



**Chisago County Department of
Environmental Services and Zoning**

313 No. Main St. #243
Center City, MN 55012
651-213-8374 ~ Kurt.Schneider@Chisagocounty.us

FILE COPY

**Information Packet
North Star Solar Project**

	Page
Community Energy Solar “About the North Star Solar Project” Handout	1
Site Permit Map North Star Solar Energy Generating Facility PUC Docket IP-6943/GS-15-33	2
Rout Permit Map PUC Docket IP-6943/GS-15-33 North Star High Voltage Transmission Line Project	3
Community Energy Solar North Star Solar web site project page Distinguishing Features Local Impact About Solar Energy About Community Energy Solar Contact Information	4
North Star Solar Project Public Hearing PowerPoint Presentation	6
Public Utilities Commission January 20, 2016 Meeting Notice & Agenda	19
Public Utilities Commission January 20, 2016, Staff Briefing Papers Statement of the Issues Project Overview Procedural History Statutes and Rules Report of the Administrative Law Judge Exceptions to ALJ Report Staff Discussion Commission Decision Alternatives	21
Star Tribune “Large Solar Farm Wins Approval” by David Shaffer	36

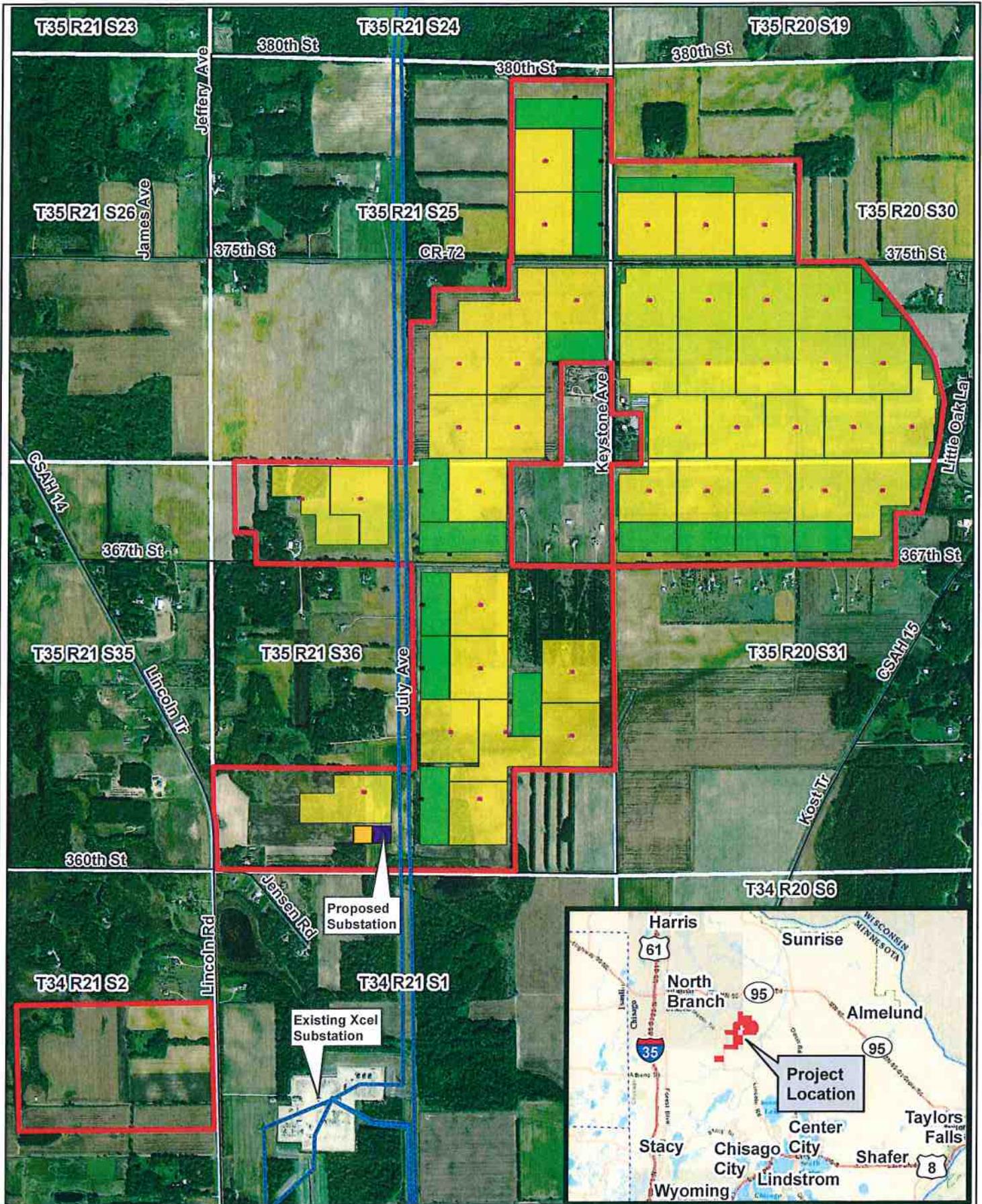
North Star Solar Project

Chisago County, Minnesota



About the North Star Solar Project

- Community Energy is proposing to build a 100-megawatt (MW) solar energy facility and associated one-mile long, 115-kilovolt (kV) transmission line.
- The solar project and transmission line are proposed to be located on approximately 800 acres of agricultural land within the city of North Branch and Lent and Sunrise townships in Chisago County, Minnesota.
- The North Star Solar Project is a solution to the growing demand for solar energy due to a new state law (Minn.Stat.216B.1691) requiring public utilities to produce at least 1.5 percent of retail electricity sales from solar energy by 2020.
- Significant electrical infrastructure already exists in Chisago County - allowing the project to generate low-cost and efficient solar energy for Minnesota ratepayers.
- Total engineering, procurement and construction costs for the project are estimated to be approximately \$180 million.
- Before the project can proceed, the Minnesota Public Utilities Commission must approve site and route permits. This process is expected to be completed by January 2016.
- Opportunities for public input are available through the Minnesota Public Utilities Commission. (Please see www.mn.gov/puc and docket number 15-33 for full details.)
- If approved, the North Star Solar Project would become the largest solar energy facility in the Midwest.



Data Source(s): Data and map are approximate. MNDOT Basemap (2014); Chicago County GIS (2015); ESRI (2012); ESRI Online Basemap Service (2015); Minnesota NAIP Imagery (2015); North Star Solar PV, LLC (2015).

