OCT 2012

Guidance for Large Wind Energy Conversion System Pre-Construction Compliance

Guidance for Preparation and e-Filing of Pre-Construction Compliance Submittals to the Public Utilities Commission

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Minnesota Department of Commerce,

Energy Facilities Permitting

10/5/2012

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Large Wind Energy Conversion System (LWECS) Guidance for Preparation and e-Filing of Pre-Construction Compliance Documents

Filing compliance documents in preparation for construction of a Large Wind Energy Conversion System (LWECS) is an important step following permit issuance. To foster consistency in compliance filings at this stage of a project, the Department of Commerce, Energy Facilities Permitting Unit, has developed this guidance for use by permittees and their consultants in the preparation of compliance filings prior to construction.

The purpose of this guidance is to explain the information that is needed in order for Department of Commerce Energy Facilities Permitting staff to be able to evaluate a compliance filing and to compare the filing to permit requirements.

TIP: Communicating with the Department of Commerce Energy Facilities Permitting Unit (EFP) state permit manager for your project during the preparation of the compliance filings will help them to understand your questions. It is advisable to discuss your questions with the assigned permit manager in the Department of Commerce Energy Facility Permitting Unit prior to e-filing and to allow time for this communication to occur.

Compliance filings which are incomplete or otherwise do not address requirements may result in delays in the construction of an LWECS project.

For any of the e-filings made in preparation for the pre-construction meeting or which are otherwise required to be submitted prior to construction, the cover sheet for the e-filing must clearly describe:

- the permit condition number that the e-filing is intended to meet, and
- the conclusion that the e-filing supports; there must be sufficient information in the e-filing to support the conclusion drawn.

NOTE: It is not sufficient to provide a summary document if the permit requirement is for a specific plan, protocol, analysis or other report. You must submit the actual plan, protocol, analysis or other report.

Complete a compliance filing on the Minnesota Public Utilities Commission (Commission) and Department of Commerce E-Dockets system, by the date specified in the Commission LWECS site permit for the project, at this web address: https://www.edockets.state.mn.us/EFiling/
Address the compliance filing and any future revisions to the Executive Secretary of the Minnesota Public Utilities Commission:

Dr. Burl W. Haar
Executive Secretary
Minnesota Public Utilities Commission
350 Metro Square Building
121 Seventh Place East
Saint Paul, MN 55101

Please note that if a specific Minnesota Public Utilities Commission LWECS site permit condition is inconsistent with this guidance, language in the LWECS site permit takes precedent.

E-Filing Trade Secret and Proprietary Information

The following Minnesota Rule reference guides the e-filing and practices regarding material that can be considered trade secret and proprietary information. Please note that Minnesota Rules Chapter 7829.500, Subp. 3., applies when an entire document is being e-filed as trade secret.

CHAPTER 7829, Utility Proceeding, Practice, Procedure

Public Utilities Commission

7829.0500 TRADE SECRET AND PROPRIETARY INFORMATION.

Subpart 1.
Confidentiality protected.
Nothing in this chapter requires the public disclosure of privileged proprietary information, trade secrets, or other privileged information.

Subp. 2.
Procedure for excision.
Persons filing documents containing proprietary information, trade secrets, or other privileged information shall excise this information in all copies but the original and six copies.

Subp. 3.
Identification of excised material.
When a person classifies an entire document, or a substantial part of a document, as protected information, the person shall file a description of the excised material that includes at least the following information: the nature of the material, its authors, its general import, and the date on which it was prepared.

Subp. 4.
Document containing protected information.
The first page or cover page of a document containing protected information must be clearly marked in bold print "TRADE SECRET INFORMATION -- NOT FOR PUBLIC DISCLOSURE" or with words of similar import. Every page on which protected information appears must be similarly marked and the protected information must be underlined, placed in brackets, or otherwise clearly identified as the information which is to be protected from disclosure.

Additional guidance from the e-Docket web site help tool for e-filing, *Trade Secret Information:*

Trade Secret information must be filed electronically. It is the sole responsibility of the filer to remove all trade secret data from the public version and properly identify a trade secret document during the submission process. Trade secret documents will be listed in the search results but will not be viewable.

When creating the public version of the trade secret document, delete all trade secret information. For example, do not change to a white font or place a highlight over the trade secret to create a public document. Copies of public documents are often saved to the local desktop and reformatted for inclusion in another document. Trade secret data may appear upon reformatting if it was hidden instead of deleted in the public version.

The following pages include:

- **criteria for the various pre-construction compliance filings required by conditions in LWECS site permits and**
- **examples from actual submittals for pre-construction compliance documents.**

While most examples do not include all of the preferred features, each example was selected for its strength on particular preferred features, as noted with the example.

