STATE OF MINNESOTA
COURT OF ADMINISTRATIVE HEARINGS
FOR THE PUBLIC UTILITIES COMMISSION

In the Matter of Lake Charlotte Solar, LLC's and Lake Charlotte Storage, LLC's Joint Application for the Lake Charlotte 150 MW Solar Facility and 150 MW/600-MWh Lake Charlotte Battery Energy Storage System Located in Rutland Township in Martin County, Minnesota

CAH 23-2500-41194
MPUC IP-7159/ESS-25-205
IP-7159/GS-25-206

LAKE CHARLOTTE SOLAR, LLC AND LAKE CHARLOTTE STORAGE, LLC'S PROPOSED FINDINGS OF FACT, CONCLUSIONS OF LAW, AND RECOMMENDATIONS

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This matter was assigned to Administrative Law Judge Suzanne Todnem to conduct a joint public hearing and prepare a report on the Joint Application for Site Permits by Lake Charlotte Solar, LLC (Lake Charlotte Solar) and Lake Charlotte Storage, LLC's (Lake Charlotte Storage) (collectively, the Applicants), wholly owned subsidiaries of Geronimo Power, LLC (Geronimo). for the up to 150 megawatt (MW) solar project (Solar Facility) and for the associated 150 MW / 600-megawatt hour (MWh) alternating current (AC) battery energy storage system (BESS) to be located in Rutland Township, Martin County, Minnesota.[1]

On July 22, 2025, the Minnesota Public Utilities Commission (Commission or PUC) requested the Administrative Law Judge provide a full report with findings of fact, conclusions of law, and recommendations regarding the Projects following public hearings.[2]

Public hearings on the Application were help on February 24, 2026 (remote-access), and February 25, 2026 (in-person). The factual record remained open until March 13, 2026, for the receipt of written public comments.

Jeremy P. Duehr Fredrikson & Byron P.A., 60 South Sixth Street, Suite 1500, Minneapolis, Minnesota 55402, and Marta Lasch and Karsen Rumpf, Geronimo, appeared on behalf of the Applicants at the public hearings.

Jessica Livingston, appeared on behalf of the Commission's Energy Infrastructure Permitting staff (formerly known as DOC-EERA) (PUC-EIP) at the public hearings.

Cezar Panait, appeared on behalf of the Commission's Staff at the public hearings.

[1] The proposed BESS and Solar Facilities are collectively referred to herein as the Project.
[2] Ex. PUC-2 (PUC Order on Application Completeness).

STATEMENT OF ISSUES

Has Lake Charlotte Solar satisfied the criteria established in Minn. Stat. Chapter 216E and Minn. Admin. Rules Chapter 7850 for a Site Permit for the proposed 150 MW Solar Facility in Rutland Township, Martin County, Minnesota?

Has Lake Charlotte Storage satisfied the criteria established in Minn. Stat. Chapter 216E and Minn. Admin. Rules Chapter 7850 for a Site Permit for the proposed 150 MW AC BESS facility in Rutland Township, Martin County, Minnesota?

SUMMARY OF RECOMMENDATIONS

Applicants have satisfied the applicable legal requirements, and the Commission should GRANT a Site Permit for the Solar Facility and GRANT a Site Permit for the BESS facility, subject to the recommendations discussed below.

Based on the Application, proceedings, and other evidence in the record, the Administrative Law Judge makes the following findings:

FINDINGS OF FACT

I. Applicants

1. The Applicants are Lake Charlotte Solar and Lake Charlotte Storage, wholly owned subsidiaries of Geronimo Power, LLC.[3]

2. At the time that the initial Application was filed, Lake Charlotte Solar was the sole Applicant for both the Solar Facility and BESS.[4]

3. On February 18, 2026 Lake Charlotte Solar submitted a request that the Commission change the name of the applicant for the BESS Docket to Lake Charlotte Storage, an affiliate of Lake Charlotte Solar such that the renamed Docket No. ESS-25-205, would be: *In the Matter of the Application of Lake Charlotte Storage, LLC for an up to 150 MW / 600-MWh Battery Energy Storage System Site Permit for the Lake Charlotte Storage Project in Martin County, Minnesota*.[5]

4. Geronimo, through its affiliates, develops, constructs, and operates utility-scale solar and battery storage projects across the United States.[6]

II. Joint Site Permit Application and Related Procedural Background

[3] Ex. LCS-16 (February 18, 2026 Filing Letter).
[4] Ex. LCS-13 (Notice of Filing Joint Site Permits Application).
[5] Ex. LCS-16 (February 18, 2026 Filing Letter).
[6] Ex. LCS-2 at § 1.0 (Application).

5. Lake Charlotte Solar filed a Notice of Intent to Submit Site Permit Application Under the Alternative Permitting Process on April 30, 2025.[7] The Notice of Intent addressed both the Solar Facility and BESS.

6. On June 3, 2025, Lake Charlotte Solar filed a Joint Application for Site Permits for the Solar Facility and BESS. [8]

7. On June 11, 2025, the Commission issued a Notice of Comment Period on the completeness of the Application. The initial comment period closed June 25, 2025, and the reply and supplemental comment periods closed on July 2 and 8, 2025, respectively.[9]

8. On June 17, 2025, the North Central States Regional Council of Carpenters (NCSRC of Carpenters) and the International Union of Operating Engineers Local 49 (IUOE Local 49) provided a written comment in support of the Project.[10]

9. On June 25, 2025, PUC-EIP staff submitted comments regarding Application completeness, environmental review, procedural requirements, and other issues. PUC-EIP staff recommended that the Commission accept the Application as substantially complete. Staff also recommended a full Administrative Law Judge report for the public hearing but concluded that an advisory task force was not warranted.[11]

10. On June 26, 2025, Lake Charlotte Solar submitted a Confirmation of Notice compliance filing to the Commission pursuant to Minnesota Rule 7850.2100, subp, 5.[12]

11. On July 2, 2025, the Lake Charlotte Solar submitted reply comments regarding the completeness of its Application, the need for an advisory task force, the application review process, and authorization for Lake Charlotte Solar to initiate consultation with the State Historic Preservation Office.[13]

12. On July 9, 2025, the Commission filed a notice of legislative changes indicating that on July 1, 2025, the Department of Commerce Energy Environmental Review and Analysis (DOC-EERA) moved to Commission to become the PUC-EIP. The Commission also indicated that matters like this one, which were initially filed prior to July 1, 2025, would continue to be reviewed under Minn. Stat. § 216E (2023) or Minn. Stat. § 216F (2023), as applicable. As noted, the alternative permitting procedures of Minn. Stat. § 216E.04 apply here.[14]

13. On July 22, 2025, the Commission accepted the Application as complete, declined to appoint an advisory task force for the Project, authorized the executive Secretary to issue an authorization to Lake Charlotte Solar to initiate consultation with Minnesota State

[7] Ex. LCS-1 (Notice of Intent to Submit Site Permit Application Under Alternative Process).
[8] Ex. LCS-2 (Application).
[9] Notice of Comment Period on Application Completeness (June 11, 2025) (eDockets No. 20256-219835-01).
[10] IUOE Local 49 and NCSRC of Carpenters Comments (June 17, 2025) (eDockets No. 20256-219951-01).
[11] Ex. PUC-EIP-1 (Comments on Application Completeness).
[12] Ex. LCS-14 (Confirmation of Notice).
[13] Ex. LCS-15 (Completeness Reply Comments).
[14] Ex. PUC-1 (Notice of Legislative Changes).

Historic Preservation Office (SHPO), and "[r]equested a full ALJ report with findings, conclusions, and recommendations for the [P]roject's public hearing."[15]

14. On August 7, 2025, the Commission issued a Notice of Public Information and Environmental Assessment (EA) Scoping Meetings for the Project, announcing that the in-person meeting was scheduled for August 28, 2025, in Fairmont, Minnesota, and that the online meeting would be held via Webex on September 2, 2025. Public comments were accepted through September 17, 2025.[16]

15. Scoping meetings were held on August 28 and September 2, 2025. There, members of the public were provided the opportunity to provide comment on the Project. On September 23, 2025, PUC-EIP filed the oral and written comments received during the EA scoping comment period. These comments included additional written comments by Pam Flitter of Martin County Planning and Zoning, Steve and Kathy Fosness and Bryan Gregor.[17]

16. From September 3 to 17, the following members of the public submitted written comments regarding the Project: Nicole Lawton and Dennis Lawton, Dallyn Kotewa, Jennifer Moeller, Jacy Kosbab, and Brenda Kotewa and Roger Kotewa.[18]

17. On September 9, 2025, Tyler Utesch submitted comments on behalf of the Martin County Drainage Administration.[19]

18. On September 16, 2025, the Department of Natural Resources (DNR) submitted written comments as well as a Natural Heritage Review Letter.[20]

19. On September 16, 2025, the Department of Transportation (MnDOT) submitted written comments on the Project.[21]

20. This matter was assigned to Administrative Law Judge Suzanne Todnem. On September 25, 2025, Administrative Law Judge Todnem issued an Order for a prehearing conference to be held on October 9, 2025.[22]

21. On October 9, 2025, the Commission issued consent items regarding the inclusion of alternative sites for the Project. [23]

22. On October 13, 2025, in response to PUC-EIP staff concluding that that no public, state, or local level comments suggested an alternative site for the Project, the Commission

[15] Ex. PUC-2 (Order on Application Completeness).
[16] Ex. PUC-3(Notice of Public Information and EA Scoping Meetings).
[17] Ex. PUC-EIP-2 (Oral and Written Comments on the Scope of the EA).
[18] Nicole Lawton and Dennis Lawton Comments (Sept. 4, 2025) (eDockets No. 20259-222695-01); Dallyn Kotewa Comments (Sept. 15, 2025) (eDocket No. 20259-223061-01); Jennifer Moeller Comments (Sept. 15, 2025) (eDockets No. 20259-223059-01); Jacy Kosbab Comments (Sept. 16, 2025) (eDockets No. 20259-223111-01); Brenda Kotewa and Roger Kotewa Comments (sept. 17, 2025) (eDockets No. 20259-223150-01).
[19] Ex. PUC-17 (Martin County Comments.
[20] Exs. PUC-13 (DNR Comments) and PUC-14 (DNR Natural Heritage Review Letter).
[21] Ex. PUC-12 (MnDOT Comments).
[22] Order for Prehearing Conference (Sept. 25, 2025) (eDockets No. 20259-223312-01).
[23] Proposed October Consent Items (Oct. 9, 2025) (eDockets No. 202510-223766-01.

authorized PUC-EIP staff to include in the scoping decision for the EA only the site for the Project identified by the Lake Charlotte Solar in the Application.[24]

23. Following the First Prehearing Conference on October 9, 2025, Administrative Law Judge Todnem issued a First Prehearing Order on October 23, 2025. [25]

24. On October 25, 2025, the Commission issued an Environmental Assessment Scoping Decision (EA Scoping Decision).[26]

25. On February 11, 2026, the Commission issued a Notice of Public Hearings and Availability of Environmental Assessment. The Notice set a virtual hearing date of February 24, 2026, and an in-person hearing date for February 25, 2026, to be held in Fairmont, Minnesota 56031.[27]

26. On February 11, 2026, the Commission issued the Lake Charlotte Solar Environmental Assessment (EA).[28]

27. Attached as Appendix C to the EA are Draft Site Permits for the Solar and BESS Facilities.[29]

28. On February 12, 2026, the Commission issued a notice of the EA to permitting agencies and tribal historic preservation officers.[30]

29. On February 18, 2026, Lake Charlotte Solar submitted the Direct Testimony of Marta Lasch on behalf of Lake Charlotte Solar with accompanying Schedules A-D.[31]

30. On February 18, 2026 Lake Charlotte Solar submitted a request that the Commission change the name of the applicant for the BESS Docket to Lake Charlotte Storage, an affiliate of Lake Charlotte Solar such that the renamed Docket No. ESS-25-205, would be: *In the Matter of the Application of Lake Charlotte Storage, LLC for an up to 150 MW / 600-MWh Battery Energy Storage System Site Permit for the Lake Charlotte Storage Project in Martin County, Minnesota*. Lake Charlotte Solar remains the applicant for the Solar Facility and Lake Charlotte Storage became the applicant for the BESS.

31. On February 19, 2026, PUC-EIP filed an EQB Monitor Notice of Hearings and Availability of EA for the Project.[32]

[24] Ex. PUC-15 (Alternative Site Order).
[25] First Prehearing Order (Oct. 23, 2025) (eDockets No. 202510-224230-01).
[26] Ex. PUC-EIP-4 (EA Scoping Decision).
[27] Ex. PUC-11 (Notice of Public Hearing and Availability of Environmental Assessment).
[28] Ex. PUC-EIP-5 (EA).
[29] Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[30] Ex. PUC-EIP-6 (Distribution of EA to Agencies and THPOs).
[31] Exs. LCS-17 (Direct Testimony of Marta Lasch); LCS-16 (February 18, 2026 Filing Letter).
[32] Ex. PUC-EIP-8 at 3 (EQB Monitor Notice of Public Hearings and EA Availability).