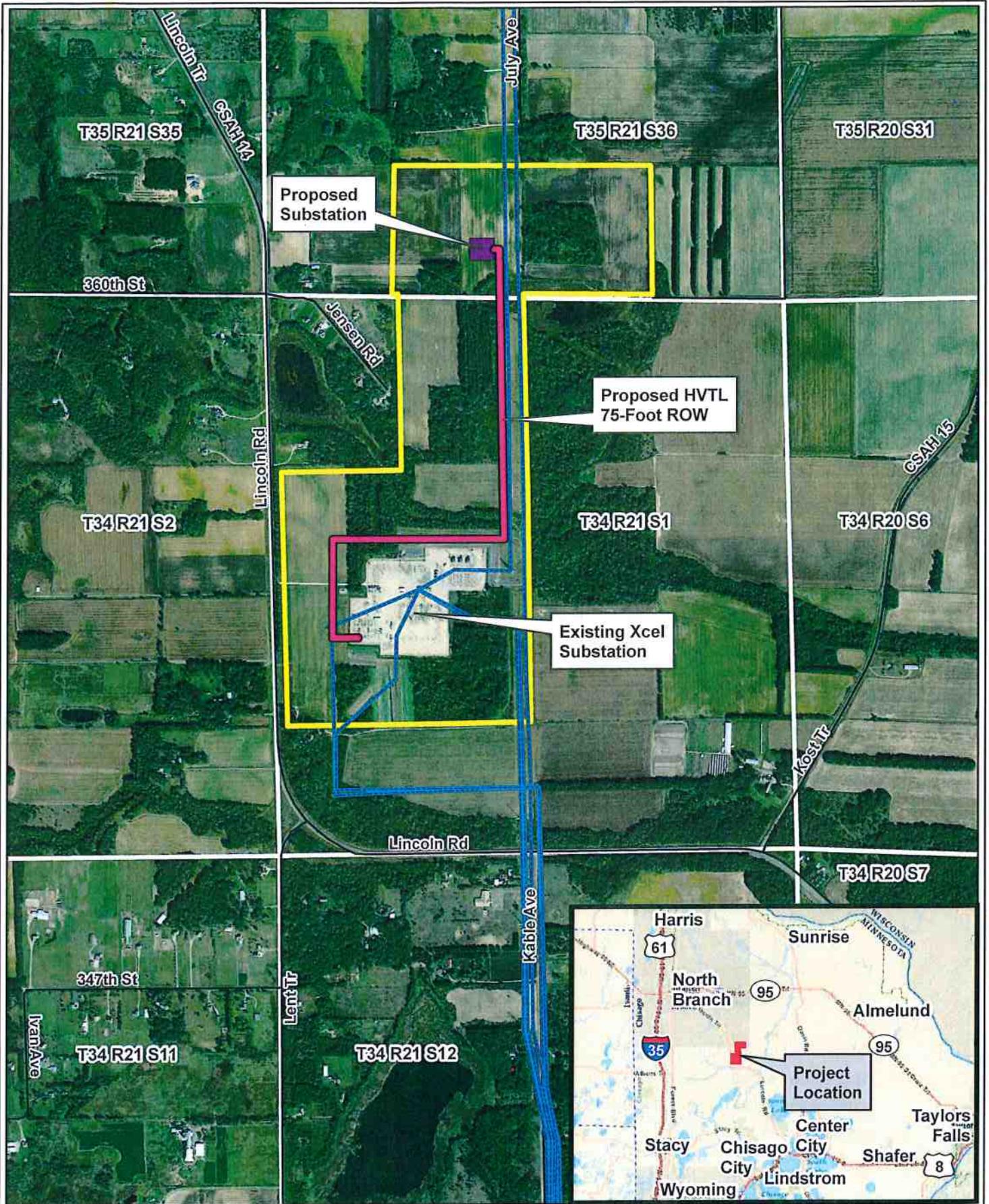
- Site Boundary
- Existing Transmission Line
- Existing Road
- Section Boundary
- Proposed Substation
- Proposed Operations and Maintenance Facility
- Proposed 1MW Array
- Proposed 2MW Array
- Proposed 1MW Inverter
- Proposed 2MW Inverter

SITE PERMIT MAP

North Star Solar Energy Generating Facility

PUC Docket IP-6943/GS-15-33





Data Source(s): Data and map are approximate. MNDOT Basemap (2014); Chicago County GIS (2015); ESRI (2012); ESRI Online Basemap Service (2015); Minnesota NAIP Imagery (2015); North Star Solar PV, LLC (2015).

- Proposed HVTL Route Corridor
- Proposed HVTL 75-Foot ROW
- Proposed Substation
- Existing Transmission Line
- Existing Road
- Section Boundary



ROUTE PERMIT MAP

North Star High-Voltage Transmission Line Project
PUC Docket IP-6943/GS-15-33



CALL TODAY: 484.654.1877

HOME ABOUT PROJECTS NEWS CONTACT CEI.COM

NORTH STAR SOLAR



SIZE: 130 MW (DC) / 100 MW (AC)

LOCATION: Chisago County, MN

DISTINGUISHING FEATURES

- Community Energy is proposing to build a 100-megawatt (MW) solar energy facility and associated one-mile long, 115-kilovolt (kV) transmission line.
- The solar project and transmission line are proposed to be located on approximately 800 acres of agricultural land within the city of North Branch and Lent and Sunrise townships in Chisago County, Minnesota.
- The North Star Solar Project is a solution to the growing demand for solar energy due to a new state law (Minn.Stat.216B.1691) requiring public utilities to produce at least 1.5 percent of retail electricity sales from solar energy by 2020.
- Significant electrical infrastructure already exists in Chisago County – allowing the project to generate low-cost and efficient solar energy for Minnesota ratepayers.
- Total engineering, procurement and construction costs for the project are estimated to be approximately \$180 million.
- Before the project can proceed, the Minnesota Public Utilities Commission must approve site and route permits. This process is expected to be completed by January 2016.
- Opportunities for public input are available through the Minnesota Public Utilities Commission. (Please see www.mn.gov/puc and docket number 15-33 for full details.)
- If approved, the North Star Solar Project would become the largest solar energy facility in the Midwest.

LOCAL IMPACT

- The project includes local sourcing of labor, services and materials.
- The year-long construction process would generate approximately 300 jobs. Once operational, the project would create 6-12 full-time jobs.
- Chisago County and the local jurisdictions would collectively receive more than \$300,000 of property tax payments each year.
- The North Star Solar Project is collaborating with the Minnesota Department of Natural Resources to develop a vegetation plan that incorporates a mix of grasses and flowers on project land that will be beneficial to wildlife and pollinators.
- The project would produce enough clean energy to power approximately 20,000 homes every year.

ABOUT SOLAR ENERGY

- Photovoltaics convert solar energy from the sun into usable electrical energy.
- According to the U.S. Department of Energy, solar energy is the most abundant energy resource on earth.
- Solar energy is environmentally friendly because the sun is a natural energy source that does not require the burning of fossil fuels.

ABOUT COMMUNITY ENERGY SOLAR

- Community Energy has maintained a strong record of building responsible projects and being a good neighbor. The North Star Solar Project is following this core principle.
- Community Energy has started construction or built solar facilities in Colorado, Indiana, Massachusetts, New Jersey, New York, North Carolina, and Pennsylvania.
- The company has also led renewable energy development and the construction of more than 1,000 megawatts of wind and solar generating facilities across the U.S. – representing more than \$1.5 billion in new energy investments.

QUESTIONS ABOUT NORTH STAR SOLAR?