You may use the link provided on the page for each example later in this document or you may search the e-Dockets system, using the Document ID Number provided for the e-filed document as follows:

Using the link below to navigate to the eDockets system, enter a Document ID number in the Document ID field at the right on the form. Click on "Search" to find the example.

https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showDocketsSearch&showEdocket=true&userType=public

A. Site Plan

Purpose: The site plan is documentation that the project that is being built within the permitted site boundary is the project that was permitted and is a means for confirming that all setbacks and other conditions specified in the permit are met. In addition, the site plan includes aspects addressing site restoration following the completion of construction.

Submit the LWECS site plan within the timeframe specified in the permit, typically 14 days prior to the pre-construction meeting.

LWECS Site Plan examples are at the end of this section.

A typical permit requirement for the LWECS site plan is that it must address these components:

LWECS Site Plan Components
Site plan for all turbines, roads, electrical equipment, collector and feeder lines and other associated facilities
Engineering drawings for the site preparation and construction of the facilities
Plan for restoration of the site due to construction

The above components must document that all setbacks and site layout restrictions required by the permit have been met, including any special conditions contained in the permit.

In addition to the plans and drawings, constraint map sheets with an aerial photographic view must be provided to demonstrate compliance with setbacks and site layout restrictions.

1. Plan sheets and constraint map sheets that are e-filed must be set up to print to 11 X 17 inch sheets, in order to facilitate review of the documents.

2. Include an 11 X 17 sheet showing the overall project and turbine layout. The scale of this sheet will vary, depending on the area of the project.

3. Detail plan sheets and constraint map sheets for the selected layout should be provided at a scale of at least 1:4800 , similar to that requested in the permit application guidance. Also include in the plan and map legends, a scale showing measured distance on the map equal to actual distance; if a different scale than 1:4800 is needed for some reason, discuss this with the Department of Commerce Energy Facilities Permitting state permit manager for the project.

4. Each plan sheet or constraint map sheet should identify
    a. the project name;
    b. sheet number (for example sheet 3 of 15);
    c. a map block showing the area covered by this sheet in relation to the entire project area;
    d. date of preparation;
    e. engineering certification (dated and signed);
    f. scale, north arrow, and legend explaining use of color and feature identification; and
    g. numbered and labeled structures within the project area.

5. Each plan sheet that depicts the layout for any portion of the project must clearly depict the permit-approved project boundary and permit-approved layout for turbines, roads, electrical equipment, collector lines and feeder lines and other associated facilities including:

    a. engineering specifications, detail and design;
    b. permit-approved location of turbines and permit-approved alternate locations, if any;
    c. permit-approved location of collector lines, feeder lines and substation;
    d. turbine height, manufacturer, model and configuration;
    e. pole height, type and configuration;
    f. existing transmission lines and any other buried or above-ground lines and culverts, including telephone lines, overhead power lines, water and irrigation lines, gas pipelines, and fiber optic lines;
    g. location of existing rights-of way that are being occupied or utilized or that exist but are not being shared;
    h. existing center pivot irrigation structures;
    i. proposed and existing roads and road improvements;
    j. proposed and existing fences and gates within the project area;
    k. existing waterways, water bodies and wetlands;
    l. construction staging areas;
    m. microwave beam paths; and
    n. marked location of participating and non-participating residential and non-residential structures within the project boundary.

6. Include necessary specifications and drawings for site preparation, construction, clean up and restoration that are not described on the turbine layout sheets; if this content has been submitted in a different document, such as an Environmental Control Plan or other plan, provide the title of the document, document number of the submittal on the Public Utilities Commission and Department of Commerce E-Dockets web site, date of e-filing and date of acceptance or approval of the document.

7. Include on the attached constraint map sheets, clearly showing necessary detail:

    a. Indication of which site plan sheet a particular constraint map sheet corresponds to;
    b. Permit-approved location of turbines and permit-approved alternate locations, if any;
    c. Permit-approved location of any collector lines, feeder lines, poles and substation;
    d. Permit-required setbacks, each separately identified in a legend for clarity;

e. Existing transmission lines and any other buried or above-ground lines and culverts, including telephone lines, overhead power lines, water and irrigation lines, gas pipelines, and fiber optic lines;
f. Labels for counties, municipalities or named civil townships and their boundaries;
g. Geographic information (also provide in table format):
    i. Township Range designation and corresponding Township number
    ii. Geographic spatial data such as
        1. UTM zone and latitude band plus UTM coordinates for turbines, poles for collector and feeder lines, and any other project structures OR
        2. Decimal latitude and longitude for the route segment endpoints and pole points;
h. Route number or name marked on state, county, municipal or township roads that are present;
i. Marked location of participating and non-participating residential and nonresidential structures
j. Marked location of airports and airfields, within six miles surrounding the project, if any);
k. Location of easements;
l. Location of existing rights-of way that are being occupied or utilized or that exist but are not being shared;
m. Location of construction staging areas;
n. Location of center pivot irrigation structures;
o. Microwave beam paths; and
p. Natural features relevant to this project, labeled and marked, such as the location of lakes and streams, National Wetland Inventory wetlands, location of identified protected or endangered species, Waterfowl Production Area, Wildlife Management Area, native prairie or forest, calcareous fen, karst topography, state or national parks, state scientific and natural areas or wilderness (if any).