32. On February 19, 2026, PUC-EIP filed a certificate of mailing of the EA to the Martin County Library. [33]

33. On February 25, 2026, Applicants submitted Affidavits of Publication and Tear Sheets for Notice of Public Information and EA Scoping Meetings and the Notice of Public Hearings and Availability of EA.[34]

III. Description of the Proposed Project

34. Lake Charlotte Solar proposes an up to 150 MW alternating current (AC) solar energy generating system (the Solar Facility). Lake Charlotte Storage proposes a stand-alone BESS with up to 150 MW / 600 MWh nameplate capacity, and ancillary facilities. The Applicants also propose to construct a 365-foot long 161 kilovolt (kV) gen-tie transmission line and substation for the Project (the Project Substation) that will collect energy generated by the Solar Facility and move that energy to the Point of Interconnection (POI) for both the Solar Facility and the BESS at the Southern Minnesota Municipal Power Agency (SMMPA) Rutland Substation (Rutland Substation). [35]

35. The BESS will share the gen-tie transmission line and Project Substation with the Solar Facility, but will operate independently. The BESS will charge its batteries using electricity from the grid, via the gen-tie transmission line and Project Substation and may also charge its batteries with power generated by the Solar Facility. The BESS will then feed electricity into the grid when needed via the gen-tie line, Project Substation and POI.[36]

36. The expected service life of the Solar Facility and BESS is approximately 30 years, after which the Applicants may extend the Project via site permit amendments. [37]

37. The Solar Facility is currently designed with a net generating capacity of up to 150 MW AC. It will transmit a maximum of 150 MW AC of solar energy generation to the grid, via the Rutland Substation in accordance with the Generator Interconnection Agreement that Lake Charlotte Solar has executed with the SMMPA and Midcontinent Independent System Operator, Inc (MISO). [38]

38. Lake Charlotte Storage is pursuing a separate Generator Interconnection Agreement with MISO for the BESS to operate independently and receive and store energy directly from the electric grid. The BESS is designed to accommodate up to 150 MW of surplus energy that can be injected back into the electrical grid in times of need; though at no point would the BESS inject over 150 MW at the POI. [39]

39. The Solar Facility components will include solar modules mounted on a linear axis tracking rack system, inverters, transformer, a collection system, a Project Substation, a gen-tie line,

[33] Ex. PUC-EIP-7 at 3 (Certificate of Mailing EA to Library).
[34] Ex. LCS-18 (Affidavits of Publication and Tear Sheets).
[35] Ex. LCS-2 at § 1.0 (Application).
[36] Ex. LCS-2 at § 1.0 (Application).
[37] Ex. LCS-2 at § 4.5 (Application).
[38] Ex. LCS-2 at § 2.4 (Application).
[39] Ex. LCS-2 at § 2.4 (Application).

an operation and maintenance (O&M) facility, a parking lot, stormwater retention ponds, fencing, and access roads. The modules will be affixed to tracking mechanisms that will allow the modules to track the sun for maximum electricity production. The Solar Facility will also include up to six weather stations that will each be up to 20 feet tall.[40]

40. The Project Substation will occupy approximately 4.7 acres directly south of the Rutland Substation, and will include the substation, transformers, and a gen-tie line. The Project Substation will be surrounded by a six-foot-tall chain link fence topped with one foot of barbed wire. The Substation will include a 34.5 to 161 kV step-up transformer, metering, and switchgear. [41]

41. Underground collector lines from the Solar Facility and BESS inverters will deliver energy to the Project Substation. Energy will then be transmitted to the Rutland Substation via an overhead gen-tie line. [42]

42. The electric collection system will include cables and accessories, inverters, step-up transformers, and a Supervisory Control and Data Acquisition (SCADA) system. Inverters will convert approximately 1,500 volts of direct current power from the solar modules to between 650 to 950 volts of AC power depending on inverter specifications. Step-up transformers will convert the alternating current voltage to an intermediate voltage of 34.5 kV, and collection will cables carry the converted voltage to the Project Substation. Transformers in the Project Substation will step up the voltage from 34.5 kV to 161 kV prior to being carried to the Rutland Substation via the planned gen-tie line. [43]

43. The Solar Facility will include up to 32 central inverter skids located in the interior along access roads. Each skid includes an inverter, transformer, and SCADA system mounted on concrete slab or pier foundations. Skids typically measure 10 feet wide by 25 feet long with a height of approximately 12 feet above grade; slabs are 1 to 1.5 feet deep, while pier foundations extend up to 15 feet deep. [44]

44. The fencing around the Solar Facility will consist of an agricultural woven wire fence and will extend approximately seven feet above grade. Barbed wire will not be used around the perimeter of the Solar Facility. In place of barbed wire, one foot of three to four strands of smooth wire will be placed atop of the woven wire fence for a total height of approximately eight feet above grade.[45]

45. The BESS will utilize lithium-ion batteries with a 150 MW AC storage capacity. The BESS will include enclosures, inverters and medium voltage transformers and switchgear; low voltage cables that will connect the enclosures to inverters/transformers and a power distribution system, a battery management system, and a fence. The inverters and transformers will have similar characteristics as those installed for the Solar Facility. The

[40] Ex. LCS-2 at §§ 1.0, 4.1.1 - 4.1.1.1, 4.1.1.2, 4.1.3-4.1.4, & 4.1.5.2 - 4.1.5.5 (Application).
[41] Ex. LCS-2 at §§ 2.2, 4.1.2, & 4.1.5.1 (Application).
[42] Ex. LCS-2 at § 4.0 (Application).
[43] Ex. LCS-2 at § 4.0 (Application).
[44] Ex. LCS-2 at § 4.1.1.2 (Application).
[45] Ex. LCS-2 at § 4.1.4 (Application).

BESS will share the Project Substation, gen-tie line, the O&M facility, parking lot, stormwater retention pond and an access road with the Solar Facility. The BESS will be able to charge its batteries with energy supplied by the grid during periods of low demand, and feed electricity into the grid when demand is high. [46]

46. The BESS will be located on approximately 15.9 acres in the south-central portion of the Preliminary Development Area (as defined below), adjacent to the west side of the Project Substation.[47]

47. The Applicants have incorporated all reasonable safety precautions into the design of the proposed BESS. The storage cells (lithium-ion batteries) will be arranged in a modular system encased in standalone enclosures. [48] The fencing around the BESS will be similar to the Project Substation and will be comprised of a 6-foot above grade chain-link fence and one foot of barbed wire on top to comply with the NESC. This fencing will be designed to prevent the public from gaining access to electrical equipment which could cause injury or death.[49]

48. The BESS enclosures will be weatherproof and will include fully integrated heating, ventilation, and air conditioning systems for temperature control; the enclosures will also include sensors, and controls for remote monitoring. No off-gassing or air emissions are produced by the BESS.[50]

49. Automatic fire detection and suppression systems will be installed for each of the BESS standalone enclosures. [51]

50. The BESS will also include a battery management system to monitor different aspects of the system. Each battery will be equipped with cell level, module level, rack level, and system level monitoring points that produce real-time data that is fed into automatic control systems housed in the battery management system and site controller. These systems ensure the BESS operates within the original equipment manufacturer's operating parameters. [52] In the event of an emergency at the BESS, if any operating limit is exceeded, the system will shut down the affected equipment and automatically dial a fire monitoring service who will contact the local fire department, plant manager, and Geronimo Power's Remote Operating Center.[53] .

51. The equipment selected by the Applicants will be tested and certified by third party professionals. Standards, certifications, and code requirements from multiple nationally recognized organizations will be required for the engineering, design, manufacture, and testing of the enclosures and equipment included in the BESS. All BESS equipment will be tested for compliance with recognized safety standards, including International

[46] Ex. LCS-2 at § 4.1.2 (Application).
[47] Ex. LCS-2 at § 4.1.2 (Application).
[48] Ex. LCS-2 at § 4.1.2 (Application).
[49] Ex. LCS-2 at § 4.1.4 (Application).
[50] Ex. LCS-2 at § 4.1.2.1(Application).
[51] Ex. LCS-2 at § 5.2.5.1 (Application).
[52] Ex. LCS-2 at § 4.1.2.3 (Application).
[53] Applicants' Response to Public Hearing Comments at 8 (Mar. 25, 2026) (eDockets No. _____).

Electrotechnical Commission 62619, International Electrotechnical Commission 6244-1, Underwriters Laboratories 1973, and Underwriters Laboratories 9540A. BESS design shall comply with International Fire Code 2018, NFPA 855, and National Electric Code (NFPA 70). [54]

52. The O&M building will be located adjacent to the Project Substation and will include a building with an office for the onsite plant manager, a technician room, a restroom, and a SCADA cabinet. The O&M building will also contain a storage area for operations and maintenance equipment, spare panels and spare parts for the Project Substation and BESS, as well as equipment to operate the Project Substation, and safety equipment.[55]

53. The Project will contribute to the goals set forth in Minnesota's Clean Energy Objectives. In particular, the Project will contribute to meeting the carbon-free energy standards, as well the renewable energy standard requiring that 90 percent of all energy generated or produced by utilities and sold to Minnesota retail customers come from carbon-free sources by 2035.[56]

IV. Site Location and Characteristics

54. The Applicants obtained lease and purchase options for 1,277 acres of privately-owned land (the Land Control Area). Of the Land Control Area, approximately 1,004 acres (the Preliminary Development Area) will be needed for the construction and operation of the Project – to wit, the Solar Facility, BESS, Project Substation, and appurtenant facilities. Applicants maintain site-control over the remaining 273 acres, but that land may ultimately be excluded from the area controlled by Lake Charlotte Solar during the operation of the Project.[57]

55. To provide flexibility in working with Martin County on potential drain tile impacts, the Land Control Area includes both currently planned and a possible alternative solar array layout; as a result, the Preliminary Development Area as listed in the Application is overstated by approximately 58 acres.[58]

56. The Land Control Area is located in Rutland Township in Martin County Minnesota. Specifically, the Solar Facility will be located in Township 103N, Range 30W, Sections 5, 8, 9, 16, 17, 20, and 21. The BESS will be located adjacent to the Project Substation in Rutland Township, Township 103N, Range 30W, Section 17.[59]

57. The northeastern edge of the Land Control Area abuts the southern municipal boundary of the Town of Northrop where it parallels 170th Street in Township 103N, Range 30W, Section 16.[60]

[54] Ex. LCS-2 at § 4.1.2.2 (Application).
[55] Ex. LCS-2 at § 4.1.5.2 (Application).
[56] Ex. LCS-2 at § 5.5.2 (Application).
[57] Ex. LCS-2 at § 2.1 (Application).
[58] Ex. LCS-2 at § 2.1 (Application).
[59] Ex. LCS-2 at § 2.1 (Application).
[60] Ex. LCS-2 at § 2.1 (Application).

58. The Land Control Area is generally bound by 175th Street to the north (with a small portion of the area expanding to the north of the street), 210th Avenue and Lake Charlotte to the West, and State Highway 15 to the East [61]

59. The elevation of the Land Control Area from 1,134 to 1,169 feet above sea level and is comprised of largely flat topography. Land use within the Land Control Area focuses on row crop production, predominantly corn and soybean, with approximately 95.3 percent of land used for agricultural purposes.[62]

V. Solar Resource Considerations

60. According to data compiled by the University of Minnesota, southern Minnesota, including Martin County, has some of the best locations for exposure to solar radiation in the state. In addition to the available solar resources, Lake Charlotte Solar selected the Land Control Area for development based, in part, on the supportive community, the available capacity to interconnect the Project to the transmission system, the presence of adequate roads for access, and relatively, flat, unobstructed terrain in the vicinity of the Rutland Substation to maximize the utilization of the solar resource. [63]

61. Lake Charlotte completed an evaluation of potential alternatives in an attempt to find a location for the Project that would use fewer acres of prime farmland. Lake Charlotte, however, determined that the selected location better meets the needs of the Solar Facility and avoids prohibited areas to the maximum extent practicable. Lake Charlotte also determined that there is relatively little opportunity to avoid impacts to prime farmland in the state of Minnesota where high solar potential exists and which is also not constrained by natural resources/features constraints. The detailed analysis provided in Appendix D to the Application demonstrates that Lake Charlotte was unable to find a feasible and prudent alternative location for the Solar Facility. [64]

VI. Project Schedule

62. Applicants have begun evaluating and seeking indicative pricing for solar and BESS equipment for the Project. [65]

63. Subject to change based on the status of commercial matters such as offtake agreement for the sale of power generated by the Solar Facility and any agreements for the use of power stored by the BESS, Applicants anticipate that construction of the Project will begin as early as the second quarter of 2027, with a targeted completion date, and commencement of commercial operation, as early as the third quarter of 2028. [66]

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[61] Ex. LCS-2 at Figure 1.0-1 (Application).
[62] Ex. LCS-2 at §§ 5.1, 5.2.1 & Table 5.2.9-1 (Application).
[63] Ex. LCS-2 at § 3.1; Figure 3.1-1 (Application).
[64] Ex. LCS-2 at § 3.3 (Application); Ex. LCS-7 (Appendix D – Prime Farmland Alternatives Assessment).
[65] Ex. LCS-2 at § 1.4 (Application).
[66] Ex. LCS-17 at 4-5 (Direct Testimony of Marta Lasch).

VII. Summary of Public Comments

A. Scoping Comments

64. The Public Information and EA Scoping meetings were held on August 28 and September 2, 2025.

65. Eight members of the public provided oral comments during the Public Information and EA Scoping Meeting (in-person) held on August 28, 2025. A representative from IUOE Local 49 expressed support for the use of local labor on the Project. Members of the public raised questions regarding visual impacts of the site, setbacks from the proposed site and the proximity to residential structures and nearby lakes, potential decrease to property values, potential health and fire risks, and safety measures at the site. Concerns were raised about the use of prime farmland and economic impacts to local agricultural community, the decommissioning plans and costs, insurance coverage for the Project and other concerns related to ecological and agricultural impacts – including impacts to the soil and drain tile.[67]

66. Five members of the public provided oral comments during the Public Information and EA Scoping Meeting (remote-access) held on September 2, 2025. The individuals provided comments concerning the proximity of the site from residential structures, fire risk and emergency response, toxic materials and potential leaching into soil, and aesthetic, wildlife and health impacts. Some commenters questioned the suitability of the Land Control Area for a solar instillation. Commenters requested additional information on measures to mitigate potential fire risk and environmental contamination from the BESS, whether wetlands were present within the Preliminary Development Area, and whether the Commission had established cost guidelines for solar instillations.[68]

67. During the scoping comment period, the DNR filed written comments addressing potential environmental impacts regarding fencing, lighting, dust, wildlife-friendly erosion control, Grant-in-Aid Trails, and recommended that Applicants utilize a vegetation management plan (VMP). [69]

68. DNR recommended the security fence reaches a minimum height of 10 feet around each group of solar arrays to prevent white-tailed deer and other large wildlife from entering the facility and be designed in accordance with the DNR's ***Fencing Handbook for 10ft Woven Wire Deer Exclusion Fence***, and utilize a VMP throughout the permitted sites that is consistent with the DNR's ***Prairie Establishment and Maintenance Technical Guidance for Solar Standards***. [70]

69. The DNR commented that Applicants should refrain from using both non-native plants and the aggressively reseeding Eastern Red Cedar currently contemplated in the VMP[71], refrain

[67] Ex. PUC-EIP-2 (Oral and Written Comments on Scope of EA).
[68] Ex. PUC-EIP-2 (Oral and Written Comments on Scope of EA).
[69] Ex. PUC-13 (DNR Comments).
[70] Ex. PUC-13 (DNR Comments).
[71] Ex. LCS-17 at 6-7 (Direct Testimony of Marta Lasch).

from construction activities that may impact segment #161 of the Prairie Trail snowmobile trail during December 1 through April 1, utilize downward facing lighting to minimize blue hue, utilize lighting which has a nominal color temperature that does not exceed 4,000 kelvin, and refrain from using of chloride products to control dust, and utilize ecofriendly erosion control materials, such as "bio-netting" or "natural netting" to minimize wildlife entanglement, limit the use of hydro-mulch, the synthetic fibers of which, can migrate into waterways. [72]

70. The DNR filed their March 11, 2025, Formal Natural Heritage Review letter for the Project with their scoping comments. The DNR concluded that the Project will not "negatively affect any known occurrences of rare features" and that no further review is needed related to ecologically significant areas, state-listed endangered or threatened species, and state-listed "species of special concern." The DNR made no finding as to the presence or absence of federally-listed threatened or endangered species. [73]

71. On September 16, 2025, MnDOT submitted comments on the Project. MnDOT focused on the Project's proximity to Trunk Highway 15 and potential impacts on highway infrastructure. MnDOT further noted that several planned water basins are located near the highway right-of-way and emphasized that these should not alter peak runoff rates, and potentially require a drainage permit review. The agency also flagged an archaeological site that overlaps MnDOT right-of-way, which would require a permit and Cultural Resources Unit review if Project work occurs in that area that also affects the right-of-way. Further, because the Project boundary lies along a high vulnerability snow trap, MnDOT recommended coordination with its Blowing Snow Control team to assess and mitigate any adverse effects. [74]

72. On September 9, 2025, Tyler Utesch submitted comments on behalf of the Martin County Drainage Administration requesting confirmation that the Project will maintain the 150-foot setback from the main drain tile south of 170th Street and noting that proposed tree rows must comply with statutes prohibiting planting over or near tiles. The comment also seeks clarification on whether water basins near 170th Street are permanent or temporary and whether they will use county tiles as outlets. It suggested rerouting the county main tile parallel to 170th Street and notes that abandoning two tile lines requires a formal petition. Finally, it requests similar 150-foot setbacks for solar panels, fencing, and basins north of 160th Street near a county tile serving a hog building site. [75]

73. On September 1, 2025, Steve and Kathy Fosness submitted a comment expressing their general opposition to the Project. [76]

[72] Ex. PUC-13 (DNR Comments).
[73] Ex. PUC-14 (DNR Natural Heritage Review Letter).
[74] Ex. PUC-12 (MnDOT Comments).
[75] Ex. PUC-17 (Martin County Comments).
[76] Ex. PUC-EIP-2 (Oral and Written Comments on Scope of EA).