Chase Whitney | Originator

Community Energy Solar, LLC

Chase.Whitney@CommunityEnergyInc.com

[HOME](#) [ABOUT](#) [PROJECTS](#) [NEWS](#) [CONTACT](#) [CEI.COM](#)

484.654.1877 | Three Radnor Corporate Center | 100 Matsonford Road, Suite 300 | Radnor, PA 19087

Copyright 2016 Community Energy Solar LLC | [Sitemap](#) | [Privacy Policy](#)
[Website Produced](#) by: Inverse Paradox

North Star Solar Project

Public Hearing

Minnesota Public Utilities Commission (PUC)
Office of Administrative Hearings (OAH)



MIN PUC Docket Number 15-33 | OAH Docket Number 82-2500-32679



North Star Solar Project



COMMUNITY
ENERGY SOLAR

Community Energy

- Pioneers in renewable energy development and marketing
- Developed more than 1000 megawatts of wind and solar capacity
- Solar portfolio includes projects completed or underway throughout the United States



Comanche Solar
120 MW/AC
Pueblo, CO



Butler Solar
100 MW/AC
Taylor County, GA



Eastern Shore Solar
80 MW/AC
Delmarva Peninsula, VA



North Star Solar Project



COMMUNITY
ENERGY SOLAR

Project background

- Minnesota Solar Energy Standard
- Northern States Power – 2014 Solar Energy Solicitation
- 1 of 3 projects selected out of 111 competitive proposals
- Power purchase contract between North Star and Xcel Energy was approved by the MN PUC on 2/12/15

Project details

- 100 megawatts of solar photovoltaic capacity
- Approximately 800 acres of agricultural land
- Single axis tracking technology to maximize production
- Grid connection at the Chisago substation
- 25-year power purchase contract with Xcel Energy





North Star Solar Project



COMMUNITY
ENERGY SOLAR

Why here?

- Chisago substation – infrastructure and strong ties to Xcel Energy customers
- Non-prime agricultural land
- Few environmental constraints
- Existing local ordinances



North Star Solar Project



COMMUNITY
ENERGY SOLAR

Project economics

- \$180M total investment
- Approximately 300 local jobs associated with construction and installation
- More than 1,000 direct and indirect jobs

Operations

- \$2.5M in annual economic output
- Approximately \$350k in annual property taxes
- 6-12 full-time employees
- Annually generate enough electricity for 20,000 homes



North Star Solar Project

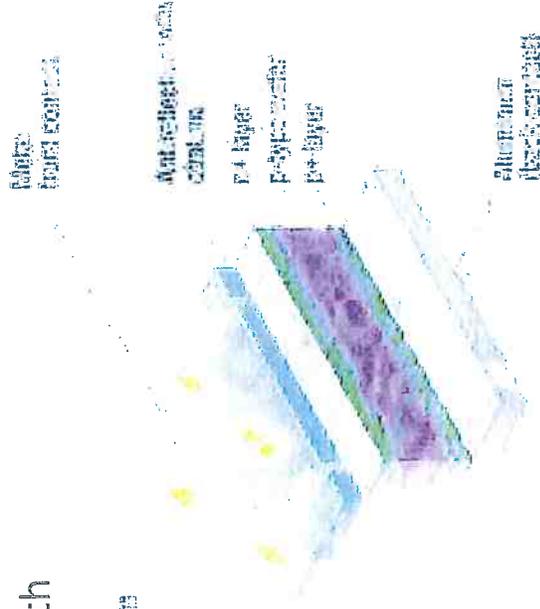


COMMUNITY
ENERGY SOLAR

Crystalline silicon solar photovoltaics

- Safe, mature, reliable and abundant
- Most common solar cells used in commercially available panels
- Module lifetimes of 25+ years with minimal long-term degradation
- Silicon is the second most abundant element on Earth

Example



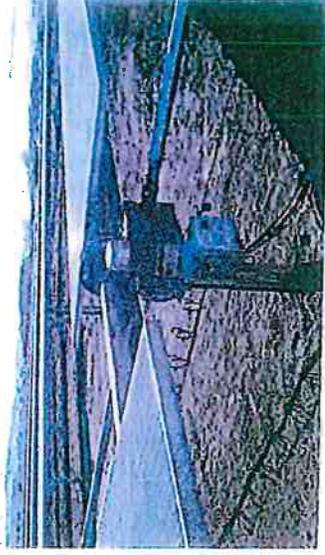
<http://energy.gov/eere/sunshot/crystalline-silicon-photovoltaics-research>

North Star Solar Project



Project components

- Solar modules
- Racking system with tracking capability
- Electrical components
 - DC electrical collection
 - Inverters
 - Transformers
- AC electrical collection
- System controls
- Grid connection
- Access roads
- Fencing
- Vegetation



North Star Solar Project



COMMUNITY
ENERGY SOLAR

Construction, operation and decommissioning

Site prep – trenching – pile installation – racking and module installation

- Six to nine month process

Electrical connections – testing – commissioning

- Electrical wiring
- Construction of short transmission line to the Chisago substation
- Grid connection and facility commissioning

Operations

- Commercial operations Fall 2016
- Regular maintenance and inspections

Decommissioning



North Star Solar Project



COMMUNITY
ENERGY SOLAR

Vegetation plan

Minnesota Department of Natural Resources

- Opportunity to manage vegetation at project sites as restored short-grass prairies or meadows
- Native plants and flowers that are beneficial to wildlife and pollinators

Anticipated benefits

- Improved water quality
- Reduced soil erosion
- Increased water retention
- Improved soil composition
- Less use of fertilizers and herbicides
- Critical habitat



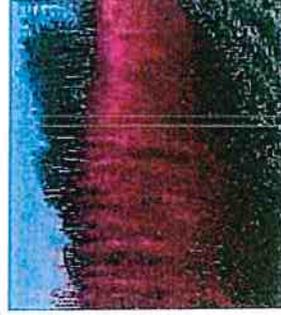
North Star Solar Project



COMMUNITY
ENERGY SOLAR

Landscaping and visual buffers

- A key development focus: residences and public corridors
- Professional landscape design using native vegetation
- Residential buffering - combination of setback, plant type, density and placement, and fencing



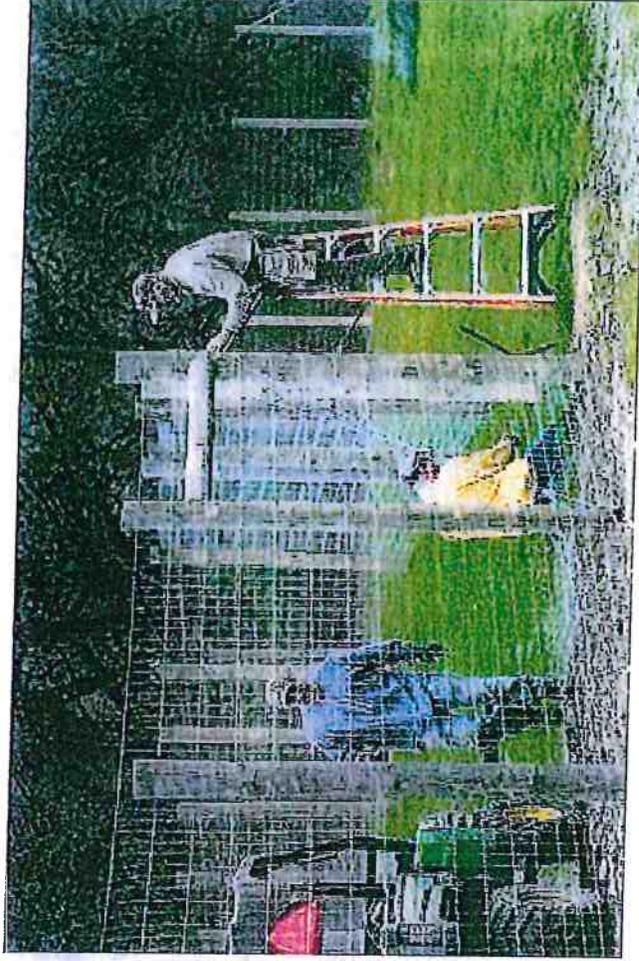
North Star Solar Project



COMMUNITY
ENERGY SOLAR

Fencing update

- Deer fence / agricultural fence
- NEC requirements



<https://blogs.cornell.edu/hort/2013/12/04/deer-fencing-installed-at-freeville-farm/>

North Star Solar Project



COMMUNITY
ENERGY SOLAR

Solar energy – a global perspective





NOTICE OF COMMISSION MEETING

Issued: January 8, 2016

The items listed on the attached agenda will be heard at the Commission's regularly scheduled meeting.

