Dakota One-Call Excavation Notice System.

43. Harmony Solar will coordinate with local authorities and first responders regarding emergency response measures as part of the Project construction and commissioning activities.

44. Lightning and grounding protection for all Project facilities is designed and constructed to be compliant with all applicable National Electrical Code (NEC) and National Electric Safety Code (NESC) requirements.

45. Harmony Solar will comply with the decommissioning restoration and financial assurance commitments set forth in Late-Filed Exhibit No. 15.

From the foregoing Findings of Fact, the Commission now makes its:

Conclusions of Law

1. The Commission has jurisdiction over this proceeding under North Dakota Century Code Chapter 49-22.
2. The solar facility proposed by Harmony Solar is an energy conversion facility as defined in North Dakota Century Code Section 49-22-03(5).
3. The Application submitted by Harmony Solar meets the site evaluation criteria required by North Dakota Century Code Chapter 49-22.
4. The location, construction, and operation of the proposed energy conversion facility will produce minimal adverse effects on the environment and upon the welfare of the citizens of North Dakota.
5. The proposed energy conversion facility is compatible with environmental preservation and the efficient use of resources.
6. The proposed energy conversion facility location will minimize adverse human and environmental impact while ensuring continuing system reliability and integrity and ensuring that energy needs are met and fulfilled in an orderly and timely fashion.
7. The Commission has jurisdiction to ensure compliance with National Electric Safety Code standards in the construction and operation of the proposed energy conversion facility.

From the foregoing Findings of Fact and Conclusions of Law, the Commission now makes its:

Order

The Commission orders:

1. Certificate of Site Compatibility No. __ for an Energy Conversion Facility is issued to Harmony Solar ND, LLC, designating a site for a wind energy conversion facility that corresponds to the Project Area depicted in Hearing Exhibit Nos. 2 and 6.
2. That within the designated site, as depicted in Hearing Exhibit Nos. 2 and 6, Harmony Solar is authorized to site, construct, operate, and maintain solar modules (panels) and racking, inverters, security fencing, laydown areas, a Project substation, an operations and maintenance (O&M) facility, on-site underground electrical collection and communication lines, at least two weather stations, and access roads, as well as any other associated facilities identified in the Application, at the hearing, and in any supplemental filings.

3. Harmony Solar shall comply with the updated Vegetation Management Plan and with the seed mix source commitments set forth in Late-Filed Exhibit Nos. 11 and 13.

4. Harmony Solar shall comply with the decommissioning restoration and financial security commitments set forth in Late-Filed Exhibit No. 15.

5. The Certification Relating to Order Provisions – Energy Conversion Facility Siting (Hearing Exhibit No. 10) is incorporated by reference and attached to this Order.

PUBLIC SERVICE COMMISSION

**Julie Fedorchak
Commissioner**

**Randy Christmann
Chairman**

**Brian Kroshus
Commissioner**