74. On September 2, 2025, Pam Flitter from Martin County Planning and Zoning submitted a comment requesting that Lake Charlotte Solar abide County setbacks, and specifically those related to setbacks from residences and waterways. [77]

75. On September 4, 2025, Nicole and Dennis Lawton submitted written comments expressing opposition to the Project. The Lawtons expressed concerns regarding the harm to the local agricultural businesses, safety concerns, the efficacy of the solar panels, and the negative effects on property values.[78]

76. On September 7, 2025, Bryan Gregor raised concerns over the potential impacts of the Project to the Blanding's turtle. [79]

77. On September 16, 2025, Jennifer Moeller submitted written comments expressing concerns about the Project regarding health concerns, environmental concerns on local wildlife, including bald eagles frequently seen near her property, on safety concerns, and economic impacts. [80]

78. On September 16, 2025, Dallyn Kotewa submitted comments to the Commission regarding the Project, which would be located immediately west of his farmland in Rutland Township. The commenter expressed concern that tile drainage systems could be damaged during panel installation, affecting water dispersal on adjacent fields. The commenter also questioned how property taxes would be assessed on land removed from agricultural use and how this could affect taxes on remaining farmland in the township. [81]

79. On September 16, 2025, Jacy Kosbab submitted written comments to the Commission expressing concerns about the Project related to fire risks, possible soil erosion, stormwater runoff, and potential sediment, nutrient, and construction related-pollutant contamination groundwater and nearby surface waters, including Lake Charlotte, and potential adverse environmental impacts, including but not limited to impacts to Blanding's turtles in the Project vicinity. [82]

80. On September 18, 2025, the Commission received a written comment from Brenda and Roger Kotewa, who reside one mile from the Land Control Area. The commenters expressed concerns regarding loss of farmland and lasting soil degradation and compaction that could result from the Project. The commenters further noted environmental and health concerns related to electromagnetic fields potentially emitted by the Project and the resulting impacts to wildlife and people, as well as general concerns over the environmental impacts of the Project.[83]

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[77] Ex. PUC-EIP-2 (Oral and Written Comments on Scope of EA).
[78] Nicole Lawton and Dennis Lawton Comments (Sept. 4, 2025) (eDockets No. 20259-222695-01).
[79] Ex. PUC-EIP-2 (Oral and Written Comments on Scope of EA).
[80] Jennifer Moeller Comments (Sept. 16, 2025) (eDockets No. 20259-223059-01).
[81] Dallyn Kotewa Comments (Sept. 16, 2025) (eDockets No. 20259-223061-01).
[82] Jacy Kosbab Comment (Sept. 16, 2025) (eDockets No. 20259-223111-01).
[83] Brenda Kotewa and Roger Kotewa Comment (Sept. 18, 2025) (eDockets No. 20259-223150-01).

81. In September 2025, Makayla Nepp submitted written comments to the Commission expressing concerns about the Project related to the safety of solar panels near busy highways. [84]

B. Hearing Comments

82. Public hearings were held on February 24 and 25, 2026. Three members of the public provided oral comments during the in-person public hearing held on February 25, 2026; while no members of the public provided comments during the February 23, 2026 virtual public hearing.[85]

83. Comments made during the February 25, 2026, public hearing again raised concerns over potential impacts to the public drain tile and prime farmland and further requested information on the specifics of the process and plans for decommissioning the Project, as well as regarding the financial surety to be provided by Applicants pursuant to the Decommissioning Plan. [86]

84. During the comment period, members of the public submitted a total of 34 written comments on the Project.[87]

85. On March 13, 2026, the International Brotherhood of Electrical Workers Local 343 (IBEW Local 343) and LIUNA Minnesota and North Dakota (LIUNA) submitted a written comment in support of the Project. [88]

86. On March 13, 2026, DNR, the PUC-EIP, and the Vegetation Management Planning Working Group (VMPWG) each also submitted written comments on the Project. [89]

87. On March 12, 2026, landowners participating in the Project submitted comments in support of the Project highlighting, among other things, the economic benefits for their families and noted that the Project will preserve farmland for future generations post-decommissioning and will otherwise help local landowners maintain ownership of their agricultural properties. [90]

88. Other written public comments expressed concerns regarding the selection of the site and alternative site options, community benefits from the Project, possible impacts to prime

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[84] Ex. PUC-EIP-2 (Oral and Written Comments on Scope of EA).
[85] In-Person Public Hearing Tr. at 24-33 (Feb. 25, 2026); Virtual Public Hearing Tr. at 3 (Feb. 24, 2026).
[86] In-Person Public Hearing Tr. at 24-26, 29-31, 33-35 & 38 (Feb. 25, 2026).
[87] Batch Public Comments (Mar. 12, 2026) (eDockets No. 20263-229185-01); Batch Public Comments (Mar. 13, 2026) (eDockets No. 20263-229231-01); Morgan Johnson Public Comment (Mar. 18, 2026) (eDockets No. 20263-229395-01); Kathy Meixell Public Comment (Mar. 18, 2026) (eDockets No. 20263-229398-01); Carmen Anders Deling Public Comment (Mar. 17, 2026) (eDockets No. 20263-229387-01); Hugh Fraser Public Comment (Mar. 16, 2026) (eDockets No. 20263-229318-01); Heather Helmich Public Comment (Mar. 16, 2026) (eDockets No. 20263-229322-01); Isaac & Tania Wallace Public Comment (Mar. 16, 2026) (eDockets No. 20263-229323-01); Jennifer Moeller Public Comment (Mar. 13, 2026) (eDockets No. 20263-229227-01).
[88] IBEW Local 343 & LIUNA Comments (Mar. 16, 2026) (eDockets No. 20263-229292-01).
[89] DNR Comment (Mar. 13, 2026) (eDockets No. 20263-229284-01); VMPWG Comments (Mar. 13, 2026) (eDockets No. 20263-229278-01).
[90] Batch Public Comments (Mar. 13, 2026) (eDockets No. 20263-229231-01).

farmland and the local agricultural economy, aesthetic impacts, fire risks, the sufficiency of the decommissioning plan for the Project, impacts to property values, and environmental and wildlife impacts. [91]

89. PUC-EIP submitted written comments with recommendations for updates to the Decommissioning Plan and summarized the changes to Draft Site Permit conditions as included in the EA.[92]

90. DNR submitted written comments requesting that the Project's perimeter fencing be at least 10 feet tall and that fence design be done in coordination with the DNR, consistent with permit condition 4.3.32. DNR encouraged coordination with local snowmobile clubs regarding possible impacts to segment #161 of the Prairieland Trail. Finally, DNR advised revising the Vegetation Management Plan to remove non-native and soil-incompatible species and reiterated its support for continued coordination.[93]

91. The VMPWG filed comments on the VMP. The VMPWG did not recommend any action by the Commission but provided comments to facilitate transparency in the record as the VMPWG works with Applicants to arrive at a VMP that is adequate to meet pre-construction compliance filing requirements. [94]

SITE PERMIT

I. Site Permit Criteria

92. Large electric power generating plants (LEPGP) and energy storage systems are governed by Minn. Stat. ch. 216E (2023) and Minn. R. 7850.1000 - .5600 (2023). Minn. Stat. § 216E.01, subd. 5, defines an LEPGP as "electric power generating equipment and associated facilities designed for or capable of operation at a capacity of 50,000 kilowatts or more."[95]

93. A LEPGP powered by solar energy is eligible for the alternative permitting process authorized by Minn. Stat. § 216E.04, subd. 8. An energy storage system, such as the BESS, is also eligible for the alternative permitting process authorized by Minn. Stat. § 216E.04, subd. 9. Lake Charlotte Solar filed its Application under the process established by the Commission in Minn. R. 7850.2800 - 3900.[96]

94. Under Minn. Stat. § 216E.04, for a LEPGP powered by solar energy and an energy storage system permitted under the alternative permitting process, PUC-EIP prepares an EA containing information on the human and environmental impacts of the proposed Project

[91] Batch Public Comments (Mar. 12, 2026) (eDockets No. 20263-229185-01); Batch Public Comments (Mar. 13, 2026) (eDockets No. 20263-229231-01); IBEW Local 343 & LIUNA Comments (Mar. 16, 2026) (eDockets No. 20263-229292-01).
[92] PUC-EIP Comments (Mar. 13, 2026) (eDockets No. 20263-229251-01).
[93] DNR Comment (Mar. 13, 2026) (eDockets No. 20263-229284-01).
[94] VMPWG Comments (Mar. 13, 2026) (eDockets No. 20263-229278-01).
[95] Ex. PUC-EIP-5 at 3(EA).
[96] Ex. PUC-EIP-5 at 20 (EA).

and addresses mitigating measures. The EA is the only state environmental review document required to be prepared on the Project.[97]

95. The Power Plant Siting Act (PPSA), Minn. Stat. ch. 216E, requires that site permit determinations "be guided by the state's goals to conserve resources, minimize environmental impacts, minimize human settlement and other land use conflicts, and ensure the state's electric energy security through efficient, cost-effective power supply and electric transmission infrastructure."[98]

96. Under the PPSA, the Commission must be guided by the following responsibilities, procedures, and considerations:

> i. evaluation of research and investigations relating to the effects on land, water and air resources of large electric power facilities and the effects of water and air discharges and electric and magnetic fields resulting from such facilities on public health and welfare, vegetation, animals, materials and aesthetic values, including baseline studies, predictive modeling, and evaluation of new or improved methods for minimizing adverse impacts of water and air discharges and other matters pertaining to the effects of power plants on the water and air environment;
>
> ii. environmental evaluation of sites and routes proposed for future development and expansion and their relationship to the land, water, air and human resources of the state;
>
> iii. evaluation of the effects of new electric power generation and transmission technologies and systems related to power plants designed to minimize adverse environmental effects;
>
> iv. evaluation of the potential for beneficial uses of waste energy from proposed large electric power generating plants;
>
> v. analysis of the direct and indirect economic impact of proposed sites and routes including, but not limited to, productive agricultural land lost or impaired;
>
> vi. evaluation of adverse direct and indirect environmental effects that cannot be avoided should the proposed site and route be accepted;
>
> vii. evaluation of alternatives to the applicant's proposed site or route proposed pursuant to subdivisions 1 and 2;

[97] Ex. PUC-EIP-5 at 13 (EA).
[98] Minn. Stat. § 216E.03, subd. 7.

viii. evaluation of potential routes that would use or parallel existing railroad and highway rights-of-way;

ix. evaluation of governmental survey lines and other natural division lines of agricultural land so as to minimize interference with agricultural operations;

x. evaluation of the future needs for additional high-voltage transmission lines in the same general area as any proposed route, and the advisability of ordering the construction of structures capable of expansion in transmission capacity through multiple circuiting or design modifications;

xi. evaluation of irreversible and irretrievable commitments of resources should the proposed site or route be approved;

xii. when appropriate, consideration of problems raised by other state and federal agencies and local entities;

xiii. evaluation of the benefits of the proposed facility with respect to (i) the protection and enhancement of environmental quality, and (ii) the reliability of state and regional energy supplies;

xiv. evaluation of the proposed facility's impact on socioeconomic factors; and

xv. evaluation of the proposed facility's employment and economic impacts in the vicinity of the facility site and throughout Minnesota, including the quantity and quality of construction and permanent jobs and their compensation levels. The commission must consider a facility's local employment and economic impacts, and may reject or place conditions on a site or route permit based on the local employment and economic impacts.[99]

97. In addition to the PPSA, the Commission is governed by Minn. R. 7850.4100, which mandates consideration of the following factors when determining whether to issue a permit for a large electric power generating plant:

A. effects on human settlement, including, but not limited to, displacement, noise, aesthetics, cultural values, recreation, and public services;

B. effects on public health and safety;

[99] Minn. Stat. § 216E.03, subd. 7.

C. effects on land-based economies, including, but not limited to, agriculture, forestry, tourism, and mining;

D. effects on archaeological and historic resources;

E. effects on the natural environment, including effects on air and water quality resources and flora and fauna;

F. effects on rare and unique natural resources;

G. application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity;

H. use or paralleling of existing rights-of-way, survey lines, natural division lines, and agricultural field boundaries;

I. use of existing large electric power generating plant sites;

J. use of existing transportation, pipeline, and electrical transmission systems or rights-of-way;

K. electrical system reliability;

L. costs of constructing, operating, and maintaining the facility which are dependent on design and route;

M. adverse human and natural environmental effects which cannot be avoided; and

N. irreversible and irretrievable commitments of resources.[100]

98. There is sufficient evidence in the record for the Commission to assess the Project on the record using the criteria and factors set out above.

II. Application of the Siting Criteria to the Proposed Project

A. Human Settlement

99. Minnesota Rules Section 7850.4100(A) requires consideration of the Project's effects on human settlement, including displacement of residences and businesses, noise created during construction and by operation of the Project, and impacts to aesthetics, cultural values, recreation, and public services.