DATE: Wednesday, January 20, 2016

TIME: 9:30am

LOCATION: Public Utilities Commission Large Hearing Room
121 7th Place East, Suite 350
St. Paul MN 55101-2147

DIRECTIONS: Visit mn.gov/puc or
Call 651-296-0406 or 1-800-657-3782, Option 3

Occasionally items may need to be rescheduled. Commission staff will make all reasonable efforts to notify you if your item is rescheduled. However, if you wish to confirm this hearing date, please visit mn.gov/puc or call 651-296-0406 or 1-800-657-3782.

Bad weather? Find out if a meeting is canceled. Call (toll-free) 1-855-731-6208 or 651-201-2213 or visit mn.gov/puc

Change your mailing preferences: E-mail docketing.puc@state.mn.us or call 651-201-2234

The Commission hearing rooms have wheelchair access. If other reasonable accommodations are needed to enable you to fully participate in a Commission meeting (e.g., sign language or large print materials), please call 651-296-0406 or 1-800-657-3782 at least one week in advance of the meeting. Persons with hearing loss or speech disabilities may call us through their preferred Telecommunications Relay Service.



**Minnesota Public Utilities
Commission
Meeting Agenda**

121 7th Place East
Suite 350
Saint Paul, MN
55101-2147

Wednesday, January 20, 2016

9:30 AM

Large Hearing Room

INTRODUCTION

ORAL ARGUMENT ITEMS

DELIBERATION ITEMS

DECISION ITEMS

1. [Details 2014-007](#)

* **IP6828/WS-09-1197** **Pleasant Valley Wind, LLC**

In the Matter of the Application of Pleasant Valley Wind, LLC for a Large Wind Energy Conversion System Site Permit for the 301 MW Pleasant Valley Wind Project in Dodge and Mower Counties.

Should the Commission approve the post-construction noise study proposal? (PUC: **Ek**)

2. [Details 2015-067](#)

** **IP6943/GS-15-33** **North Star Solar PV LLC**

In the Matter of the Combined Application of North Star Solar PV LLC for a Site Permit and Route Permit for the North Star Solar Electric Power Generating Plant and Associated 115 kV High-Voltage Transmission Line in Chisago County, Minnesota.

- Should the Commission adopt the administrative law judge's Findings of Fact, Conclusions of Law, and Recommendation?
- Should the Commission find that the environmental assessment and the record created at the public hearing adequately address the issues identified in the scoping decision?
- Should the Commission grant issue a site permit for the 100 megawatt North Star solar energy generating facility Solar Electric Power Generating Plant in Chisago County?
- Should the Commission grant issue a route permit for the 115 kilovolt transmission line associated with the North Star solar energy generating facility Solar Electric Power Generating Plant in Chisago County? (PUC: **Ek**)

ADJOURNMENT

* One star indicates agenda item is unusual but is not disputed.

** Two stars indicate a disputed item or significant legal or procedural issue to be resolved. (Ex Parte Rules apply)

Please note: For the complete record, please see eDockets

REVISED
Minnesota Public Utilities Commission
Staff Briefing Papers

Meeting Date: January 20, 2016Agenda Item **2

Company: North Star Solar PV LLC

Docket No. IP-6943/GS-15-33

In the Matter of the Combined Application of North Star Solar PV LLC for a Site Permit and Route Permit for the North Star Solar Electric Power Generating Plant and Associated 115 kV High-Voltage Transmission Line in Chisago County, Minnesota

- Issues:
- Should the Commission adopt the administrative law judge’s Findings of Fact, Conclusions of Law, and Recommendation?
 - Should the Commission find that the environmental assessment and the record created at the public hearing adequately address the issues identified in the scoping decision?
 - Should the Commission grant a site permit for the 100 megawatt North Star Solar Energy Generating Facility in Chisago County?
 - Should the Commission grant a route permit for the 115 kilovolt transmission line associated with the North Star Solar Energy Generating Facility in Chisago County?

Staff: Scott Ek | 651-201-2255 | scott.ek@state.mn.us

Relevant Documents

Combined Application for a Site and Route Permit February 11, 2015
Commission Order Finding Application Substantially Complete April 27, 2015
Addendum to Combined Application for a Site and Route Permit April 29, 2015
Environmental Assessment Scoping Decision..... June 24, 2015 (Filed June 29, 2015)
Commission Order Directing Use of Summary Proceedings July 7, 2015
Environmental Assessment..... September 24, 2015
Errata to Environmental Assessment September 28, 2015
Administrative Law Judge Report December 16, 2015
DOC-EERA Exceptions to Administrative Law Judge Report December 24, 2015

This document can be made available in alternative formats (e.g., large print or audio) by calling 651-296-0406 (voice). Persons with hearing loss or speech disabilities may call us through their preferred Telecommunications Relay Service.

Attached Documents

Proposed Solar Energy Generating System Site Permit
Proposed High-Voltage Transmission Line Route Permit

The attached materials are work papers of the Commission staff. They are intended for use by the Minnesota Public Utilities Commission and are based upon information already in the record unless noted otherwise.

I. STATEMENT OF THE ISSUES

- Should the Commission adopt the administrative law judge's Findings of Fact, Conclusions of Law, and Recommendation?
- Should the Commission find that the environmental assessment and the record created at the public hearing adequately address the issues identified in the scoping decision?
- Should the Commission grant a site permit for the 100 megawatt (MW) North Star Solar Energy Generating Facility in Chisago County?
- Should the Commission grant a route permit for the 115 kilovolt (kV) transmission line associated with the North Star Solar Energy Generating Facility in Chisago County?

II. PROJECT OVERVIEW

North Star Solar PV LLC (North Star) has applied to the Minnesota Public Utilities Commission (Commission) for a site permit and a route permit to construct a 100 MW photovoltaic solar energy generating facility and an associated one-mile long 115 kV high-voltage transmission line (North Star Solar Project). The final solar facility design is expected to occupy 800 acres of land within the city of North Branch and Lent and Sunrise townships in Chisago County, Minnesota.

The primary components of the solar facility include photovoltaic modules mounted on a linear single-axis tracking system, solar inverters, and a project substation. The associated 115 kV transmission line is proposed to be constructed within an approximately 75-foot right-of-way that would connect the project substation with the existing Xcel Energy Chisago Substation.

III. PROCEDURAL HISTORY

On January 9, 2015, North Star filed a letter with the Commission noticing its intent to file a site permit application for a 100 MW solar energy generating facility under the alternative permitting procedures set forth in Minn. Stat. § 216E.04 and Minn. R. 7850.2800 to 7850.3900.