Please note: if any marked areas include solid color overlaid on the constraint map, make them transparent so that the map below remains visible.

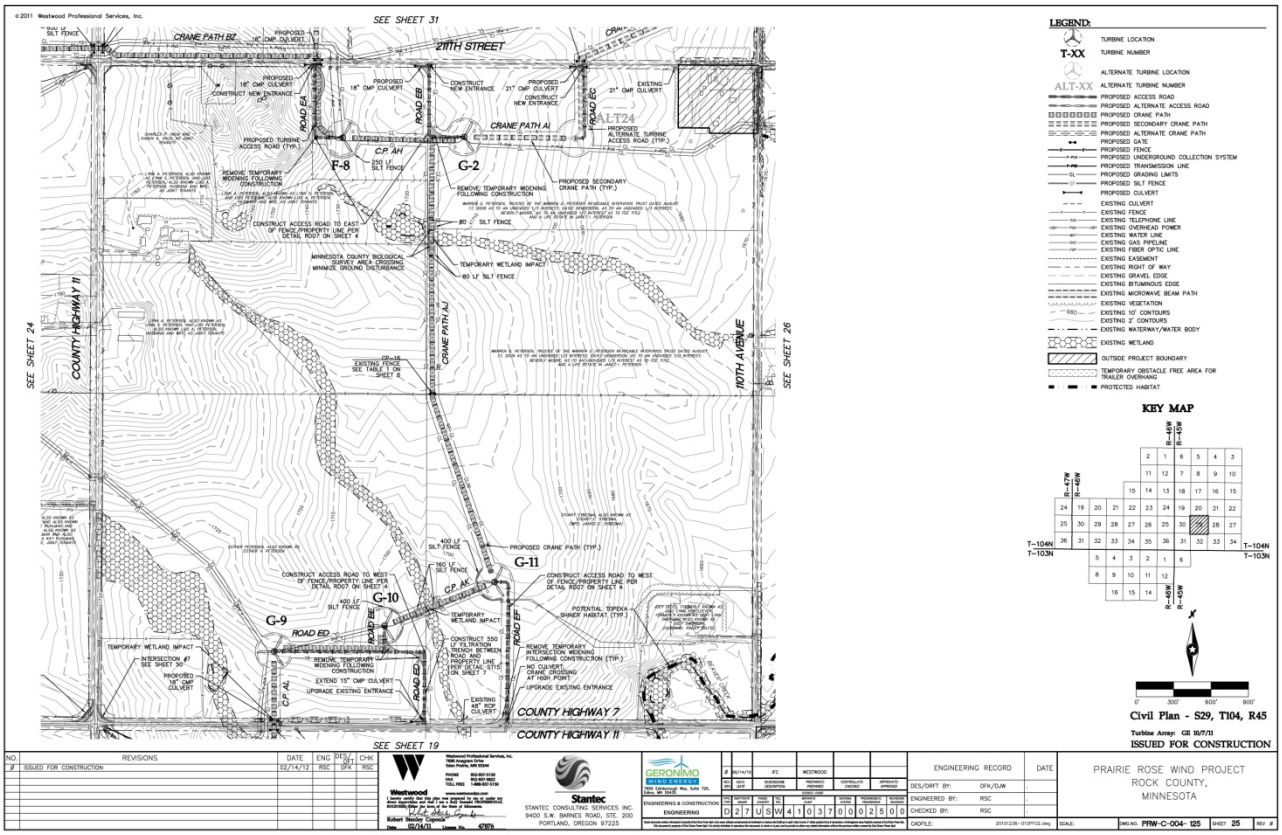
8. E-file the plan; if the project is large, the plan will need to be e–filed in parts.

Examples: Click on the links below to see the examples.