[100] Minn. R. 7850.4100.

i. Displacement

100. The Project will have no significant impact on displacement because no landowners or residents will be displaced.[101]

ii. Noise

101. The Minnesota Pollution Control Agency (MPCA) has established noise standards based on noise area classifications (NAC) corresponding to the location of the receptor. Household units are assigned to NAC 1, with daytime limits of 65 dBA (L10) and 60 dBA (L50), and nighttime limits of 55 dBA (L10) and 50 dBA (L50). [102]

102. The primary noise receptors are local residences. There are no residences within the Project site; however, there are 43 residences within 1,000 feet and 149 residences within one mile of the Land Control Area. Typical rural sound levels vary from approximately 40 dBA during the day to 34 dBA at nighttime, and residences in the Project Area[103] are classified as NAC 1. Potential noise impacts from the Project are associated with construction and operational activities. [104]

103. Construction noise will be temporary and will vary with the type of activity and distance from the source. Grading equipment and backhoes are expected to produce 80–85 dBA at 50 feet, similar to tractors and large trucks commonly used in agricultural areas. Pile-driving equipment used for solar array foundations will be the loudest source at about 101 dBA at 50 feet. Overall, construction activities will cause a temporary increase in ambient noise, which may exceed state noise standards at certain times and locations. [105]

104. Applicants anticipate pile driving activities will take up to 16 weeks across the site; however, workers will sequence construction activities so that site preparation may occur at one portion of the site while pile driving occurs at a different location. Impacts from Project construction will be intermittent and localized, and times that exceed noise standards will likely remain within the NAC-1 L10 and L50 limits. Applicants indicate that construction will be limited to daytime operations as much as possible. [106]

105. Noise levels during operation of the Project are anticipated to be minimal. The primary noise sources from the Project will be systems used to cool the inverters and BESS units, along with limited noise from panel rotation and transformers. Applicants identified 75 sound receptors within 3,200 feet of the Land Control Area. [107]

106. For the inverters, the nearest sound receptor is a residence about 352 feet away. Modeling shows a sound pressure level of under 50 dBA at 58 feet from the inverter, so this residence

[101] Ex. PUC-EIP-5 at § 4.10.1 (EA).
[102] Ex. PUC-EIP-5 at § 4.3.2 (EA).
[103] For the purposes of the discussion on impacts resulting from the Project, "Project Area" means the area within one mile of the Land Control Area. *See* Ex. PUC-EIP-5 at p. 3 (EA).
[104] Ex. PUC-EIP-5 at § 4.3.2 (EA).
[105] Ex. PUC-EIP-5 at § 4.3.2 (EA).
[106] Ex. PUC-EIP-5 at § 4.3.2 (EA).
[107] Ex. PUC-EIP-5 at § 4.3.2 (EA).

should not experience significant impacts. The closest residential noise concern will likely be the home nearest to the BESS, roughly 815 feet away, where modeling predicts a level of 49.4 dBA. Applicants state that modeling of all planned BESS units shows the site operating at 100 percent capacity will remain below 50 dBA, meeting Minnesota's state noise standard; however, this residence will likely experience moderate noise from BESS cooling. [108]

107. Sound control devices on vehicles and equipment (such as mufflers), conducting construction activities during daylight hours, and running vehicles and equipment only when necessary are common ways to mitigate noise impacts. Construction, moreover, will be limited to daylight hours. [109]

108. Section 4.3.7 of both the Draft Site Permit for the Solar Facility (Solar Draft Site Permit) and the Draft Site Permit for the BESS (BESS Draft Site Permit) requires compliance with Minnesota noise standards under Minnesota Rule, parts 7030.0010 to 7030.0080, and limits construction and maintenance activities to daytime hours to the extent practicable. Section 5.3 of the Solar Draft Site Permit requires notice to adjacent residences of planned major noise-producing construction activities. Sections 5.1 and 5.2 of the BESS Draft Site Permit require the Permittee to file a pre-construction noise impact assessment summarizing noise propagation modeling results, and to develop and conduct a post-construction noise study within 18 months of commencing commercial operation. The BESS facilities shall be operated in compliance with MPCA noise standards, and operation shall be modified or components removed from service if necessary to maintain compliance. [110]

iii. Aesthetic Impacts

109. The Project will introduce new built features into the existing landscape, including photovoltaic solar modules, inverters and transformers, access roads, an operations and maintenance facility, a Project substation, security fencing, and the BESS. The Project will convert approximately 1,004 acres of agricultural fields into solar production and battery storage facilities, representing a noticeable change characterized by geometric forms that may diverge from the surrounding rural landscape. [111]

110. The existing landscape is mainly rural and agricultural, with level to gently rolling terrain and scattered farmsteads along roads. Viewsheds are broad and broken up by cropland, farmsteads, and residences. No homes are within the Land Control Area or Preliminary Development Area, but about 149 residences lie within one mile of the Project, including two within 150 feet of the Preliminary Development Area. Approximately 45 residences are within 1,000 feet of the Land Control Area. The closest residence, in the Town of

[108] Ex. PUC-EIP-5 at § 4.3.2 (EA).
[109] Ex. PUC-EIP-5 at § 4.3.2 (EA).
[110] Ex. PUC-EIP-5 at § 4.3.2 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[111] Ex. PUC-EIP-5 at § 4.3.1 (EA).

Northrop, is about 94 feet north of the Preliminary Development Area and roughly 300 feet from the nearest solar array. [112]

111. Existing energy infrastructure is present in the Project vicinity, including the SMMPA Rutland Substation adjacent to the Land Control Area, which serves as the Project's point of interconnection. Six transmission lines are located at least partially within the Land Control Area, five of which interconnect to the SMMPA Rutland Substation. Three lines operate at 69 kV and two at 161 kV. Because of this existing infrastructure, the Project will not be an entirely new type of feature on the landscape. [113]

112. For residents outside the Project vicinity and others with low viewer sensitivity, such as travelers along Interstate 90, aesthetic impacts are anticipated to be minimal due to distance, fencing, and vegetation. For residents in the Project vicinity and others with high viewer sensitivity traveling on local roads such as Trunk Highway 15, 160th Street, or County Highways 38 and 143, aesthetic impacts are anticipated to be moderate to significant. [114]

113. The photovoltaic panels are designed to absorb light, and Lake Charlotte Solar will use anti-reflective coatings. Modern solar panels can reflect as little as two percent of incoming sunlight depending on sun angle. Residents adjacent to the facility or using nearby recreational resources will not experience viewsheds interrupted by glare, and aesthetic impacts from glare are not anticipated. [115]

114. Structures from the Solar Facility, BESS, and gen-tie line would be similar in profile to the existing SMMPA Rutland Substation, with most facilities designed to be low-profile (less than 20 feet), except for gen-tie structures (less than 150 feet). Security lighting at the Project entrance will be downlit and switch-controlled, with LED lighting limited to a maximum color temperature of 4000K. Impacts to light-sensitive land uses are not anticipated given the rural location and minimal required lighting. [116]

115. Aesthetic impacts will be minimized by locating facilities away from homes, minimizing damage to natural landscapes during construction, and shielding facilities from view by terrain or vegetation. The Project has been designed to avoid tree clearing, and existing trees, windrows, and shelterbelts will be maintained for natural screening.

116. In the initial Application, Lake Charlotte Solar committed to installing vegetative plantings along 170th Street to screen residential areas in the Town of Northrop from the solar arrays.[117] Following concerns expressed by residents, however, and in addition to the planed vegetative screening along 170th Street, Lake Charolotte Solar has further

[112] Ex. PUC-EIP-5 at § 4.3.1 (EA).
[113] Ex. PUC-EIP-5 at §§ 1.5 & 4.3.1 (EA).
[114] Ex. PUC-EIP-5 at § 4.3.1 (EA).
[115] Ex. PUC-EIP-5 at § 4.3.1 (EA).
[116] Ex. PUC-EIP-5 at §§ 3.1.3.7 & 4.3.1 (EA).
[117] Ex. PUC-EIP-5 at § 4.3.1 (EA).

developed a landscaping screening plan to place vegetation screening between the Project and residences along Charlotte Oak Drive.[118]

117. The Draft Site Permits include several conditions addressing aesthetic impacts. Section 4.3.8 is a standard requirement for the permittee to consider landowner input on visual impacts and to preserve the natural landscape while minimizing tree removal during construction and operation. Section 5.1 of the Solar Draft Site Permit requires a site-specific Visual Screening Plan to mitigate visual impacts on nearby residences and roadsides. The Plan must include screening objectives, species details, planting locations, and maintenance plans, and the permittee must maintain the vegetation for three years. Section 5.2 of the Solar Draft Site Permit requires coordination with the Minnesota Department of Transportation on vegetative design near Trunk Highway 15 for roadside vegetation management and blowing-snow control. [119]

iv. Public Service and Infrastructure

118. Potential impacts to the electrical grid, roads, and other utilities are anticipated to be short-term, intermittent, and localized during construction. Impacts to water (wells and septic systems), railroads, pipelines, and airports are not expected to occur. Overall, construction-related impacts are expected to be minimal and are associated with possible traffic increases; during operation, negligible traffic increases would occur for maintenance. [120]

119. Temporary, infrequent traffic delays may occur when heavy equipment enters or exits local roads, or when materials are delivered to the site. Construction traffic is estimated at about 150–160 workers per day and 18–48 semi-trucks per day, depending on the construction stage. Although construction will increase local traffic, two-lane paved rural highways have a functional capacity of over 5,000 vehicles per day, so surrounding roads will remain well below capacity. After construction, traffic impacts will be negligible, with only a small maintenance crew using pickup trucks to monitor and maintain the facilities. [121]

120. Impacts to water and wastewater systems are not anticipated, as no wells are located within the Preliminary Development Area, though there are several wells located near and within the Project Area. Lake Charlotte Solar reviewed publicly available GIS data confirming there are no EPA-designated sole-source aquifers, Drinking Water Supply Management Areas, or Wellhead Protection Areas within the Land Control Area.[122]

121. No railroads lie within one mile of the Project, and the area contains no pipeline corridors; therefore, no impacts to railroads or pipelines are expected.[123]

[118] Ex. LCS-17 at 5-6 (Direct Testimony of Marta Lasch).
[119] Ex. PUC-EIP-5 at § 4.3.1 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[120] Ex. PUC-EIP-5at § 4.3.7 (EA).
[121] Ex. PUC-EIP-5 at § 4.3.7 (EA).
[122] Ex. PUC-EIP-5 at § 4.3.7 (EA).
[123] Ex. PUC-EIP-5 at § 4.3.7 (EA).

122. The FAA's Obstruction Evaluation/Airport Airspace Analysis tool indicated that no notice is required, and no effects on local air traffic or the Fairmont Municipal Airport are anticipated. [124]

123. Applicants will coordinate with Gopher State One Call before and during construction to identify and avoid underground utilities, and the final design will minimize potential conflicts. [125]

124. Several mitigation measures are required under the Draft Site Permits. Section 4.3.5 of both Draft Site Permits requires minimizing disruptions to public utilities, and Section 4.3.22 of both Draft Site Permits requires informing road authorities of roads used during construction, acquiring permits for oversize loads, and constructing the least number of access roads. Section 5.5 of the Solar Draft Site Permit requires coordination with Martin County and Rutland Township to create a road use agreement ensuring safe operation of local roads. Additional mitigation practices include using pilot vehicles for heavy equipment, timing deliveries to avoid congestion, using traffic control devices as necessary, and photographing roads prior to construction. Applicants will coordinate on a road use agreement and repair any damaged roads to preconstruction conditions. [126]

B. Recreational Resources

125. Tourism near the Project Area is largely related to fishing, snowmobiling, cross-country skiing, golfing, and hunting. Recreational resources include the Prairieland Trail, maintained by the Blizzard Snowmobile Club, which crosses through the Project Area. The Northrop Softball Field is approximately 250 feet north of the Land Control Area, and a second softball field associated with Saint James Lutheran Church is approximately 0.2 mile to the north. [127]

126. The Project site is not within any Wildlife Management Areas, Public Water Access sites, or federal or state parks. However, Public Water Access sites associated with the local chain of lakes are adjacent to the Project Area. Lake Charlotte, with public access, is within 500 feet of the Project site. [128]

127. Construction and operation impacts are anticipated to be minimal and temporary, and will include temporary increases in traffic, noise, dust, and visual impacts that could affect nearby recreational activities, including hunting. Access to public waters, softball fields, and the snowmobile trail is not likely to be impacted. [129]

[124] Ex. PUC-EIP-5 at § 4.3.7 (EA).
[125] Ex. PUC-EIP-5 at § 4.3.7 (EA).
[126] Ex. PUC-EIP-5 at § 4.3.7 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[127] Ex. PUC-EIP-5 at § 4.3.6 (EA).
[128] Ex. PUC-EIP-5 at § 4.3.6 (EA).
[129] Ex. PUC-EIP-5 at § 4.3.6 (EA).

128. Public use of the Prairieland Trail is not anticipated to be obstructed by Project facilities. Lake Charlotte Solar will provide new access point locations from County Highway 143 to the trail manager in advance of construction. [130]

129. Construction will likely overlap with Minnesota hunting seasons; Lake Charlotte Solar will communicate construction timing to landowners in advance, and the Land Control Area will be off-limits to hunting during active construction. After construction, hunting adjacent to the Project may continue, but no hunting will be permitted within Project fencelines. [131]

130. Section 5.8 of the Solar Draft Site Permit requires the permittee to work with the Blizzard Snowmobile Club and associated clubs maintaining Segment 161 of the Prairieland Trail to identify alternative routes and develop a rerouting plan for portions within the Project Area; the permittee will sponsor these efforts. [132]

131. Applicants will employ dust control techniques as needed to minimize fugitive dust. Continued coordination with affected community members, including the Blizzard Snowmobile Club and landowners who hunt in the area, will minimize interruption to recreational activities.[133]

C. Zoning and Land Use

132. The Project site is largely cultivated agriculture, including cropland and hay/pasture, comprising approximately 95 percent of the Land Control Area. Other land cover includes developed areas, roads, and the SMMPA Rutland Substation. Wetlands and forested land total less than one percent. The Project is located within Rutland Township, adjacent to Northrop in Martin County, Minnesota. The site is primarily zoned Agriculture, with Shoreland Special Protection areas adjacent to Martin Lake and Shoreland Residential Recreation near Charlotte Oak Drive.[134]

133. Development will convert land from agricultural use to solar energy production for a minimum of 30 years. Construction will convert approximately 1,004 acres of cultivated cropland to solar energy production and energy storage. This change is consistent with regional economic development goals emphasizing a just transition to clean energy. Lake Charlotte Solar is coordinating with Martin County and Rutland Township to confirm zoning alignment and obtain required permits not preempted by the state site permit process.[135]

[130] Ex. PUC-EIP-5 at § 4.3.6 (EA).
[131] Ex. PUC-EIP-5 at § 4.3.6 (EA).
[132] Ex. PUC-EIP-5 at § 4.3.6 (EA).
[133] Ex. PUC-EIP-5 at § 4.3.6 (EA).
[134] Ex. PUC-EIP-5 at § 4.3.4 (EA).
[135] Ex. PUC-EIP-5 at § 4.3.4 (EA).

134. Coordination is ongoing with Martin County, including the Drainage Systems Manager, who noted county-maintained drainage systems are present and provided buffer distances from county drain tile to maintain area for maintenance and avoid damage. [136]

135. Overall, the land use change aligns with local government goals. The Solar Facility and BESS are expected to have minimal to moderate impact on rural character and minimal impact on township or county land use. The Project may change land use character in shoreland areas, requiring additional coordination with local government and community.[137]

136. The Project, as designed, currently meets or exceeds all of the setback requirements included in the County zoning ordinances. [138]

137. In coordination with the Minnesota Department of Agriculture (MDA), Lake Charlotte Solar developed an Agricultural Impact Mitigation Plan (AIMP). A draft VMP will undergo review by several state agencies, including MDA, MPCA, DNR, and the Board of Water and Soil Resources. The AIMP and VMP identify measures to avoid, minimize, and repair potential negative agricultural impacts, including best management practices and strategies to reduce runoff and erosion. [139]

138. The Draft Site Permits include several conditions to preserve and restore agricultural land. Section 4.3.17of the Solar Site Permit requires a vegetation management plan to prevent soil erosion using perennial cover. Section 4.3.18 of the Solar Site Permit requires an AIMP outlining methods to reduce soil compaction, preserve topsoil, and maintain vegetation so the land can return to agricultural use. Section 5.5 of the Solar Site Permit requires coordination with Martin County and Rutland Township on a road use agreement for safe operation and maintenance of local roads. Section 9 of both Draft Site Permits requires a decommissioning plan to return the site to pre-Project condition, including removal of all infrastructure. [140]

D. Cultural Values

139. Approximately 99.5 percent of the land in Martin County is used for agricultural purposes. Regional cultural events and locations include music and art events held at the Fairmont-Red Rock Center for the Arts, events hosted by the Northrop-Martin Luther High School, and the historic Chubb House. Seasonal events in the area include the Southern Minnesota Pond Hockey Tournament, the Fairmont Lakes Foundation Ice Fishing Tournament, the Martin County Fair, Interlaken Heritage Days, and the Fairmont Triathlon.[141]

140. The Project contributes to renewable energy growth and is likely to reinforce this value in the area. However, development may change the character of the area for some residents.