On January 29, 2015, North Star filed a letter with the Commission noticing its intent to file a combined site and route permit for a 100 MW solar energy generating facility and associated 115 kV transmission line. The letter expanded the January 9, 2015 initial notice to include notice of intent to file a high-voltage transmission line route permit application.

On February 11, 2015, North Star filed a combined site and route permit application under Minn. Stat. § 216E.04 and Minn. R. 7850.2800 to 7850.3900 for its proposed solar energy generating facility and 115 kV transmission line project.

On April 27, 2015, the Commission issued its Order Finding Application Substantially Complete, Directing Use of Alternative Permitting Process, and Granting Variance.

On April 30, 2015, staff from the Commission and the Department of Commerce Energy Environmental Review and Analysis unit (DOC-EERA) conducted a public information and environmental assessment scoping meeting at the lent Town Hall in Stacy, Minnesota. A comment period was open from April 10, 2015 to May 15, 2015.

On June 29, 2015, the deputy commissioner of the Department of Commerce filed the scoping decision for the environmental assessment.

On July 7, 2015, the Commission issued its Order Directing Use of Summary Proceedings.

On September 24, 2015, DOC-EERA filed the environmental assessment of the North Star project.

On October 7, 2015, a public hearing in this matter was held before an administrative law judge (ALJ) at Lakes Region EMS in North Branch, Minnesota. Following the public hearing, a comment period was open until October 21, 2015.

On December 16, 2015, the ALJ filed Findings of Fact, Conclusions of Law, and Recommendation in this matter.

On December 24, 2015, DOC-EERA filed its exceptions to the ALJ Report.

IV. STATUTES AND RULES

Minn. Stat. § 216E.03, subd. 1, provides that no person may construct a large electric generating plant without a site permit from the Commission and that a large electric generating plant may be constructed only on a site approved by the Commission. Minn. Stat. § 216E.01, subd. 5, defines a large electric power generating plant as electric power generating equipment and associated facilities designed for or capable of operation at a capacity of 50 megawatts or more. The proposed project is a solar facility capable of generating 100 MW of electric energy and, therefore, requires a site permit before it can be constructed.

Minn. Stat. § 216E.03, subd. 2, provides that no person may construct a high-voltage transmission line without a route permit from the Commission and that a high-voltage transmission line may be constructed only along a route approved by the Commission. Minn. Stat. § 216E.01, subd. 4, defines a high-voltage transmission line as a conductor of electric energy and associated facilities designed for and capable of operation at a nominal voltage of 100 kV or more and is greater than 1,500 feet in length. The proposed transmission line associated with the solar facility is a one-mile 115 kV transmission line and, therefore, requires a route permit before it can be constructed.

Minn. Stat. § 216B.243, subd. 2, provides that no large energy facility shall be sited or constructed in Minnesota without the issuance of a certificate of need by the Commission. A large energy facility is defined under Minn. Stat. § 216B.2421, subd. 2, as:

- Any electric power generating plant or combination of plants at a single site with a combined capacity of 50 megawatts or more and transmission lines directly associated with the plant that are necessary to interconnect the plant to the transmission system.
- Any high-voltage transmission line with a capacity of 200 kilovolts or more and greater than 1,500 feet in length.
- Any high-voltage transmission line with a capacity of 100 kilovolts or more with more than 10 miles of its length in Minnesota or that crosses a state line.

The proposed solar energy facility is considered a large energy facility because it is a power generating plant capable of 100 megawatts of generating capacity. However, the proposed project was already considered and selected by the Commission as part of Xcel Energy's 2014 Solar Resource Solicitation. In its order approving the solar portfolio, the Commission ruled that,

under Minn. Stat. § 216B.243, subd. 9, the proposed project was exempt from the requirement to obtain a certificate of need.¹

In addition, a certificate of need is not required for the transmission line associated with the solar facility because the proposed transmission line has a capacity of less than 200 kV, is less than 10 miles in length, and does not cross a state border.

The proposed project is subject to Minnesota Statutes Chapter 216E which requires that large electric power generating plants and high-voltage transmission lines be located consistent with state policy and in a manner that minimizes adverse human and environmental impact while insuring continuing electric power system reliability and integrity and insuring that electric energy needs are met and fulfilled in an orderly and timely fashion. In determining whether to issue a permit for a large electric power generating plant or a high-voltage transmission line, the Commission must consider the factors contained under Minn. Stat. § 216E.03, subd. 7, and Minn. R. 7850.4100.

Under Minn. 7850.4600, the Commission may impose conditions in any site permit for a large electric power generating plant or route permit for a high voltage transmission line as it deems appropriate and that are supported by the record. Specifically, when issuing a route permit for a high-voltage transmission line, the Commission must specify the design, route, right-of-way preparation, facility construction and operation it deems appropriate.

V. REPORT OF THE ADMINISTRATIVE LAW JUDGE

On September 8, 2013, the ALJ filed Findings of Fact, Conclusions of Law and Recommendations (ALJ Report) in this matter. The ALJ Report addressed the combined site and route permit application of North Star for the construction and operation of a 100 MW photovoltaic solar energy generating facility and an associated one-mile long 115 kV high-voltage transmission line.

The ALJ Report included 262 findings of fact, including a summary of public comments and government agency participation; 17 conclusions of law; and six recommendations. The ALJ documented the actions taken to comply with the procedural requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850. The ALJ presented findings on each of the criteria under Minn. Stat. § 216E.03, subd. 7, and Minn. R. 7850.4100, that must be considered when issuing a site permit for a large electric power generating plant and a route permit for a high-voltage transmission line.

¹ Public Utilities Commission, Order Approving Solar Portfolio, *In the Matter of Xcel Energy's Petition for Approval of a Solar Portfolio to Meet Initial Solar Energy Standard*, Docket No. E-002/M-14-162, Document ID 20153-108501-01.

The ALJ recommended that the Commission grant a site permit for the 100 MW photovoltaic solar energy generating facility and a route permit for the associated one-mile 115 kV high-voltage transmission line in Chisago County, Minnesota.

In making the recommendation, the ALJ, as summarized by staff, concluded that:

- The Commission had complied with the procedural requirements of Minnesota Statutes Chapter 216E and Minnesota Rules Chapter 7850.
- The environmental assessment was prepared in compliance with the procedures in Minn. R. 7850.3700, and the environmental assessment and the record addressed the issues identified in the scoping decision.
- The site permit should include the mitigation measures and conditions contained in the generic site permit template including the following modifications:

Modify Section 4.1 concerning notice of permit as follows:

Within 14 days of issuance of this permit, the Permittee shall send a copy of the permit to any regional development commission, county, city, and township in which any part of the site is located.

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures ~~at the time of first contact with the affected landowners~~ after issuance of this permit. The Permittee shall contact participating landowners prior to entering their property or conducting maintenance within the site, unless otherwise negotiated with the affected landowner.

Add a special condition under Section 5.0 concerning landscaping plan requirements as follows:

The Permittee shall develop a site specific Landscaping Plan in consultation with Chisago County, and considering local government ordinances and setbacks, that reasonably mitigates the visual impacts to all adjacent residences. The Landscaping Plan shall be filed in this docket and approved by the PUC prior to construction beginning.