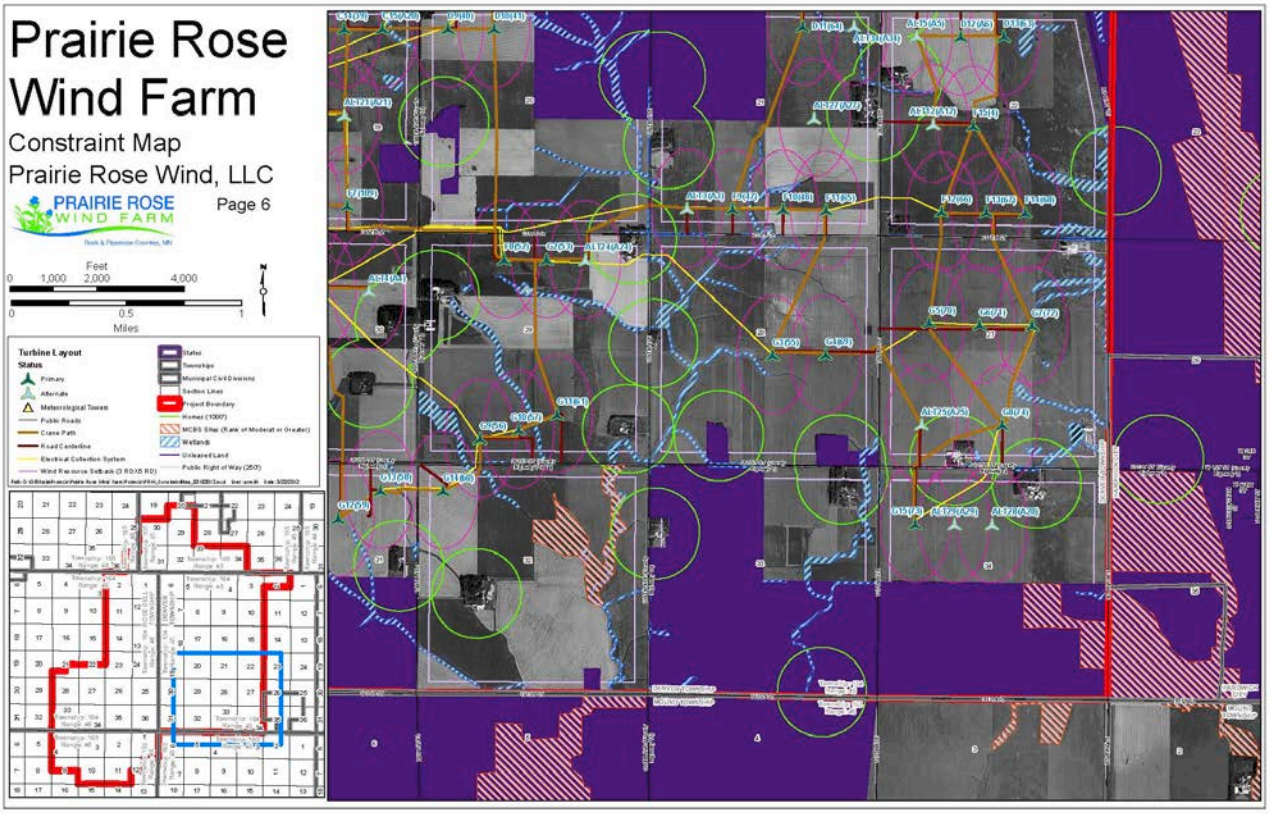
Prairie Rose Wind, 10-425, Site Plan on next page 10 of this guidance, **E-Dockets Document ID Number: 20122-71698-05 (please note, there are several filings in this docket related to the site plan)**

Prairie Rose Wind, 10-425, Site Plan Constraint Map on page 11 of this guidance, **E-Dockets Document ID Number: 20123-73028-03**

Example A.1.: LWECS Site Plan. This site plan -- and its related constraint map in Example A.2. on the next page -- are particularly strong on several preferred characteristics. Turbine locations, electrical collection system locations, existing rights-of-way, wetlands, surface waters, and grading are all clearly marked. Proposed underground collection system lines are placed within or adjacent to land necessary for turbine access roads. Each numbered plan sheet has a signed and dated engineering certification, legend, scale, north arrow and map block that places the location of this sheet within the project.



Example A.2.: LWECS Site Plan Constraint Map. This constraint map contains several preferred characteristics that demonstrate the selected layout in relation to natural and geographic features as well as in relation to setbacks described in the LWECS site permit. The underlying layer is an aerial photograph. Location of turbines and the electrical collection system are evident. Wind Resource setbacks, as well as setbacks from homes and public right-of-way are marked. Wetlands and Minnesota County Biological Survey (MCBS) sites are marked. Scale, north arrow, and legend are present. A map block identifies the area of this sheet within a map of the project.



B. Field Representative Contact Information

Purpose: To clearly identify the contact for the project during the construction phase.

Within the timeframe specified in the permit, typically 14 days before the pre-construction meeting, e-file the following:

1. Document that provides the name, address, phone number, emergency phone number and email address of a person who is responsible for overseeing compliance with the conditions of the permit; this person or a designee must be accessible by phone during normal business hours.

2. Throughout construction and construction restoration, notify the Public Utilities Commission of any changes in the name of the person who has the responsibility, or in contact information, by e-filing the new name, address, phone number and emergency phone number.

Example:

Click on the link below to see the example.