[136] Ex. PUC-EIP-5 at § 4.3.4 (EA); Applicants' Response to Public Hearing Comments at 4 (Mar. 25, 2026) (eDockets No. _____).
[137] Ex. PUC-EIP-5 at § 4.3.4 (EA).
[138] Ex. PUC-EIP-5 at § 4.3.4 (EA).
[139] Ex. PUC-EIP-5 at § 4.3.4 (EA).
[140] Ex. PUC-EIP-5 at § 4.3.4 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[141] Ex. PUC-EIP-5 at § 4.3.3 (EA).

Because the Project is not located where regional community events typically occur, impacts on community events and existing cultural resources are not anticipated, and the impact intensity is expected to be minimal. [142]

141. Two Draft Site Permit conditions address cultural values. Section 4.3.23 of the Solar Draft Site Permit and Section 4.3.20 of the BESS Draft Site Permit requires the permittee to avoid impacts to archeological and historic resources during construction, train workers about cultural resources, and follow specified procedures if resources are encountered. Section 5.4 of the Solar Draft Site Permit requires coordination with local government units regarding cultural discoveries, including MnDOT and Tribal Nations as applicable. [143]

E. Property Values

142. There is limited sales information related to properties near large solar facilities in Minnesota. A study conducted by the Lawrence Berkeley National Laboratory found that, in Minnesota, homes within one-half mile of large solar energy facilities had a four percent reduction in home sales prices compared to homes two to four miles from such a facility. The study only found such an effect for large solar facilities. The study did not consider site design, local landscape features or setbacks, or the broader economic impacts of solar facilities.[144]

143. Market studies involving smaller sample sizes, including one conducted by Chisago County Environmental Services and Zoning, did not consistently find negative impacts of solar facilities to real estate values.[145]

144. Minimal to moderate property value impacts could occur, but significant negative impacts to property values are not anticipated.[146]

145. To mitigate impacts to property values Section 4.3.8 of the Draft Site Permits requires the permittee to consider landowner input regarding visual impacts and to preserve the natural landscape and minimize tree removal during construction and operation. Section 5.1 of the Solar Draft Site Permit is a special condition requiring the permittee to develop a site-specific Visual Screening Plan to mitigate visual impacts on adjacent residences and roadsides.[147]

F. Public Health and Safety

146. Minnesota Rules Section 7850.4100(B) requires the Commission to consider the effects of the Project on public health and safety.

[142] Ex. PUC-EIP-5 at § 4.3.3 (EA).
[143] Ex. PUC-EIP-5 at § 4.3.3 (EA).
[144] Ex. PUC-EIP-5 at § 4.3.5 (EA).
[145] Ex. PUC-EIP-5 at § 4.3.5 (EA).
[146] Ex. PUC-EIP-5 at § 4.3.5 (EA).
[147] Ex. PUC-EIP-5 at § 4.3.5 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).

G. Electric and Magnetic Fields

147. Electric and magnetic fields (EMFs) are invisible forces resulting from the presence of electricity, occurring both naturally and wherever people use electrical devices. Electrical lines in the United States operate at 60 hertz, which is extremely low frequency EMF. Voltage creates an electric field measured in kilovolts per meter (kV/m), and current creates a magnetic field measured in milliGauss (mG). Both fields decrease rapidly with distance from the source; however, magnetic fields are not easily shielded. [148]

148. The primary EMF sources from the Project will be the solar arrays, buried electrical collection lines, the gen-tie line, and the inverter transformers. EMF generated by solar arrays is at levels experienced near common household appliances. Magnetic fields at utility-scale photovoltaic projects drop to 0.5 mG or less at 150 feet from inverters, and collection lines operating at 27.5 kV produce magnetic fields within background levels at one meter above ground. Higher voltage transmission lines report fields dissipating at distances of 50 feet for 230 kV and 65 feet for 500 kV.[149]

149. There are 149 residences within one mile of the Land Control Area, though no residences are closer than 150 feet from solar arrays. The nearest solar array is approximately 197 feet from the closest residence, the nearest inverter is 352 feet away, and the nearest residence to the BESS is 815 feet away. At these distances, both electric and magnetic fields would dissipate to background levels and impacts to residences or human health are not anticipated.[150]

150. Stray voltage results from grounding of electrical equipment, while induced voltage can occur when a transmission line's electric field extends to nearby conductive objects. The NESC requires discharges be less than five milliamperes, and the Commission's 8 kV/m limit prevents shock hazards from induced voltage. the Applicants will ground all electrical components in accordance with NESC, and adverse impacts from stray or induced voltage are not anticipated.[151]

151. No health impacts from EMF or stray voltage are anticipated. Mitigation measures include grounding all electrical components in accordance with NESC requirements and maintaining Project monitoring systems to quickly identify and correct any faults during operation. Given the distance of all residences from Project components, EMF will dissipate to background levels, and no additional mitigation is necessary.[152]

H. Public Safety and Emergency Services

152. Like any construction project, the Project presents risks including potential injury from falls, equipment uses, and electrical accidents. Public safety risks could also result from

[148] Ex. PUC-EIP-5 at § 4.4.1 (EA).
[149] Ex. PUC-EIP-5 at § 4.4.1 (EA).
[150] Ex. PUC-EIP-5 at § 4.4.1 (EA).
[151] Ex. PUC-EIP-5 at § 4.4.1 (EA).
[152] Ex. PUC-EIP-5 at § 4.4.1 (EA).

unauthorized entry. Construction crews must comply with local, state, and federal regulations, including standard health and safety practices and safety training. [153]

153. Emergency services are provided by several local agencies. The nearest law enforcement is the Martin County Sheriff's office, approximately four miles south. Fire service is provided by the Fairmont Fire Department, also four miles south. The closest emergency room is at the Mayo Clinic Health System in Fairmont, less than five miles away. The nearest Allied Radio Matrix for Emergency Response (ARMER) tower is approximately 8.5 miles southwest, and no impacts to the ARMER system are anticipated. [154]

154. Like any electrical system, solar panels represent a potential fire risk. Electrical arcing is a main cause of fires in photovoltaic systems, arising from faulty products, installation errors, or irregular maintenance. BESS systems also pose a fire risk from damage, exterior fire, or malfunction. Native vegetation in the Project Area could increase fire hazard if improperly managed. [155]

155. A Phase I Environmental Site Assessment identified two Recognized Environmental Conditions near the Project: the Rutland Township Garage and Poppe Oil Bulk Plant. Both sites have documented petroleum contamination addressed through MPCA oversight. If, after further evaluation by Lake Charlotte Solar it is determined that contaminated groundwater may be encountered, a Contaminated Sites Management Plan will be developed.[156]

156. The Project boundary is located along a high vulnerability snow trap, which may increase snow trapping on nearby highways. Lake Charlotte Solar will coordinate with MnDOT to address potential impacts.[157]

157. The Project is designed to meet applicable federal, state, and local safety standards. Electrical inspections will ensure proper installation of all components. Proactive maintenance and monitoring can identify risky components before a fire occurs, and site vegetation will be controlled to reduce fire hazard. Lake Charlotte Solar will develop an Operations and Emergency Action Plan outlining emergency procedures, including annual training coordinated with local first responders. [158]

158. Hazard mitigation measures for the BESS include storing lithium-ion batteries in weather-proof enclosures with integrated HVAC systems, sensors for remote monitoring, built-in fire detection and suppression and a Battery Management System that ensures operation within original equipment manufacturer's operating parameters. The BESS is equipped with automatic shut down and emergency response alert systems if operational parameters are exceeded in an emergency; newer battery chemistries also reduce fire and

[153] Ex. PUC-EIP-5 at § 4.4.2 (EA).
[154] Ex. PUC-EIP-5 at § 4.4.2 (EA).
[155] Ex. PUC-EIP-5 at § 4.4.2 (EA).
[156] Ex. LCS-17 at 13-14 (Direct Testimony of Marta Lasch).
[157] Ex. PUC-EIP-5 at § 4.4.2 (EA).
[158] Ex. PUC-EIP-5 at § 4.4.2 (EA).

thermal-runaway risks.[159] The Draft Site Permits require the permittee to take public safety measures including landowner educational materials and appropriate signs and gates, coordinate with MnDOT regarding vegetation and snow fence designs, file a Hazard Mitigation Analysis, develop a Contaminated Substances Management Plan if contaminated materials are discovered, and file an Emergency Response Plan with the Commission and local first responders prior to operation. [160]

I. Socioeconomics

159. The region of influence for socioeconomics is Martin County. Construction impacts will be short-term and minimal, while operational impacts will be long-term and positive. Adverse impacts are not anticipated. [161]

160. Construction is likely to result in temporary increased expenditures at local businesses. Lake Charlotte Solar estimates approximately 200 construction and service-related jobs will be created. General skilled labor is anticipated to be available locally; however, specialized labor may need to be imported. Contractor bids must comply with Minnesota's prevailing wage requirements. [162]

161. Once operational, Lake Charlotte Solar will pay property and production taxes to local governments. The Project is estimated to generate approximately $358,000 annually in tax revenue over 30 years, including $287,000 to Martin County and $71,700 to Rutland Township. Lease and purchase payments to landowners will offset potential losses from removing land from agricultural production. [163]

162. Socioeconomic impacts are anticipated to be positive overall. Adverse impacts will be limited to temporary loss of agricultural production, mitigated through payments to landowners. Section 8.6 of the Draft Site Permits requires prevailing wage compliance, and Section 8.5 of the Draft Site Permits requires quarterly reports on efforts to hire Minnesota workers. [164]

J. Environmental Justice

163. Environmental justice is the "fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, implementation, and enforcement of environmental laws, regulations, and policies, and is intended to ensure that all people benefit from equal levels of environmental protection and have the same opportunities to participate in decisions that might affect their environment or health." [165]

164. Minnesota Statute § 216B.1691, subdivision 1(e) was recently updated to reflect the definition of an environmental justice area to include tracts containing: (1) 40 percent or more nonwhite

[159] Applicants' Response to Public Hearing Comments at 8 (Mar. 25, 2026) (eDockets No. _____).
[160] Ex. PUC-EIP-5 at § 4.4.2 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[161] Ex. PUC-EIP-5 at § 4.3.8 (EA).
[162] Ex. PUC-EIP-5 at § 4.3.8 (EA).
[163] Ex. PUC-EIP-5 at § 4.3.8 (EA).
[164] Ex. PUC-EIP-5 at § 4.3.8 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[165] Ex. PUC-EIP-5 at § 4.3.9 (EA).

populations; (2) 35 percent or more households with income ≤ 200 percent of the poverty level; (3) 40 percent or more residents with limited English proficiency; or (4) Indian country. [166]

165. There are no environmental justice areas impacted by the Project. The Project Area is not within any census tracts which Minnesota statute deems an environmental justice area; therefore, disproportionate and adverse impacts to these populations are not expected, and mitigation is not proposed. [167]

K. Land-based Economies

166. Minnesota Rules Section 7850.4100(C) requires the Commission to consider the effects of the Project on land-based economies, including agriculture, forestry, tourism, and mining.

167. Of the economies listed in Minnesota Rules Section 7850.4100(C), agriculture, forestry, and tourism are present in the area around the Project.

168. There are no mining pits within the area of land control. There are several gravel pits located near the site, however, with nine gravel pits mapped between 0.4 and 2.0 miles north to northwest of the Land Control Area. Impacts to mining will not occur and no mitigation is proposed. [168]

169. Although portions of the Project site contain wooded land, there are no commercial forestry operations in the Project Area. [169]

L. Agriculture & Prime Farmland

170. The Project will remove approximately 997.8 acres of farmland from crop production. This acreage only constitutes approximately 0.22 percent of cropland in the County. The Project will mitigate the loss of crop-related revenue to affected landowners through lease, easement, or purchase options to landowners. Consequently, the Project is not expected to have a significant impact on agricultural production in the County.[170]

171. Construction of the Project has the potential to damage agricultural soils through compaction or erosion if best management practices are not implemented to minimize damage.[171]

172. The Project would occupy approximately 318.0 acres of "prime farmland" and approximately 658.8 acres "prime farmland if drained." Based on a prime farmland assessment conducted pursuant to Minn. R. 7850.4400, subp. 4, Applicants concluded that no other feasible or prudent sites for the Project existed. [172]

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[166] Ex. PUC-EIP-5 at § 4.3.9 (EA).
[167] Ex. PUC-EIP-5 at § 4.3.9 (EA).
[168] Ex. PUC-EIP-5 at § 4.10.4 (EA).
[169] Ex. PUC-EIP-5 at § 4.5.1 (EA).
[170] Ex. PUC-EIP-5 at § 4.5.1 (EA).
[171] Ex. PUC-EIP-5 at § 4.5.1 (EA).
[172] Ex. PUC-EIP-5 at § 4.5.1 (EA).