Add a special condition under Section 5.0 concerning vegetation management plan requirements as follows:

The Permittee shall develop a Vegetation Management Plan in consultation with the MnDNR to the benefit of pollinators and other wildlife, and to enhance soil water retention and reduce storm water runoff and erosion. The Vegetation Management Plan shall be filed in this docket at least 14 days prior to the pre-construction meeting.

Add a special condition under Section 5.0 concerning security fence requirements as follows:

The security fence surrounding the Project shall be designed to minimize the visual impact of the project. While maintaining compliance with the National Electrical Code, the Permittee shall install an eight-foot wood pole and woven wire fence, or substantially similar, around the perimeter of the Project. This type of fence is commonly referred to as a “deer fence” or “agricultural fence.” Permittee shall consult with MnDNR to insure the design of the facilities preserves or replaces identified natural wildlife, wetland, woodland or other corridors.

Add a special condition under Section 5.0 concerning tree removal requirements as it relates to the northern long-eared bat and migratory birds as follows:

Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds.

- The route permit should include the mitigation measures and conditions contained in the generic site permit template.

VI. EXCEPTIONS TO ALJ REPORT

Under Minn. R. 7829.2700, exceptions to the ALJ Report must be filed within 15 days of the filing of the report for cases subject to statutory deadlines. The ALJ report was filed on December 16, 2015, therefore, the filing deadline for exceptions was December 31, 2015. Exceptions were filed by DOC-EERA, and were the only exceptions filed in this matter.

A. Department of Commerce EERA Exceptions to ALJ Report

On December 24, 2015, DOC-EERA filed exceptions to the ALJ Report. DOC-EERA agreed with the ALJ Report and the recommendation to issue a site permit and a route permit for the North Star Solar Project. DOC-EERA also agreed with: 1) the ALJ's Conclusions 8 and 11 that

indicate the mitigation measures and conditions contained in the generic site and route permit templates are appropriate; and 2) the ALJ's recommended special permit conditions (Conclusion 10) concerning landscaping plan requirements, vegetation management plan requirements, and security fence requirements.

DOC-EER also agreed with the ALJ's special permit condition related to tree removal timetables for the protection of threatened species (Conclusion 10), but recommended modifications to the language. DOC-EERA believed that the timetable may be restrictive and suggested additional language based on conditions of past permits that would allow the permittee to consult with the U.S. Fish and Wildlife Service on what specific timeframe is allowable under federal rules for tree removal in the project area, as follows:

Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds, unless other appropriate time limitations on tree clearing are determined in consultation with the USFWS. The Permittee shall efile an account of that consultation 14 days prior to the pre-construction meeting.

DOC-EERA recommended that the above modified special condition be included in the site permit and the route permit, if granted.

VII. STAFF DISCUSSION

Based on information in North Star's combined site and route permit application, the analysis provided in the environmental assessment, public comments, briefs, the ALJ Report, exceptions received in this matter, and other evidence in the record; staff provides the following discussion.

A. Administrative Law Judge Report

Staff has examined the full record in this case and agrees with the findings, conclusions, and recommendations reached by the ALJ. Staff finds that the ALJ Report is a sound, comprehensive and common sense ruling that is reflective of the case record. The report documents that the procedural requirements were followed and presents findings of fact for each of the decision criteria that must be met for a site permit for a large electric generating plant and a route permit for a high-voltage transmission line. Therefore, staff recommends that the Commission approve the ALJ Report with the following minor modifications:

Finding 169 recommended that the applicant file a stormwater pollution protection plan (SWPPP) for Commission approval to ensure proper mitigation measures are in place concerning erosion and sediment control best management practices. A SWPPP is a plan that is regulated

under the MPCA's National Pollutant Discharge Elimination System (NPDES) Construction Stormwater Permit, thus, the MPCA would be the state agency with the authority to approve the plan not the Commission. Therefore, staff recommends that Finding 169 be stricken from the ALJ Report.

It should be noted that the proposed standard permit language for both the site and route permit includes the following language as it relates to soil erosion and sediment control:

The Permittee shall implement those erosion prevention and sediment control practices recommended by the Minnesota Pollution Control Agency (MPCA) Construction Stormwater Program.

The Permittee shall implement reasonable measures to minimize erosion and sedimentation during construction and shall employ perimeter sediment controls, protect exposed soil by promptly planting, seeding, using erosion control blankets and turf reinforcement mats, stabilizing slopes, protecting storm drain inlets, protecting soil stockpiles, and controlling vehicle tracking. Contours shall be graded as required so that all surfaces provide for proper drainage, blend with the natural terrain, and are left in a condition that will facilitate re-vegetation and prevent erosion. All areas disturbed during construction of the facilities shall be returned to pre-construction conditions.

Where larger areas of one acre or more are disturbed or other areas designated by the MPCA, the Permittee shall obtain a National Pollutant Discharge Elimination System (NPDES)/State Disposal System (SDS) Construction Stormwater permit from the MPCA that provides for development of a stormwater pollution prevention plan (SWPPP) that describes methods to control erosion and runoff.

Conclusion 10 identified additional special condition language for the site permit concerning landscaping plan requirements, vegetation management plan requirements, security fence, and tree removal timetables. Staff recommends that Conclusion 10 be modified at § 5.0.1 to clarify the compliance requirement concerning the landscape plan, and at § 5.0.4 to include additional language that would allow consultation with the U.S. Fish and Wildlife Service on appropriate tree removal times as recommended by DOC-EERA, as follows:

§ 5.0.1 The Permittee shall develop a site specific Landscaping Plan in consultation with Chisago County, and considering local government ordinances and setbacks, that reasonably mitigates the visual impacts to all adjacent residences. The Landscaping Plan shall be filed in this docket at least 14 days prior to the pre-construction meeting and approved by the PUC ~~prior to construction beginning~~.

§ 5.0.4 Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds, unless other appropriate time limitations on tree clearing are determined in consultation with the USFWS. The Permittee shall file an account of that consultation 14 days prior to the pre-construction meeting.

B. Environmental Assessment Completeness

Staff has reviewed the environmental assessment and agrees with the ALJ that the DOC-EERA conducted an appropriate environmental analysis of the project for purposes of this proceeding, and that the environmental assessment satisfies Minn. R. 7850.3700. Specifically, the environmental assessment and the record created at the public hearing addresses the issues identified in the scoping decision.

C. Site Permit Conditions

Staff agrees with the ALJ and DOC-EERA that the site permit should include the mitigation measures and conditions contained in the generic site permit template. Staff also agrees with the ALJ's recommendation to modify Section 4.1 concerning notice of permit (Conclusion 9), and adding special conditions to Section 5.0 (Conclusion 10) concerning landscaping plan requirements, vegetation management plan requirements, and security fence requirements, as follows:

Section 4.1 Notification

Within 14 days of issuance of this permit, the Permittee shall send a copy of the permit to any regional development commission, county, city, and township in which any part of the site is located.

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures ~~at the time of first contact with the affected landowners~~ after issuance of this permit. The Permittee shall contact participating landowners prior to entering their property or conducting maintenance within the site, unless otherwise negotiated with the affected landowner.

Section 5.2 Landscaping Plan

The Permittee shall develop a site specific Landscaping Plan in consultation with Chisago County, and considering local government ordinances and setbacks, that reasonably mitigates the visual impacts to all adjacent residences. The Landscaping Plan shall be

filed in this docket at least 14 days prior to the pre-construction meeting and approved by the PUC prior to construction beginning.