Lakefield Wind Project, 09-1239, **E-Dockets Document ID Number: 20109-54304-03**

C. Notice to Landowners and Units of Government

Purpose: To ensure that all who have a need to know that a project has been permitted are informed of the existence of the permit and its conditions.

Within the timeframe specified in the permit (typically, within a short time after the permit is issued):

1. Send a copy of the permit to those units of government listed in the permit; typically this is to:

    a. the office of the auditor of each county in which the site is located;
    b. the clerk of each city and township within the site boundaries; and
    c. each regional development commission, local fire district, soil and water conservation district, watershed district and watershed management district office with jurisdiction in each county where the site is located.

2. Send a copy of the permit to landowners as described in the permit.

3. E-file the following documentation that the required notice and copies of the permit have been provided:
    a. copies of the letter(s) used to transmit the permit including date(s) on the letter;
    b. list of the recipients for each letter used to transmit the permit; and
    c. affidavit that the correspondence has occurred

Example: Click on the link below to see the example, which includes the components listed in number 3 above.

Flat Hill Windpark I, 08-1134, **E-Dockets Document ID Number**: **20103-47802-01**

D. Road Identification and Road Damage Agreements (if requested to submit the agreements)

Purpose: To document coordination between the permittee and those who have jurisdiction over the roads that will be used during the construction of the project; to ensure that the governing body having jurisdiction over the roads has the opportunity to inspect the roads prior to use of the roads.

E-file the following documentation that the required notice has been provided:

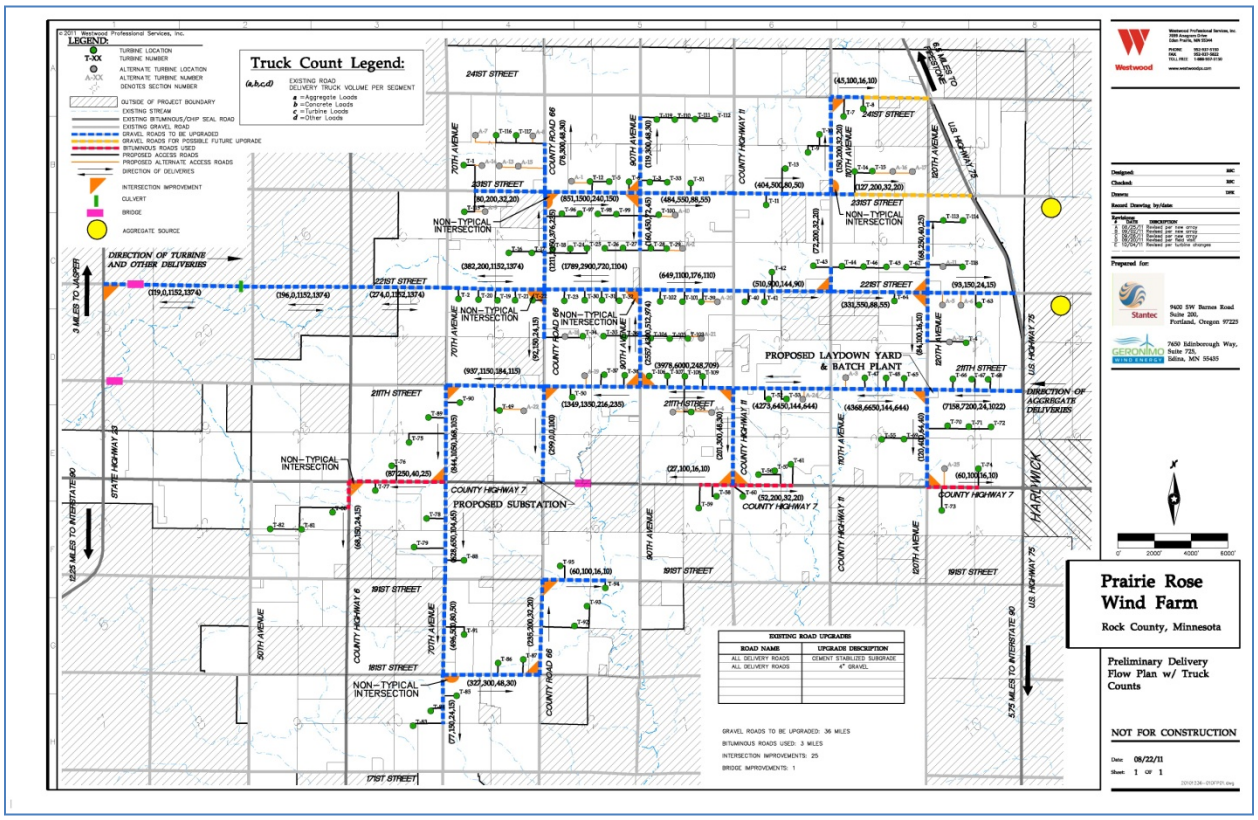
1. Map displaying the segments of roads, including major highways, that will be used during the project;
2. List of each road that will be used and the governing body having jurisdiction over each road;
3. Copy of letter that was used to notify the governing body having jurisdiction over each road or copy of executed development agreement(s) including the road use and repair agreement, public drainage agreement(s) and any relevant city or township resolution(s);
4. List of the recipients for the letter used to notify the governing body having jurisdiction over each road; and
5. Affidavit that the correspondence has occurred.