173. The Draft Site Permits include multiple provisions addressing agricultural mitigation. Key requirements include protection and segregation of topsoil, measures to minimize soil compaction, erosion prevention and sediment control practices, and development of a Vegetation Management Plan for the Solar Facility. The permittee must also develop an Agricultural Impact Mitigation Plan for the Solar Facility with the Minnesota Department of Agriculture detailing methods to preserve soils, control noxious weeds, maintain drainage conditions, and ensure the land can be returned to agricultural use after decommissioning. Additional permit conditions require an Invasive Species Management Plan and fair restoration or compensation to landowners for damages during construction. [173]

M. Tourism and Recreation

174. Tourism in the Project Area is centered on outdoor recreational activities, including nearby parks, lakes, and DNR Wildlife Management Areas. There are no tourist activities held directly within the Land Control Area, as it is largely agricultural land. Segment #161 of the Prairieland Trail snowmobile trail crosses through the Land Control Area. [174]

175. Impacts to tourism are anticipated to be minimal. Short-term impacts to outdoor recreational activities could occur during construction due to noise and traffic; however, access to recreational resources, including the snowmobile trail, is not likely to be impacted throughout construction and operation. [175]

176. Section 5.8 of the Solar Draft Site Permit requires the Permittee to work with the Blizzard Snowmobile Club to develop a plan for rerouting portions of Segment #161 that may fall within the Project Area. Continued coordination with affected community members and organizations may minimize interruption to recreational activities. [176]

N. Archaeological and Historic Resources

177. Minnesota Rules Section 7850.4100(D) requires the Commission to consider the effects on archaeological and historic resources. Archaeological resources are locations where objects or other evidence of archaeological interest exist. Historic resources are sites, buildings, structures, or other antiquities of state or national significance.[177]

178. Lake Charlotte Solar retained Tetra Tech to conduct a Phase I survey for archaeological sites and historic structures within the Project Area, including a records check, historical document review, and pedestrian survey. The survey identified eight archaeological sites within the Land Control Area, including a post-contact artifact scatter (Site 21MR0111) recommended for avoidance, and seven precontact sites recommended as Not Eligible for

[173] Ex. PUC-EIP-5 at § 4.5.1 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[174] Ex. PUC-EIP-5 at § 4.5.3 (EA).
[175] Ex. PUC-EIP-5 at § 4.5.3 (EA).
[176] Ex. PUC-EIP-5 at § 4.5.3 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[177] Ex. PUC-EIP-5 at § 1.4 (EA).

listing on the National Register of Historic Places. Lake Charlotte Solar has designed the Project to avoid impacting Site 21MR0111.[178]

179. Lake Charlotte Solar and Tetra Tech coordinated with SHPO to review the results of the Phase I archaeological survey, which Tetra Tech provided to SHPO on July 17, 2025.[179]

180. On July 29, 2025, the SHPO responded to the Phase I survey. SHPO stated that the seven sites shovel tested by Tetra Tech were relatively close to each other along the shore of a lake (Lake Charlotte), which the SHPO understands, from archaeological research in the state, is typically the setting of habitation sites that are larger and may be more significant than individual sparse lithic scatters and isolated findspots. SHPO recommended subsurface testing along the shore of the lake to appropriately delineate the boundaries of these sites.[180]

181. In response to SHPOs recommendations, and to address the potential presence of additional archaeological, Tetra Tech developed an Area of Interest (AOI) for shovel testing. The AOI encompassed areas within and immediately adjacent to the proposed Project security fence on the broad upland area east of Lake Charlotte. Tetra Tech determined, based on the common, limited cultural materials identified and the absence of archaeological materials below the agricultural plow zone, that all sites evaluated, including those within the AOI and identified by SHPO, have a low potential to yield information significant to Precontact history in the region. Accordingly, Tetra Tech recommended that the sites are not eligible for listing in the National Register of Historic Places. Accordingly, Tetra Tech indicated that no further work is recommended at these sites or within the AOI. [181]

182. The results of Tetra Tech's additional investigation were provided to SHPO on February 10, 2026. SHPO reviewed Tetra Tech's additional investigation report and responded in a agreed that no impacts to archaeological and historic resources are anticipated for this Project. [182]

183. The Draft Site Permit requires the Permittee to avoid impacts to archaeological and historic resources where possible and to mitigate where avoidance is not possible. If previously unidentified sites or human remains are found during construction, the Permittee must stop construction and contact SHPO. Draft Site Permit conditions further require coordination with Tribal Nations and local government units regarding cultural discoveries, and require the Permittees to develop an Unanticipated Discoveries Plan. [183]

[178] Ex. PUC-EIP-5 at § 4.6 (EA).
[179] Ex. PUC-EIP-5 at § 4.6 (EA); Ex. LCS-17 at 8 (Direct Testimony of Marta Lasch).
[180] Ex. LCS-17 at 8, 30-31 (Direct Testimony of Marta Lasch).
[181] Ex. LCS-17 at 8-9 (Direct Testimony of Marta Lasch).
[182] Ex. PUC-EIP-5 at § 4.6 (EA).
[183] Ex. PUC-EIP-5 at § 4.6 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).

O. Natural Environment

184. Minnesota Rules Section 7850.4100(E) requires that the Commission consider the effects of the Project on the natural environment, including effects on air and water quality resources and flora and fauna.

P. Wildlife and Habitat

185. The Project Area is primarily agricultural land, with adjacent wetland and forested shelterbelt areas providing habitat for resident and migratory wildlife, including mammals, songbirds, raptors, fish, amphibians, reptiles, waterfowl, and insects. Given the mix of land uses, wildlife in the area is likely adapted to human disturbance. [184]

186. The overall impact intensity for wildlife and habitat is expected to be minimal to moderate, with impacts varying by species. Long-term positive impacts to small mammals, insects, reptiles, and amphibians are anticipated as the Project Area is revegetated with native perennial vegetation. [185]

187. During construction, wildlife will be displaced to adjacent habitats due to human activity, vehicle movement, and noise. Because the Land Control Area does not provide critical habitat, this displacement should not impact life cycle functions such as nesting. Vehicles and equipment could injure or kill small mammals, amphibians, and reptiles. Pile-driving noise may impact foraging success and alter animal behavior, though impacts will be short-term and occur during daylight hours. [186]

188. Project fencing poses the largest impact to wildlife associated with solar facilities. The proposed fence for the Solar Facility will be eight feet above grade, consisting of agricultural woven wire topped with smooth wire. The DNR has recommended a minimum fence height of ten feet to prevent deer and other large wildlife from entering. Fences can block wildlife movement and prevent access to resources, limiting travel corridors of medium- and large-sized animals. However, smaller animals that can move through fence openings may find safe refuge within the facility. [187]

189. Risks to birds have been identified near solar facilities. Preliminary findings suggest that the appearance of water from solar panels-the "Lake Effect"-may cause migrating birds to attempt to land and incur trauma. Birds are also susceptible to collision with fencing and transmission lines, with larger waterfowl such as swans and geese being particularly at risk.[188]

190. Facility lighting can interrupt the daily light cycle for surrounding wildlife, impacting physiology, behavior, and survival by restricting movement, impairing foraging, and inhibiting communication. Aquatic wildlife may also be impacted indirectly. Fugitive dust

[184] Ex. PUC-EIP-5 at § 4.7.7 (EA).
[185] Ex. PUC-EIP-5 at §§ 1.5 & 4.7.7 (EA).
[186] Ex. PUC-EIP-5 at § 4.7.7 (EA).
[187] Ex. PUC-EIP-5 at § 4.7.7 (EA).
[188] Ex. PUC-EIP-5 at § 4.7.7 (EA).

from unpaved roads can spread chloride into water systems, harming aquatic wildlife, and ground-disturbing activities can increase sedimentation that reduces fish habitat. [189]

191. The Project is not anticipated to contribute to significant habitat loss or degradation. Conversion of agricultural land to perennial vegetation will positively impact terrestrial and aquatic wildlife by reducing pesticide use and increasing pollinator and bird habitat.[190]

192. Applicants have proposed several mitigation measures to minimize impacts to wildlife. The Project Stormwater Pollution Prevention Plan (SWPPP) will include erosion and sediment control best practices, including vegetated stormwater basins, silt fence, sediment control logs, and temporary seeding. A temporary cover crop will stabilize soil and prevent erosion. All streams must be buffered by 16.5 feet per the Minnesota Buffer Law, reducing pollutants entering nearby streams. [191]

193. Lake Charlotte Solar will install panels with anti-reflective coating and report unusual wildlife events to the permitting authority and DNR. High-visibility markers will be installed along fencing adjacent to lakes, and gates will be installed at corners for deer egress. Security lighting will be shielded, downlit, and motion-activated, with LED lighting limited to a maximum color temperature of 4000K to reduce impacts to nocturnal wildlife.[192]

194. The Draft Site Permits includes conditions to minimize wildlife impacts. Section 4.3.16 of the Solar Draft Site Permit requires site restoration with native perennial vegetation beneficial to gamebirds, songbirds, and pollinators. Section 4.3.32 of the Solar Draft Site Permit requires DNR coordination on fence design for the Solar Facility. Special Conditions require shielded lighting that minimizes blue hue (Section 5.11 of the Solar Draft Site Permit and Section 4.3.28 of the BESS Draft Site Permit), non-chloride dust control products (Section 5.12 of the Solar Draft Site Permit and Section 4.3.29 of the BESS Draft Site Permit), and bio-netting erosion control materials without synthetic additives that can harm aquatic wildlife (Section 5.13 of the Solar Draft Site Permit and Section 4.3.30 of the BESS Draft Site Permit). Section 8.13 of the BESS Draft Site Permit and Section 8.14 of the Solar Draft Site Permit require quarterly wildlife injury and fatality reporting. [193]

Q. Vegetation

195. The Project Site consists of approximately 1,216.7 acres of cultivated cropland /pasture, and is located within the Minnesota River Prairie subsection, where agriculture is the dominant land use; no native prairie is present within the Project site. [194]

[189] Ex. PUC-EIP-5 at § 4.7.7 (EA).
[190] Ex. PUC-EIP-5 at § 4.7.7 (EA).
[191] Ex. PUC-EIP-5 at § 4.7.7 (EA).
[192] Ex. PUC-EIP-5 at § 4.7.7 (EA).
[193] Ex. PUC-EIP-5 at § 4.7.7 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[194] Ex. PUC-EIP-5 at § 4.7.6 (EA).

196. Tree removal is not anticipated, and no high-value vegetation resources are present near the site. Non-impervious agricultural land within the Solar Facility would be converted to native, low-growing perennial vegetative cover in accordance with the Solar Facility's VMP, resulting in a net benefit in vegetative cover for the life of the Project. [195]

197. Grassland species will be planted under the solar arrays and in the open spaced between the fenceline and the array. The seed mixes that will be used at the Solar Facility will be developed in coordination with a prairie specialist and the Minnesota Interagency Vegetation Management Planning Working Group, with diverse, perennial grassland vegetation anticipated to cover over 70 percent of the site and 90 percent native vegetation cover expected by year five. The Project is expected to benefit pollinators to the extent that utility-scale solar habitats with pollinator vegetation has been found to increase bee abundance and provide additional benefits to a range of pollinators.[196]

198. Construction activities could introduce or spread invasive species and noxious weeds; control will be ongoing through mowing and selective application of herbicides. [197]

199. Potential vegetation impacts will be mitigated through development the VMP, prepared in coordination with the Commission and state agencies, that establishes short-term and long-term management objectives, protocols for native species establishment, ongoing monitoring, and management of invasive and noxious weeds. The permittee will also develop the AIMP to preserve topsoil, minimize compaction, and establish appropriate vegetation to allow the land to be returned to agricultural use. Additional mitigation measures include minimizing tree removal, visual screening, and coordination with the Minnesota Department of Transportation regarding vegetation alongside roadways. [198]

R. Soils

200. The Project Area is located in a geologic region characterized by fine loamy glacial soils with medium-textured particles in the loam and silt fractions. None of the soils within the Land Control Area are considered highly water erodible or highly wind erodible. [199]

201. Most soils within the site fall into moderately well-drained, somewhat poor, and poor drainage classes, and nearly all somewhat poor and poor soils have been drained. About 68.2 percent of the area is prone to compaction, and all soils are rated at severe risk for rutting due to hydric textures.[200]

202. Applicants indicated that each manufacturer being considered by Applicants test their solar modules for hazardous-substance leaching and have confirmed that the products do not release contaminants above regulatory thresholds; in light of the modules' fully encapsulated design and low likelihood of shattering, risk to the environment posed by the

[195] Ex. PUC-EIP-5 at § 4.7.6 (EA).
[196] Ex. PUC-EIP-5 at § 4.7.6 (EA).
[197] Ex. PUC-EIP-5 at § 4.7.6 (EA).
[198] Ex. PUC-EIP-5 at § 4.7.6 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits)..
[199] Ex. PUC-EIP-5 at § 4.7.3 (EA).
[200] Ex. PUC-EIP-5 at § 4.7.3 (EA).

Project is low. If a module does break, it would be removed and recycled or properly disposed of, further minimizing any potential for hazardous materials to leach into the environment. [201]

203. The Project may affect soils through compaction, mixing during grading and auguring, rutting, and erosion, primarily during construction and decommissioning. Limited grading may be required for the solar arrays, collector substation, and BESS, though the relatively level agricultural terrain helps minimize it. Where grading occurs, topsoil will be stripped, segregated, stabilized per the SWPPP, and restored afterward. Additional impacts will result from installing direct-embedded piers and small foundations for inverters, the substation, O&M building, and BESS. Heavy rainfall before permanent vegetation is established increases erosion and sedimentation risk.[202]

204. Once permanent vegetation is properly established, stormwater management, as well as general soil health, will improve due to the use of native perennial plants. Because the soil at the Solar Facility would be maintained with native perennials and other beneficial vegetation, soil health would likely improve over the life of the Project.[203]

205. To minimize soil-related impacts, Applicants outlined measures and best management practices (BMPs) to reduce effects on soil and designated farmland. The AIMP includes methods to limit compaction, preserve topsoil, and establish appropriate vegetation so the land can return to agricultural use after decommissioning. Lake Charlotte Solar will also develop prescriptions to avoid soil trafficking when wet to reduce potential compaction and rutting.[204]

206. The VMP also includes methods to plant and stabilize soil during and after construction, with guidance for soil preparation, seeding, and seed mixes designed to promote pollinator habitat, establish stable ground cover, reduce erosion and runoff, and improve infiltration.[205]

207. Additionally, in accordance with MPCA requirements, Applicants will develop and implement a SWPPP to minimize soil erosion and impacts during construction. Measures in the SWPPP can include BMPs such as silt fencing, temporary seeding and stabilization, permanent stormwater basins, and Project phasing.[206]

208. The Draft Site Permits contain several standard conditions addressing soil-related impacts, including topsoil protection and segregation, soil compaction minimization, erosion prevention and sediment control, site restoration practices to enhance soil water retention and reduce runoff, development of a VMP for revegetation and monitoring, and

[201] Applicants' Response to Public Hearing Comments at 7 (Mar. 25, 2026) (eDockets No. _____).
[202] Ex. PUC-EIP-5 at § 4.7.3 (EA).
[203] Ex. PUC-EIP-5 at § 4.7.3 (EA).
[204] Ex. PUC-EIP-5 at § 4.7.3 (EA).
[205] Ex. PUC-EIP-5 at § 4.7.3 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[206] Ex. PUC-EIP-5 at § 4.7.3 (EA).

development of an AIMP to preserve soils for return to agricultural use after decommissioning. [207]

S. Geology and Groundwater

209. The Project Area is located in a geologic region characterized by 100 to 400 feet of glacial drift overlying Paleozoic-aged bedrock. No karst features are located within the Project Area. The pollution sensitivity of near-surface materials is classified as low. There are no EPA-designated sole source aquifers within the Land Control Area, and the nearest Wellhead Protection Area, the Northrop DWSMA, is ranked as having low vulnerability. There is one active domestic water well and three sealed environmental bore wells within the Land Control Area; multiple additional active domestic wells and inactive sealed wells are located near and around the Project Area. [208]

210. Impacts to geologic resources are expected to be minimal due to the shallow depth of construction and the absence of karst features. Because the Project design includes piers that will reach a maximum depth of only 15 feet-well above the approximately 45-foot depth to groundwater in the Land Control Area, direct impacts to groundwater during construction are unlikely. Indirect impacts to groundwater could occur through spills or leaks of petroleum fluids; the Applicants will prepare a Spill Prevention, Control, and Countermeasures Plan for the main power transformers in accordance with U.S. EPA regulations. [209]

211. The conversion of the Project Area from agricultural cropland to solar energy production with perennial vegetation is expected to benefit groundwater quality by stabilizing soils, retaining sediments, and reducing nutrient runoff and leaching.[210]

212. The Project is not expected to use or store large quantities of hazardous materials. Nevertheless, Applicants will prepare a Spill Prevention, Control, and Countermeasures Plan for the main power transformers in accordance with U.S. EPA regulations.[211]

213. Dewatering may be required during construction. If so, the Applicants will discharge water to surrounding upland surface areas to allow infiltration back into the ground. If dewatering exceeds 10,000 gallons per day or 1,000,000 gallons per year, a Water Appropriation Permit from the DNR will be required.[212]

214. Water requirements for the O&M building will be satisfied with a single domestic-sized water well or via a tie-in with rural water lines where available. If a well is required, the Applicants will obtain all applicable permits related to its construction and operation.[213]

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[207] Ex. PUC-EIP-5 at § 4.7.3 (EA).
[208] Ex. PUC-EIP-5 at §§ 4.3.7 & 4.7.2 (EA).
[209] Ex. PUC-EIP-5 at § 4.7.2 (EA).
[210] Ex. PUC-EIP-5 at § 4.7.2 (EA).
[211] Ex. PUC-EIP-5 at § 4.7.2 (EA).
[212] Ex. PUC-EIP-5 at § 4.7.2 (EA).
[213] Ex. PUC-EIP-5 at § 4.7.2 (EA).