Note: Staff suggests a modification to the last sentence of the ALJ's conclusion that would instead require the permittee to submit the landscaping plan at least 14 days prior to the pre-construction meeting rather than an approval by the Commission. This modified language is consistent with other similar compliance submittals.

Section 5.2 Vegetation Management Plan

The Permittee shall develop a Vegetation Management Plan in consultation with the DNR to the benefit of pollinators and other wildlife, and to enhance soil water retention and reduce storm water runoff and erosion. The Vegetation Management Plan shall be filed in this docket at least 14 days prior to the pre-construction meeting.

Section 5.3 Site Security Fence

The security fence surrounding the Project shall be designed to minimize the visual impact of the Project. While maintaining compliance with the National Electrical Safety Code, the Permittee shall install an eight-foot wood pole and woven wire fence, or substantially similar, around the perimeter of the Project. This type of fence is commonly referred to as a "deer fence" or "agricultural fence." The Permittee shall consult with the DNR to insure the design of the facilities preserves or replaces identified natural wildlife, wetland, woodland or other corridors.

Concerning the ALJ's recommendation regarding a special permit condition related to tree removal timetables (Conclusion 10) for the protection of threatened species, Staff agrees with the modifications recommended by DOC-EERA, as follows:

Section 5.4 Tree Removal Timetables

Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds, unless other appropriate time limitations on tree clearing are determined in consultation with the USFWS. The Permittee shall file an account of that consultation 14 days prior to the pre-construction meeting.

D. Route Permit Conditions

Staff agrees with the ALJ and DOC-EERA that the route permit should include the mitigation measures and conditions contained in the generic route permit template. Staff also agrees with

DOC-EERA that a special permit condition regarding tree removal timetables for the protection of threatened species, as modified, should also be included in a route permit. However, because route permits typically do not require a pre-construction meeting, staff suggests the following modification to DOC-EERA's recommendation regarding document submittal timelines:

Tree Removal Timetables

Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds, unless other appropriate time limitations on tree clearing are determined in consultation with the USFWS. The Permittee shall file an account of that consultation as part of the plan and profile submission. ~~The Permittee shall file an account of that consultation 14 days prior to the pre-construction meeting.~~

Staff has attached a proposed site permit and route permit that incorporates the modifications as suggested by the ALJ, DOC-EERA, and staff in these briefing papers.

COMMISSION DECISION ALTERNATIVES

A. Should the Commission adopt the administrative law judge's Findings of Fact, Conclusions of Law, and Recommendation?

1. Adopt the ALJ Findings of Fact, Conclusions of Law and Recommendation for the North Star Solar electric power generating plant and associated 115 kV high-voltage transmission line in Chisago County, Minnesota.
2. Adopt the ALJ Findings of Fact, Conclusions of Law and Recommendation for the North Star Solar electric power generating plant and associated 115 kV high-voltage transmission line in Chisago County, Minnesota, with the following modifications:
 - a. Strike Finding 169 as recommended by Commission Staff.
 - b. Modify Conclusion 10 as recommended by Commission Staff as follows:

The Permittee shall develop a site specific Landscaping Plan in consultation with Chisago County, and considering local government ordinances and setbacks, that reasonably mitigates the visual impacts to all

adjacent residences. The Landscaping Plan shall be filed in this docket at least 14 days prior to the pre-construction meeting.

- c. Modify Conclusion 10 as recommended by DOC-EERA as follows:

Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds, unless other appropriate time limitations on tree clearing are determined in consultation with the USFWS. The Permittee shall file an account of that consultation 14 days prior to the pre-construction meeting.

3. Do not adopt the ALJ Findings of Fact, Conclusions of Law and Recommendation for the North Star Solar electric power generating plant and associated 115 kV high-voltage transmission line in Chisago County, Minnesota.
4. Take some other action deemed appropriate.

B. Should the Commission find that the environmental assessment and the record created at the public hearing adequately address the issues identified in the scoping decision?

1. Determine that the environmental assessment and the record created at the public hearing addresses the issues identified in the environmental assessment scoping decision.
2. Take some other action deemed appropriate.

C. Should the Commission grant a site permit for the 100 MW North Star Solar Energy Generating Facility in Chisago County?

1. Grant North Star Solar PV LLC a solar energy generating site permit identifying permit conditions for the 100 MW North Star Solar Energy Generating Facility in Chisago County.
2. Require the site permit to include the mitigation measures and conditions contained in the generic site permit template including the following modifications and special conditions:
 - a. Modify Section 4.1 (Notification) as follows:

Within 14 days of issuance of this permit, the Permittee shall send a copy of the permit to any regional development commission, county, city, and township in which any part of the site is located.

The Permittee shall provide all affected landowners with a copy of this permit and, as a separate information piece, the complaint procedures after issuance of this permit. The Permittee shall contact participating landowners prior to entering their property or conducting maintenance within the site, unless otherwise negotiated with the affected landowner.

- b. Add a special condition concerning landscaping plan requirements as follows:

The Permittee shall develop a site specific landscaping plan in consultation with Chisago County, and considering local government ordinances and setbacks, that reasonably mitigates the visual impacts to all adjacent residences. The landscaping plan shall be filed at least 14 days prior to the pre-construction meeting.

- c. Add a special condition concerning vegetation management plan requirements as follows:

The Permittee shall develop a vegetation management plan in consultation with the DNR to the benefit of pollinators and other wildlife, and to enhance soil water retention and reduce storm water runoff and erosion. The vegetation management plan shall be filed at least 14 days prior to the pre-construction meeting.

- d. Add a special condition concerning security fence requirements as follows:

The security fence surrounding the Project shall be designed to minimize the visual impact of the project. While maintaining compliance with the National Electrical Safety Code, the Permittee shall install an eight-foot wood pole and woven wire fence, or substantially similar, around the perimeter of the Project. This type of fence is commonly referred to as a "deer fence" or "agricultural fence." The permittee shall consult with DNR to insure the design of the facilities preserves or replaces identified natural wildlife, wetland, woodland or other corridors.

- e. Add a special condition concerning tree removal timetables as follows:

Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds, unless other appropriate time limitations on tree clearing are determined in consultation with the USFWS. The Permittee shall file an account of that consultation 14 days prior to the pre-construction meeting.

3. Do not grant North Star Solar PV LLC a solar energy generating site permit identifying permit conditions for the 100 MW North Star Solar Energy Generating Facility in Chisago County.
4. Take some other action deemed appropriate.

D. Should the Commission grant a route permit for the 115 kV transmission line associated with the North Star Solar Energy Generating Facility in Chisago County?

1. Grant North Star Solar PV LLC a high-voltage transmission line route permit identifying a specific route and permit conditions for the North Star Solar Project 115 kV Transmission Line in Chisago County.
2. Require the route permit to include the mitigation measures and conditions contained in the generic route permit template including the following special condition concerning tree removal timetables as follows:

Tree removal required by the Projects shall be done between October 1st and March 30th to mitigate negative impacts to the northern long-eared bat and to minimize potential impacts on migratory birds, unless other appropriate time limitations on tree clearing are determined in consultation with the USFWS. The Permittee shall file an account of that consultation as part of the plan and profile submission.