Examples: Click on the links below to see the examples.

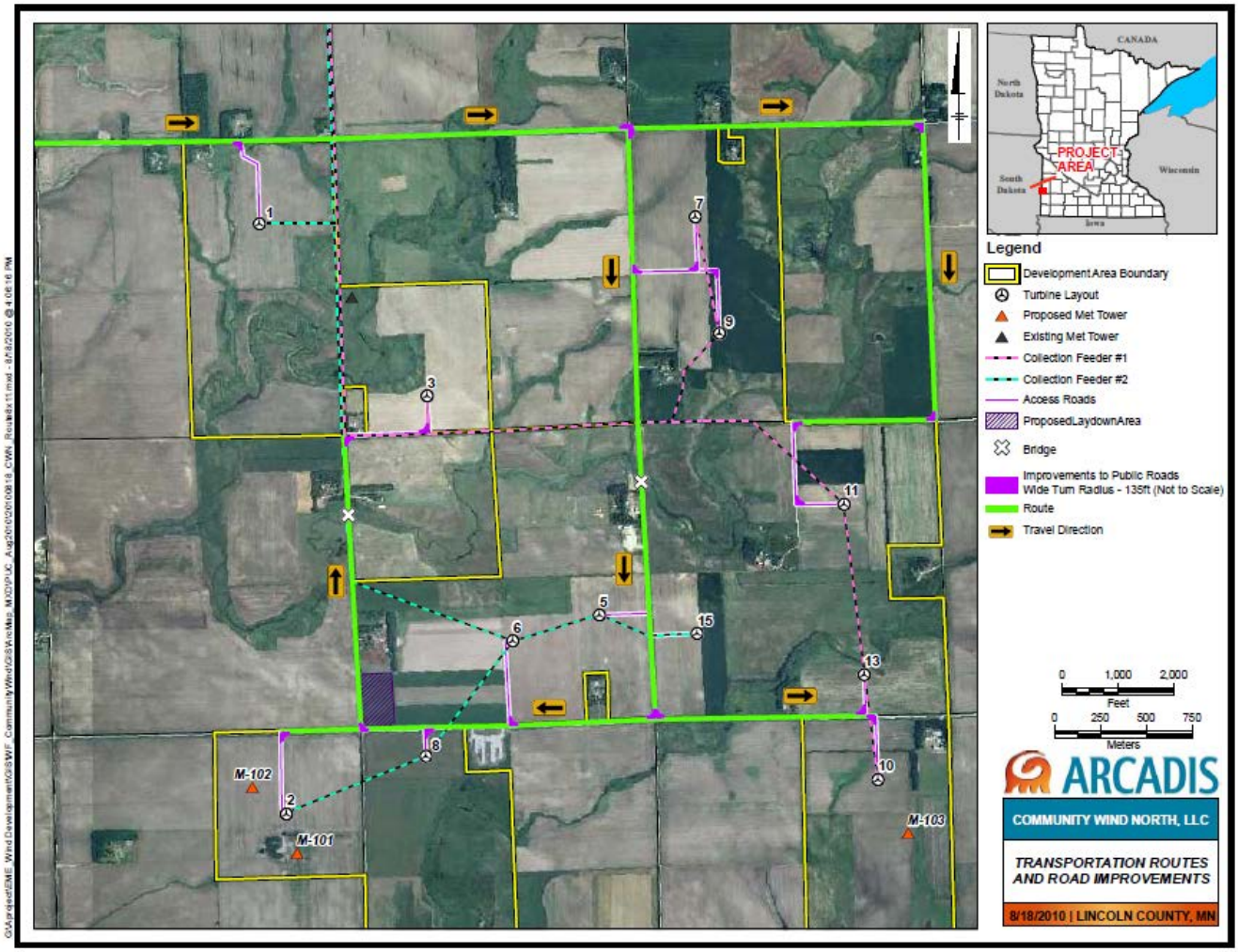
Prairie Rose Wind, 10-425, **E-Dockets Document ID Number: 20122-71668-07**

Community Wind North, 08-1494, **E-Dockets Document ID Number: 20108-53674-04**

Example D-1: Road Identification. These examples in D-1 and D-2 identify the roads in the area of the project that will be used and also show location of intersection improvements, direction of deliveries and other useful information.