215. The Project will require a Construction Stormwater Permit from the MPCA and will prepare a SWPPP identifying best management practices for erosion prevention and sediment control. The preliminary project design includes stormwater ponds, which will help manage stormwater runoff and promote natural infiltration. The Draft Site Permit, at Section 4.3.11 of the Draft Site Permits, requires the permittee to obtain an MPCA Construction Stormwater Permit and implement erosion prevention and sediment control best management practices.[214]

T. Surface Water and Floodplains

216. The Project Area is located in the Blue Earth River watershed. There are no lakes, ponds, rivers, streams or ditches within the Land Control Area. The nearest mapped lake or pond is Lake Charlotte, located 140 feet west of the Land Control Area. [215]

217. There are no designated public waterbodies within the Project site; however, public water wetlands—Lake Charlotte, High Lake, and Martin Lake—are adjacent to the Land Control Area and provide wildlife habitat and recreational opportunities. No Public Waters Inventory (PWI) basins are within the Land Control Area, but the DNR PWI Basin for Lake Charlotte lies about 150 feet west, and an unnamed DNR PWI Basin Wetland is located roughly 50 feet west of the Land Control Area. [216]

218. There are no FEMA-designated flood hazard zones within the Land Control Area. The Land Control Area is currently classified as an area with minimal flooding hazard. This indicates that it is outside both 100-year and 500-year floodplains. There are, however, floodplains located near the Project. This includes a Zone A (100 year) floodplain located approximately 150 feet east of the Land Control Area. [217]

219. Direct impacts to surface waters are not expected; however, indirect impacts may occur during construction from sediment or fugitive dust created by excavation, grading, vegetation removal, and construction traffic. Due to the establishment of native perennials and other vegetation at the Solar Facility, the Project is expected to have a long-term positive impact on water quality, particularly through the reduction of excessive nutrients. As noted above, moreover, flood risk at the site is low. [218]

220. Applicants will implement BMPs to prevent sediment from entering nearby waters, including erosion-control measures, revegetation under the arrays and in between fenced areas, and management of exposed soils. A permanent stormwater system with vegetated basins will operate throughout the Project's life, and a SWPPP will be developed in compliance with MPCA requirements. The Draft Site Permits include standard and special conditions addressing surface-water and floodplain impacts, such as erosion prevention, sediment control, site restoration, and development of a VMP for the Solar Facility, and

[214] Ex. PUC-EIP-5 at §§ 4.7.6 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[215] Ex. PUC-EIP-5 at § 4.7.4 (EA).
[216] Ex. PUC-EIP-5 at § 4.7.4 (EA).
[217] Ex. PUC-EIP-5 at § 4.7.4 (EA).
[218] Ex. PUC-EIP-5 at § 4.7.4 (EA).

consultation with.[219] Section 5.9 of the Solar Draft Site Permit requires consultation with Martin County Soil and Water Conservation District (SWCD) regarding potential construction-related impacts, while Section 5.10 requires consultation with MnDOT and MPCA on stormwater basin design.[220]

U. Wetlands

221. The National Wetland Inventory for Minnesota identified approximately 7.9 acres of freshwater emergent wetlands mapped within the Project Area. An onsite wetland delineation in October 2022, identified approximately 21 wetlands totaling 16.5 acres within the Land Control Area. All identified wetlands are associated with roadways or agricultural fields. Adjacent to the Land Control Area to the west is a chain of wetlands, ponds, and lakes, including Lake Charlotte, High Lake, and Martin Lake, which are also public waters.[221]

222. Although wetlands have been identified within the Project Area, the preliminary site layout has been designed to avoid locating solar arrays and associated equipment within wetland areas. Direct permanent impacts to wetlands are not anticipated. There is potential for temporary, short-term impacts to wetlands during construction, including disturbances to wetlands adjacent to the Project Area, as defined in the EA.[222]

223. Lake Charlotte Solar received wetland boundary concurrence from Martin County Soil and Water Conservation District in 2023. Wetland areas will be vegetated with a wet seed mix per the Project's VMP. If unavoidable wetland impacts occur, Lake Charlotte Solar will coordinate with USACE and Martin County under the Clean Water Act and Wetland Conservation Act , respectively. The Draft Site Permits prohibit infrastructure in public waters and public waters wetlands and require consultation with Martin County Soil and Water Conservation District regarding potential impacts to nearby water systems.[223]

V. Air Quality

224. The nearest air quality monitor to the Project is located in Marshall, Minnesota, over 80 miles northwest of the Project Area. According to MPCA data, air quality in the region was classified as "good" between 206 and 309 days per year from 2019 to 2023. Air quality was classified as "unhealthy" for two days in 2021, two days in 2022, and three days in 2023. No days were classified as "very unhealthy." MPCA attributed the unhealthy air quality days largely to drought conditions and wildfire smoke from Canada and the western United States.[224]

225. The Project is expected to have minimal, intermittent air emissions during construction. Construction-related emissions would primarily consist of exhaust emissions from

[219] Ex. PUC-EIP-5 at §§ 4.7.4 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits); Ex. LCS-17 at 14-15 (Direct Testimony of Marta Lasch).
[220] Applicants' Response to Public Hearing Comments at 8 (Mar. 25, 2026) (eDockets No. _____).
[221] Ex. PUC-EIP-5 at § 4.7.5 (EA).
[222] Ex. PUC-EIP-5 at § 4.7.5 (EA).
[223] Ex. PUC-EIP-5 at §§ 4.7.5 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[224] Ex. PUC-EIP-5 at § 4.7.1 (EA).

construction equipment, including carbon dioxide, nitrogen oxides, and particulate matter. Fugitive dust from earthmoving activities and travel on unpaved roads would also contribute to particulate matter emissions. [225]

226. During operation, the solar array will not generate criteria pollutants or carbon dioxide. The Project may generate direct air emissions from the operation of the emergency generator and fuel storage tank. [226]

227. To mitigate air quality impacts, Applicants have committed to keeping construction vehicles and equipment in good working order and not running equipment unless necessary. Applicants will employ dust control techniques as needed during construction to minimize fugitive dust generation. Applicants will prepare and submit a National Pollutant Discharge Elimination System / State Disposal System Construction Stormwater Permit application and SWPPP to MPCA prior to construction, which will prescribe measures to minimize fugitive dust emissions. The Solar Facility's AIMP also identifies best management practices related to soils and vegetation that will indirectly mitigate air quality impacts. [227]

W. Rare and Unique Natural Resources

228. Minnesota Rules Section 7850.4100(F) requires that the Commission consider the effects of the Project on rare and unique natural resources.

229. In its Natural Heritage Review Letter, the DNR noted that the Project is not anticipated to negatively affect any known occurrences of rare features. There are no native prairie areas, calcareous fens, or conservation easements within the Land Control Area. [228]

230. Two federally listed species were identified as potentially present through the USFWS IPaC review: the western regal fritillary (proposed threatened) and the monarch butterfly (candidate species). There is currently limited suitable habitat for either species in the Land Control Area due to the agricultural landscape. However, the native seed mixes designed for the Project include milkweed species, which will provide foraging habitat for monarchs. Lake Charlotte Solar has coordinated with the Minnesota DNR and determined that there are no known occurrences of state threatened or endangered species within one mile of the Land Control Area. [229]

231. Any potential impacts to rare and unique resources may be mitigated through prudent siting, coordination with appropriate state and federal natural resource agencies, and implementation of a Stormwater Pollution Prevention Plan to minimize sedimentation to sensitive resources. Techniques for minimizing impacts to wildlife and vegetation, as described in Section 4.7.7 of the EA and described in the preceding sections, also minimize

[225] Ex. PUC-EIP-5 at § 4.7.1 (EA).
[226] Ex. PUC-EIP-5 at § 4.7.1 (EA).
[227] Ex. PUC-EIP-5 at §§ 4.7.1 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[228] Ex. PUC-EIP-5 at § 4.7.8 (EA).
[229] Ex. PUC-EIP-5 at § 4.7.8 (EA).

impacts to rare species. Construction and operation of the Solar Facility are not anticipated to permanently impact state-threatened, endangered, or special concern species. [230]

X. Climate Change

232. Construction and operation of the Project will result in greenhouse gas (GHG) emissions that contribute to climate change. Construction activities are expected to produce approximately 4,602 tons of CO2e, which is insignificant relative to Minnesota's overall emissions. Once operational, the Project will generate minimal GHG emissions, estimated at 71.3 tons of CO2e annually from maintenance vehicles and operational needs. [231]

233. Overall, the Project will displace energy that otherwise would have been produced by GHG-emitting sources. Applicants estimate the Project will offset approximately 258,000 tons of CO2e annually—equivalent to removing nearly 60,294 passenger vehicles from the road—by providing renewable electricity that supports Minnesota's carbon-free and renewable energy standards. In addition, establishing native perennial vegetation on the site can provide approximately 65 percent higher carbon storage capacity than the existing agricultural land cover. [232]

234. The Project has been designed with climate resilience in mind, including consideration of increased heavy rainfall, stronger wind gusts, and higher temperatures over the Project's lifetime. The Project site is located outside 100-year and 500-year flood hazard zones, though flood hazard zones exist adjacent to the Project. The tracking systems can automatically stow panels in safe positions during severe weather events such as hail, high winds, and flooding to minimize potential damage, and the electrical system has been designed for reliability and compliance with current codes and standards.[233]

235. Mitigation measures include keeping construction vehicles in good working order to reduce emissions and developing a SWPPP with vegetated stormwater basins to address increased precipitation and flooding risks. The Solar Draft Site Permit requires Lake Charlotte Solar to consult with Martin County SWCD regarding potential impacts to nearby aquatic resources and to file an Emergency Response Plan with the Commission prior to operation.[234]

Y. Energy Efficiency

236. Minnesota Rules Section 7850.4100(G) requires the Commission to consider the application of design options that maximize energy efficiencies, mitigate adverse environmental effects, and could accommodate expansion of transmission or generating capacity.

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[230] Ex. PUC-EIP-5 at §§ 4.7.8 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[231] Ex. PUC-EIP-5 at § 4.7.9.
[232] Ex. PUC-EIP-5 at § 4.7.9.
[233] Ex. PUC-EIP-5 at § 4.7.9 (EA).
[234] Ex. PUC-EIP-5 at §§ 4.7.9 (EA); Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).

237. The Project's final layout will optimize electrical generation, storage and efficiency while avoiding and minimizing human settlement, environmental, cultural resources, and infrastructure impacts.[235]

238. Lake Charlotte Storage recognizes that BESS components may lose efficiency over the Project's life cycle. Lake Charlotte Storage will plan for and maintain the facility as needed to maintain efficient operations and in accordance with MISO requirements.[236] The BESS Draft Site Permit provides a mechanism to allow Lake Charlotte Storage to augment the BESS overtime to maintain facility efficiency and capacity.

239. The record reflects that Applicants will maximize energy efficiency while mitigating adverse environmental effects.

Z. Use of Existing Boundaries

240. Minnesota Rules Section 7850.4100(H) requires the Commission consider whether the Project uses or parallels existing ROWs, survey lines, natural division lines, and agricultural field boundaries.

241. Landowners involved in the Project have voluntarily agreed to lease their land for the Project.[237]

242. The record demonstrates that the Applicants have taken steps to make use of existing boundaries, and the Project generally follows existing agricultural field boundaries and roadway boundaries.

AA. Use of Existing Generating Sites

243. Minnesota Rules Section 7850.4100(I) requires the Commission to consider whether the Project uses existing large electric power generating plant sites. The Project does not use existing large electric power generating plant sites, so this factor does not apply.

BB. Use of Existing Electrical Transmission Systems

244. Minnesota Rules Section 7850.4100(H) requires the Commission to consider whether the Project uses existing transportation, pipeline, and electrical transmission systems or ROWs.

245. The Project is immediately adjacent to State Highway 15 and will use existing transportation infrastructure, including Highway 15 and other existing state, county, and township road systems during Project construction and operation. [238]

246. The Project location is close to existing transmission infrastructure and will connect to the electric transmission grid through the existing SMMPA Rutland Substation, located

[235] Ex. LCS-2 at § 4.2 (Application).
[236] Ex. LCS-2 at § 4.1.2 (Application).
[237] Ex. LCS-2 at §§ 1.4 & 3.2 (Application).
[238] Ex. PUC-EIP-5at Figure 1 & § 4.3.7 (EA).

directly adjacent to the Project. Because of the proximity to existing transmission infrastructure, the length of the proposed gen-tie line connecting the Project Substation to the Rutland Substation will be only approximately 365 feet long. [239]

247. The Project is situated in close proximity to existing transmission infrastructure and will use existing infrastructure for transmission.[240] Thus the record demonstrates that the Project will effectively make use of existing electrical transmission systems.

CC. Electrical System Reliability

248. Minnesota Rules Section 7850.4100(K) requires the Commission to consider impacts of the Project on electrical system reliability.

249. Under Minnesota's Clean Energy Law, climate legislation establishes a carbon-free energy standard and a renewable energy standard. The carbon-free energy standard requires electrical utilities to achieve 80 percent carbon-free energy by 2030, 90 percent by 2035, and 100 percent by 2040.[241]

250. The Project will help meet Minnesota's 100 percent carbon-free energy standard by 2040 and will contribute to meeting the Minnesota Renewable Energy Objectives and other clean energy requirements in Minnesota, neighboring states, and the country at large. [242]

251. The record shows that the Project will improve the reliability of the electrical system by providing an additional, low-cost source of energy that is consistent with Minnesota's state-level energy goals. [243]

DD. Costs of constructing, operating, and maintaining the facility

252. Minnesota Rules Section 7850.4100(L) requires the Commission to consider the cost of constructing, operating, and maintain the facility which are dependent on design and route.