3. Do not grant North Star Solar PV LLC a high-voltage transmission line route permit identifying a specific route and permit conditions for the North Star Solar Project 115 kV Transmission Line in Chisago County.
4. Take some other action deemed appropriate.

Staff Recommendation: A2(a-c), B1, C1, C2(a-e), D1, and D2

Mosaic announces moves
Executive changes are part
of succession plan. **D2**

Oil Q&A: Why stocks and prices are dropping. **D3**

Iran is market-ready
Europeans are ready to
begin business. **D6**

MINNESOTA 2 • MARKET DATA 4 • CLASSIFIEDS 5

THURSDAY, JANUARY 21, 2016

StarTribune

STARTTRIBUNE.COM/BUSINESS • SEC1

BUSINESS

Large solar farm wins approval

The \$180 million power project is planned for leased farmland in Chisago County.

By DAVID SHAFER
david.shaffer@startribune.com

The largest solar power project in Minnesota won approval Wednesday from state regulators.

North Star Solar, a \$180 million solar farm to serve Xcel Energy customers, is planned

on leased farmland southeast of North Branch in Chisago County. The project, covering an area the size of two Lake Calhouns, will generate roughly the amount of electricity used in 25,000 homes.

The Minnesota Public Utilities Commission voted 4-0 to grant permits to Community

Energy Solar of Radnor, Pa., to erect solar panels and a related power line. The company will own and operate the project, and expects to begin selling the power to Xcel by the end of the year.

It is by far the biggest in a wave of large, ground-mounted solar arrays that energy companies are planning to build across Minnesota in the next few years. The solar boom is driven by a state

requirement that investor-owned utilities get 1.5 percent of their power from solar by 2020 and by growing demand from consumers who choose electricity from shared projects called solar gardens.

The Minnesota Solar Energy Industries Association, a trade group, is projecting a 30-fold increase in the state's solar generating capacity by the end of 2017. Hundreds of large shared-solar

projects are planned in rural areas and on the urban fringe, including Wright, Dakota and Washington counties, mostly to serve customers of Xcel, the state's largest power company.

"We are expecting to go from 25 megawatts of mostly rooftop solar to 750 megawatts by the end of next year," said David Shaffer, development director and general counsel of the trade group.

See **SOLAR** on D2 ▶

Oil take stocks another wild ride

A recovery near the c
helped keep the sessi
from becoming a dise

By NEIL GOUGH
New York Times

Stocks in the United
had a wild day of tr
as worries about eco
growth and the cont
slump in oil prices we
on investors.
Markets had been st

TARGET'S NEW CONSUMER

CEO Brian Cornell is meeting Target shoppers in their homes to get to know its changing customer, and adding 1,000 IT jobs to meet growing needs.



DAVID JOLLES • djoles@startribune.com
 CEO Brian Cornell flew to Chicago Wednesday to meet consumers in their homes to get a better idea of the Target customer.

State's largest solar array wins approval

◀ SOLAR from D1

One megawatt equals 1 million watts, and the output of North Star Solar will be 100 megawatts, the equivalent of a modest-sized traditional power plant.

Many of the new solar projects will replace farmland with fields of glass. Some people who live near the North Star project object to the transformation of the rural landscape even though the developer is required to plant trees for screening.

Seven unhappy homeowners who would be surrounded by the North Star project are being bought out by the developer — a voluntary step that regulators applauded. Even so, Commissioner John Tuma, who lives in rural Rice County, said the PUC or the Legislature may need to consider additional protections for rural residents.

"You do have these little clusters out there, where people who bought their little Xanadu are living," Tuma said. "These are the ideal places for these facilities, so we have to figure out how to balance."

Not all of North Star's neighbors got buyout offers, and the commission's decision disappointed them. "It will take 20 to 25 years for the trees to grow up," Bob Zangs, who lives south of the North Star site, said in an interview after the meeting in St. Paul.

Another neighbor is considering moving, but feels caught in a bind. "We don't know what we are going to do," said Rick Ramberg, who also lives south of the project.

"If you sell the place, what are you going to get for it, and where are you going to go?"

Similar issues have been raised by neighbors of another

large solar project that NextEra Energy Resources proposes to build for Xcel near Marshall, Minn. That project, still awaiting regulatory approval, is about two-thirds the size of the North Star project. Another 25-megawatt solar project is planned by Juwi Energy near Tracy, Minn., also for Xcel.

Unlike most solar arrays, which are positioned at a fixed angle facing south, North Star's panels will mechanically tilt from east to west, tracking the sun's movement. At noon, the panels will be horizontal. The tracking system captures more solar power late on summer days, when power demand often spikes.

"With the tracking system, you can maintain maximum output of the project into the evening as air conditioning load peaks," said Chase Whitney, an executive with Community Energy Solar. "A tracking solar project that can generate into the evening peak is a more valuable asset from the utility's perspective."

Xcel, the Minneapolis

super bowl to the Metrodome, keep the Minnesota Timberwolves in town and build a new ballpark for the Minnesota Twins.

Dayton, whose father Donald was a brother to Bruce and Kenneth Dayton, is survived by his wife Joan Layng Dayton, brothers Edward of Florida and John of Dallas, and sons James, a Minneapolis architect, Scott, who owns Twill menswear in the Galleria, and Tobin of Wayzata. Dayton died Sunday. Services are pending.

John Ewoldt • 612-673-7633 | Rochelle Olson • 612-673-1747

by the end of the first quarter.

Analysts noted that division sales and the execution of strategic alternatives come on the heels of pricey acquisitions and downturns when industrial growth is slowing worldwide. Sell noncore businesses is common practice and brings a jolt of money that can help for 3M's big spends, they say.

While 3M is historically known for its wealth of additive products, "this small size is not likely reflective of a major change in the fit of assets into 3M's portfolio more broadly," said Matt Arnold, analyst with Edward Jones. "We would look at it as more of a 'bottom up' evaluation product lines that may not be of importance strategically anymore."

After years of tiny or midsize deals, 3M spent \$2.5 billion in June to buy protective equipment maker Capital Safety based in Bloomington. In August, the company spent \$1 billion on Polypore's ultrafiltration "Separations Media" business.

3M CEO Inge Thulin told analysts last month that "these deals will enhance two of 3M's core platforms, personal safety and filtration."

In respect to selling other businesses, "ultimately, we determine that selling these businesses will result in the greatest value creation for our company," Thulin said.

The company's stock fell 1 percent to close at \$136.96 Wednesday.

Dee DePass • 612-673-7725

LARGE-SCALE SOLAR PROJECTS FOR XCEL ENERGY

Three large solar projects are planned by Xcel Energy around the state. State regulators approved the largest, North Star Solar, on Wednesday.



Source: Minn. Public Utilities Commission RAY GRUMNEY • Star Tribune

based utility serving 1.2 million electric customers in the state, has contracted to buy all of the electricity from the North Star, Marshall and Tracy projects for 25 years. They were selected after the utility solicited bids from energy developers in 2014.

Xcel also has approved applications from energy developers to build 46 com-

munity solar gardens in its service region. More than 700 other solar garden projects remain under review. Many of those projects are to be built in clusters of five solar gardens, with each group covering a land area roughly equivalent to eight football fields.

David Shaffer • 612-673-7090 @ShafferStrib