Example D-2:


CANADA
North Dakota
South Dakota
Wisconsin
Iowa
PROJECT AREA
Legend
Development Area Boundary
Turbine Layout
Proposed Met Tower
Existing Met Tower
Collection Feeder #1
Collection Feeder #2
Access Roads
Proposed Laydown Area
Bridge
Improvements to Public Roads
Wide Turn Radius - 135ft (Not to Scale)
Route
Travel Direction
0 1,000 2,000
Feet
0 250 500 750
Meters
ARCADIS
COMMUNITY WIND NORTH, LLC
TRANSPORTATION ROUTES AND ROAD IMPROVEMENTS
8/18/2010 | LINCOLN COUNTY, MN
M-101
M-102
M-103
1
2
3
5
6
7
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9
10
11
13
15

E. Soil Erosion and Sediment Control Plan

Purpose: To document the plans, structures and practices that will prevent soil erosion and provide for sediment control.

1. This plan may be the same plan used to meet Minnesota Pollution Control Agency (MPCA) Stormwater Pollution Prevention Plan (SWPPP) requirements, in order to obtain the National Pollution Discharge Elimination System (NPDES) permit. A link to the Minnesota Pollution Control Agency's Construction Stormwater website is below: http://www.pca.state.mn.us/index.php/water/water-types-and-programs/stormwater/construction-stormwater/construction-stormwater.html

   Please be aware that the MPCA considers the LWECS project and any associated transmission line or other associated construction to be a "common plan of development." If more than 50 acres overall will be disturbed within the "common plan of development" and there is a discharge to outstanding resource value waters or impaired waters, MPCA requires submittal of the application and SWPPP for the sites within the "common plan of development" at least 30 days prior to commencing construction to provide the opportunity for MPCA review of the SWPPP and application. Contact MPCA if you have questions about this.

   Required content of the SWPPP is defined in the General Stormwater Permit for Construction Activity, available at the above website, and there is guidance available on this website as well. Site plans submitted as part of the SWPPP should contain elevation contours and direction of stormwater flow and should identify portions of the site that drain to outstanding resource value waters or impaired waters. The SWPPP should include method of planned best management practice installations; sediment protection at inlets located downstream of work areas; perimeter sediment control at soil stockpile areas; method of solid waste disposal if any solid waste will be generated at the site; defined area of the site where vehicle washing will occur; indication that vehicle washwater will be collected or no vehicle washing will be allowed on site; and indication that no engine degreasing is allowed at the site.

   Again, other specific content requirements are described in the General Stormwater Permit for Construction Activity and in MPCA guidance.

2. In addition, include the following if referenced in the LWECS site permit requirements for the Sediment and Erosion Control Plan that may be combined with the Stormwater Pollution Prevention Plan:

   a. identify plans for grading, construction and drainage of roads and turbine pads;
   b. include necessary soil information;
   c. include detailed design features to maintain downstream water quality;
   d. include a comprehensive re-vegetation plan to maintain and ensure adequate erosion control and slope stability and to restore the site after temporary project activities;
   e. include measures to minimize the area of surface disturbance;
   f. include practices to contain excavated material, protect exposed soil, stabilize restored material and to ensure removal of silt fences and barriers when the area is stabilized;
   g. identify methods for disposal and storage of excavated material; and
   h. describe the installation of erosion and sedimentation control measures prior to construction and their maintenance throughout the project's life

3. When requested, utilize materials and practices that are designed to prevent harm to identified sensitive wildlife and other identified sensitive species.

4. Include anything additional that is specified in the LWECS site permit, such as conditions relating to proximity to outstanding resource value waters or a water identified as impaired, under the MPCA NPDES Construction Stormwater program requirements.

5. E-file the plan; if the project is large, the plan will need to be e –filed in parts.

Example: Click on the link in the paragraph below to see the example, which is comprehensive. Be sure to check the Minnesota Pollution Control Agency's construction stormwater website (link is in number 1 above) for the current plan requirements and also ensure consistency among the environmental plans for the project.

Lakefield, 09-1239, **E-Dockets Document ID Number 20109-54307-02 contains the first part of the Stormwater Pollution Prevention Plan example; the complete set of components is found at E-Dockets Document Numbers:**

20109-54307-01	**20109-54307-06**
20109-54307-02	**20109-54307-07**
20109-54307-03	**20109-54307-08**
20109-54307-04	**20109-54307-09**
20109-54307-05	**20109-54307-10**

F. Education Materials, Gopher State One Call

Purpose: To inform landowners within the site boundaries and other interested persons about the project and any restrictions or dangers associated with the LWECS project.

1. Provide information about the project including an aerial photographic map displaying the project structures, feeder and collection system and substation; laydown areas; and planned improvements to public roads.