253. Applicants estimate that the cost of developing, engineering, and constructing the Solar Facility will range from $231 million to $274 million.[244]

254. Applicants estimate that the cost of developing, engineering, and constructing the BESS is estimated to be between $122 million to 153.5 million. [245]

[239] Ex. PUC-EIP-5 at § 3.1.2 (EA); Ex. LCS-2 at § 1.0 (Application).
[240] Ex. PUC-EIP-5 at § 3.1.2 (EA); Ex. LCS-2 at §§ 1.0 & 2.1 (Application).
[241] *See* Minn. Stat. § 216B.1691, subd. 2g (2024).
[242] Ex. LCS-2 at § 1.1 (Application); Ex. PUC-EIP-5 at § 4.7.9 (EA).
[243] Ex. LCS-2 at § 1.1 (Application); Ex. PUC-EIP-5 at § 4.7.9 (EA).
[244] Ex. LCS-2 at § 2.3 and Table 2.3-1 (Application).
[245] Ex. LCS-2 at § 2.3 and Table 2.3-1 (Application).

255. Applicants estimate that Interconnections costs will be approximately $2.8 million, financing costs will be approximately $5 to $10 million, and the construction of the Project gen-tie line will be approximately $100 to $150 thousand. [246]

256. The estimated total installed capital costs for the entire Project is estimated to range from $360.9 to $434.5 million. [247]

257. The Applicants estimate that decommissioning will cost approximately $19,241,732.[248]

258. The record reflects that the Applicants selected the most cost-effective option for siting the Project, including by selecting a location that is proximate to existing electricity and transportation infrastructure, and has outlined estimated costs for construction, operation, and maintenance for the Solar Facility and BESS that are reasonable. [249]

EE. Unavoidable Impacts

259. Minnesota Rules Section 7850.4100(M) requires the Commission consider unavoidable adverse human and natural environmental effects.

260. The primary unavoidable impacts that will result from the construction of the Solar Facility and BESS, include the following: fugitive dust from construction activities and traffic; noise disturbance to nearby residents and recreationalists; visual disturbance to nearby residents and recreationalists; soil compaction and erosion; vegetative clearing; disturbance and temporary displacement of wildlife, as well as direct impacts to wildlife inadvertently struck or crushed; minor amounts of marginal habitat loss, including temporary wetland impacts; possible traffic delays; and minor greenhouse gas emissions from construction equipment and workers commuting. [250]

261. Unavoidable adverse impacts associated with the operation would last as long as the life of the Project, and include: visual impacts of the Project; cultural impacts due to a change in the sense of place for local residents; loss of land for agricultural purposes; injury or death of birds that collide with PV panels or BESS equipment; injury or death of wildlife from fencing; infrequent vehicle trips from maintenance vehicles; and potential decrease to property values. [251]

262. The Applicants will mitigate these impacts to the extent possible. To the extent complete mitigation is not possible, the unavoidable impacts are consistent with other projects like the Project, and the Project will include permit conditions typical for projects like it.

[246] Ex. LCS-2 at § 2.3 and Table 2.3-1 (Application).
[247] Ex. LCS-2 at § 2.3 and Table 2.3-1 (Application).
[248] Ex. PUC-EIP-5 at § 3.1.6.2 (EA).
[249] Ex. LCS-2 at § 2.3 and Table 2.3-1 (Application).
[250] Ex. PUC-EIP-5 at § 4.8 (EA).
[251] Ex. PUC-EIP-5 at § 4.8 (EA).

FF. Irreversible and Irretrievable Commitments of Resources.

263. Minnesota Rules Section 7850.4100(N) requires the Commission to consider irreversible and irretrievable commitments of resources.

264. Resource commitments are irreversible when it is impossible or very difficult to redirect that resource to a different future use; an irretrievable commitment of resources means the resource is not recoverable for later use by future generations.[252]

265. Irreversible and irretrievable resource commitments for the Project are primarily related to construction, including the use of water, aggregate, hydrocarbons, steel, concrete, wood, and other consumable resources. Some impacts, like fossil fuel use, are irretrievable. Others, like water use, are irreversible.[253]

266. The commitment of labor and fiscal resources to develop, construct, and operate the Project is considered irretrievable. [254]

267. Project infrastructure has been designed to avoid or minimize impacts on residences, the environment, and other sensitive resources. Nearby environmentally sensitive resources include wetlands, streams, and rivers, and the Project is not anticipated to cause any irretrievable or irreversible impacts to these resources. [255]

268. The record demonstrates that the Applicants will mitigate or bear the costs of irreversible and irretrievable commitments of resources to the extent possible. The record further shows that the Applicants' expense of resources is typical for a project of this type, and permit conditions to address the uses of irreversible and irretrievable commitments of resources are consistent with conditions for other projects of this type.

III. Site Permit Conditions

269. The Commission's Solar Energy Generating System Sample Site Permit and Energy Storage System Sample Site Permit include proposed permit conditions, many of which have been discussed above. The conditions apply to site preparation, construction, cleanup, restoration, operation, maintenance, abandonment, decommissioning, and other aspects of the Project.[256]

270. The EA and Draft Site Permits prepared by PUC-EIP include various recommendations and potential site permit conditions specific to the Solar Facility and BESS.[257] The

[252] Ex. PUC-EIP-5 at § 4.9 (EA).
[253] Ex. PUC-EIP-5 at § 4.9 (EA).
[254] Ex. PUC-EIP-5 at § 4.9 (EA).
[255] Ex. PUC-EIP-5 4.9 (EA).
[256] Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).
[257] Ex. PUC-EIP-5, Appendix C (EA, Appendix C – Draft Site Permits).

Applicants responded to PUC-EIPs recommendations and proposed permit conditions in the Direct Testimony of Marta Lasch,[258] as well as in its written response.[259]

271. With the above-referenced response to the Draft Site Permits, the record in this matter supports the inclusion of the conditions identified in the Applicants' direct testimony and written response to public hearing comments, as detailed in the paragraphs that follow.

272. Lake Charlotte Solar proposed that Section 5.2 of the Solar Draft Site Permit be amended to remove reference to potential driver distraction and solar glare as MnDOT expressed reasons for retaining or planting vegetation along State Trunk Highway 15. MnDOT did not express concerns regarding driver distraction or solar glare impacts from the Solar Facility. PUC-EIP does not supports the proposed revisions, and requests that the permit language remain as originally proposed in the DSP, as this language reflects previously adopted commission orders and is responsive to MnDOT concerns.[260] The language is as follows:

> **5.2 Vegetation and Blowing Snow Control**
>
> The Permittee shall coordinate with the Minnesota Department of Transportation (MnDOT) regarding existing vegetation between the project area and State Trunk Highway 15. The Permittee shall retain or plant vegetation, as requested by MnDOT, necessary to reduce potential driver distraction, solar glare, ~~potential driver distraction, solar glare,~~ and blowing snow.
>
> The Permittee shall coordinate with MnDOT regarding vegetative, structural, and/or other snow fence designs necessary to ensure the safe operation of State Trunk Highway 15. The Permittee shall provide documentation of its coordination with MnDOT and illustrate the snow fence design, if any, for the project in the Site Plan filed under Section 8.3.

273. Lake Charlotte Solar proposed that Section 5.3 of the Solar Draft Site Permit be amended to remove reference to a post-construction noise study. The Solar Draft Site Permit does not require a post-construction noise study. Operational noise from the Solar Facility is anticipated to be minimal. PUC-EIP supports the proposed revisions, and in its hearing comments, provided an additional revision of Section 5.3 to include a website for noticing of construction.[261] The language is as follows:

> **5.3 Noise Notice**
>
> The Permittee shall provide notice to adjacent residences detailing when major noise-producing construction activities are planned to occur. *The Permittee shall provide notice*

[258] Ex. LCS-17 at 12-15 (Direct Testimony of Marta Lasch)
[259] Applicants' Response to Public Hearing Comments (Mar. 25, 2026) (eDockets No. _____).
[260] PUC-EIP Reply Comments (April 9, 2026) (eDockets No, ____) PUC-EIP Comments (Mar.13, 2026) (eDockets No. 20263-229251-01).
[261] PUC-EIP Comments (Mar.13, 2026) (eDockets No. 20263-229251-01).

to adjacent residences detailing when major noise producing construction activities are planned to occur. The Permittee shall maintain a webpage identifying days, times and areas where construction crew will be doing pile driving during construction. The Permittee shall provide all neighboring landowners, the township, and the city of Northrop a link to the website prior to construction and shall update the website frequently during construction to keep landowners informed where pile driving will be occurring. ~~The permittee shall file with the Commission the results of the noise study within 12 months of operation of the project.~~

274. Lake Charlotte Solar proposed that Section 5.7 of the Solar Draft Site Permit be amended to reflect that a Contaminated Sites Management Plan should only be developed if, upon further study by Lake Charlotte Solar, it is determined that contaminants exceeding applicable MPCA thresholds are documented within the site. PUC-EIP supports the proposed revisions.[262] The language is as follows:

> **5.7 Contaminated Sites Management Plan**
>
> The Permittee shall file a contaminated site analysis of the site detailing the results of a Phase II Environmental Site Assessment of potential contaminated portions of the site at least 14 days prior to the pre-construction meeting. If the contaminated site analysis documents the presence of contaminants exceeding applicable Minnesota Pollution Control Agency thresholds, t~~T~~he permittee shall develop a Contaminated Sites Management Plan to be followed in the event that contaminated materials are discovered during construction or operation of the project. The permittee will notify and coordinate with Minnesota Pollution Control Agency for proper removal and disposal of any contaminated materials and restoration of the land.

275. Lake Charlotte Solar proposed that Section 5.9 of the Solar Draft Site Permit be amended to reflect that there is no legal entity called the Blue Earth Watershed. DNR requested that it be removed from Section 5.9.[263] PUC-EIP staff supports this proposed revision.[264] The language is as follows:

> **5.9 Surface Waters**
>
> The Permittee shall consult with the ~~MNDNR, and~~ the Martin County Soil and Water Conservation District~~, and the Blue Earth Watershed~~ regarding potential impacts to nearby surface waters due to construction activities, including but not limited to, erosion and sediment control.

276. Consistent with the Applicants' request to issue a site permit for the BESS to Lake Charlotte Storage, the Applicants proposed that BESS Draft Site Permit be amended to reflect that Lake Charlotte Storage will own and operate the BESS and, as such, the

[262] PUC-EIP Comments (Mar.13, 2026) (eDockets No. 20263-229251-01).
[263] DNR Comment (Mar. 13, 2026) (eDockets No. 20263-229284-01).
[264] PUC-EIP Reply Comments (April 9, 2026). (eDockets No. _____).

permittee in the BESS Draft Site Permit should be Lake Charlotte Storage, LLC. References to the permitted project in the BESS Draft Site Permit should be the up to 150 megawatt / 600 megawatt hour nameplate capacity Lake Charlotte Storage Battery Energy Storage System and associated facilities in Martin, County, Minnesota. PUC-EIP supports the proposed revisions.[265]

IV. Notice

277. Minnesota statutes and rules require Applicants to provide certain notice to the public and local governments before and during the Application process.[266]

278. Applicants provided notice to the public and local governments in satisfaction of Minnesota statutory and regulatory requirements.[267]

279. Minnesota statutes and rules also require the Commission and PUC-EIP to provide certain notice to the public throughout the Site Permit processes.[268]

280. The Commission and PUC-EIP provided notice in satisfaction of Minnesota statutes and rules.[269]

V. Completeness of EA

281. The EA process is the alternative environmental review approved by the Minnesota Environmental Quality Board for LEPGPs and energy storage systems. The Commission is required to determine the completeness of the EA. An EA is complete if it and the record address the issues and alternatives identified in the Scoping Decision.[270]

282. The evidence in the record demonstrates that the EA is adequate because the EA and the record created at the public hearing and during the subsequent comment period address the issues and alternatives raised in the Scoping Decision.

283. Any of the foregoing Findings more properly designated Conclusions of Law are hereby adopted as such.

Based on the foregoing Findings of Fact and the record in this proceeding, the Administrative Law Judge recommends that the Commission make the following:

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[265] PUC-EIP Comments (Mar.13, 2026) (eDockets No. 20263-229251-01).
[266] Minn. Stat. § 216E.03, subds. 3a, 4; Minn. R. 7850.2100, subps. 2, 4.
[267] Ex. LCS-1 (Notice of Intent to Submit Site Permit Application under Alternative Process); & Ex. LCS-13 (Notice of Application Filing).
[268] Minn. Stat. § 216E.03, subd. 6; Minn. R. 7850.2300, subp. 2; Minn. R. 7850.3700, subps. 2, 3, and 6.
[269] Notice of Comment Period on Application Completeness (June 11, 2025) (eDockets No. 20256-219835-01), Ex. PUC-3 (Notice of Public Information and EA Scoping Meetings); Ex. PUC-11 (Notice of Public Hearings and Availability of Environmental Assessment); Ex. PUC-EIP-6 (Distribution of EA to Agencies THPOs); Ex. PUC-EIP-8 at 3 (EQB Monitor Notice); and Ex. PUC-EIP-7 at 3 (Certificate of Mailing EA to Library).
[270] Minn. R. 4410.4400, subp. 6; Minn. R. 7850.3900, subp. 2.

CONCLUSIONS OF LAW

1. Any of the foregoing findings of fact more properly designated as conclusions of law are hereby adopted as such. Any of the conclusions of law which are more properly designated findings of fact are hereby adopted as such.

2. The Commission has jurisdiction over the Applications pursuant to Minn. Stat. § 216B.243.

3. Applicants, PUC-EIP, and the Commission provided all required notices for the Site Permits proceedings.

4. The Commission has the authority under Minn. Stat. § 216E.03 to place conditions on Site Permits.

5. The Draft Site Permits, with the permit conditions revised as set forth above, contain a number of important mitigation measures, other reasonable conditions, and sample special conditions, permissible under Minn. R. 7850.4000 and related laws.

6. The record in this proceeding demonstrates that Lake Charlotte Solar and Lake Charlotte Storage have satisfied the criteria for the issuance of Site Permits for a Solar Facility and a BESS, respectively, as set forth in Minn. Stat. § 216E.03 and Minn. R. 7850.4000 and all other applicable legal requirements.

7. The Project does not present a potential for significant adverse environmental effects pursuant to the Minnesota Environmental Rights Act or the Minnesota Environmental Policy Act.

Based on the findings of fact and conclusions of law contained herein and the entire record of this proceeding, the Administrative Law Judge hereby makes the following

RECOMMENDATIONS

1. The Commission should grant Lake Charlotte Solar a site permit for the Solar Facility because required legal criteria have been met.

2. The Commission should grant Lake Charlotte Storage a site permit for the BESS because required legal criteria have been met.

3. The conditions in the Draft Site Permits, as amended and agreed to by the parties and addressed herein, should be incorporated into the final site permits.

Dated on _____ _____

Judge Suzane Todnem

NOTICE REGARDING EXCEPTIONS

Notice is hereby given that exceptions to this Report, if any, by any party adversely affected must be filed under the time frames established in the First Prehearing Order of October 23, 2025, unless otherwise directed by the Commission. Exceptions should be specific and stated and numbered separately. Oral argument before a majority of the Commission will be permitted pursuant to Minn. R. 7829.2700, subp. 3. The Commission will make the final determination of the matter after the expiration of the period for filing exceptions, or after oral argument, if an oral argument is held.

The Commission may, at its own discretion, accept, modify, or reject the Administrative Law Judge's recommendations. The recommendations of the Administrative Law Judge have no legal effect unless expressly adopted by the Commission as its final order.