2. Provide an overview of safety measures and practices.

3. Provide an overview of the transportation routes and intersection improvements that are anticipated.

4. Submit the location of underground facilities to Gopher State One Call, and provide documentation that this was done.

Example: Click on the link below to see the example, which provides an aerial photographic map of the project as well as a concise overview of safety measures and practices, and a description of transportation routes and intersection improvements.

Community Wind North, 08-1494, **E-Dockets Document ID Number: 20108-53674-05**

G. Emergency Response Plan (Fire Protection and Medical Emergency Plan) and Registration with 911 Emergency Services

Purpose: To identify the emergency responders with jurisdiction over the LWECS area prior to construction and to develop, with their consultation, the response procedures for emergencies.

1. Provide a list of the emergency responders with jurisdiction over the LWECS project area including the agencies and a contact and phone number for each one.

2. Include emergency response procedures including procedures in the event of injury, fire, chemical spill or weather-related event.

Example: Click on the link below to see the example, which details the emergency procedures that will be used, and includes a list of the emergency responders and their contact information.

Big Blue Wind Farm, 10-1238, **E-Dockets Document ID Number: 201110-67015-01**

H. Archaeological Resources

Purpose: To ensure that historic and archaeological sites are identified and evaluated prior to construction; to ensure and document that State Historic Preservation Office (SHPO) and State Archaeologist requirements for assessment have been met prior to construction.

1. Working with the State Archaeologist and State Historic Preservation Office (SHPO), arrange to carry out the level of archeological survey specified in the permit or any additional survey work required by the State Archaeologist and State Historic Preservation Office. The surveys must be conducted by a qualified archaeologist.

2. By the date specified in the permit, e-file the report(s) and documentation of communication from the State Archaeologist and State Historic Preservation Office that their requirements have been satisfied.

Examples: Click on the links below to see the examples which provide a detailed description of the investigation and methodology, a summary of the results including maps; useful background; and the archaeologist's recommendations. Also included in the Lakefield Wind Project example is documentation of the correspondence with the State Historic Preservation Office (SHPO); the Big Blue Wind Farm examples provides an indication of the status of the SHPO review.

Lakefield Wind Project, 09-1239, **E-Dockets Document ID Number: 20109-54305-01**

Big Blue Wind Farm, 10-1238, **E-Dockets Document ID Number: 201110-67022-01**

I. Interference Assessment Plan

Purpose: To assess the potential for impacts of project interference with television signal reception, microwave signal patterns, radio reception, telecommunications or navigation upon identified receptors.

1. Submit a plan for conducting an assessment of interference in the project area prior to construction. Complete the assessment within the timeframe specified in the permit. The plan and the completed assessment must include an evaluation of the categories of interference referenced in the permit, which may include the following:

    a. Television signal reception in the project area
    b. Microwave signal patterns in the project area
    c. Radio reception in the project area
    d. Telecommunications in the project area
    e. Navigation in the project area

2. Describe the methods, models, assumptions, analysis, results and conclusions for the assessment in the report.

3. Include in the filing the steps that will be taken to mitigate interference such that the operation of the LWECS does not cause microwave, television, radio, telecommunications or navigation interference contrary to FCC regulations or other law. Those who may be impacted and who are offered mitigation measures to eliminate interference must not be expected to bear the cost of mitigation.

4. e-file the plan and the report resulting from the assessment.

Examples: Click on the links below to see the examples. These examples provide context for the assessment of different sources of potential interference; a summary of results; explanation of methodology; a narrative assessment of impacts; and recommendations.

Big Blue Wind Farm, 10-1238, **E-Dockets Document ID Number: 201110-67013-01**
Community Wind North, 08-1494, **E-Dockets Document ID Number: 20108-53677-01**
Lakefield Wind Project, 09-1239, **E-Dockets Document ID Number: 20109-54306-01**

J. Wake Loss Plan and Wake Loss Studies

Purpose: To document the predicted use of the wind resource in the final turbine siting in order to demonstrate efficient use of the resource.

1. Within the timeframe specified in the permit, provide the preconstruction micrositing modeling and analysis leading to the final tower locations and an estimate of total project wake loss.

2. E-file the report containing description of the methods, modeling, analysis, data and conclusion regarding percentage wake loss.

3. If the permittee considers the content of the report to be trade secret, see Trade Secret and Proprietary Information, Minnesota Rules part 7829.0500, and subpart 3 in particular, and also pages 4 and 5 of this guidance in order to file the report.

4. Also e-file the report from any future operational wake loss studies conducted on this project.

Example: Click on the link below to see the example which describes how wake loss was assessed in order to place turbine in locations to "optimize wind resource while minimizing wake loss." An estimated average wake loss for the project was provided as well as a breakdown of possible production losses.

Community Wind North, 08-1494, **E-Dockets Document ID Number: 20108-53677-02**

K. Wind Rights Documentation

Purpose: To demonstrate that the permittee has all the necessary rights in place prior to constructing the permitted facility.

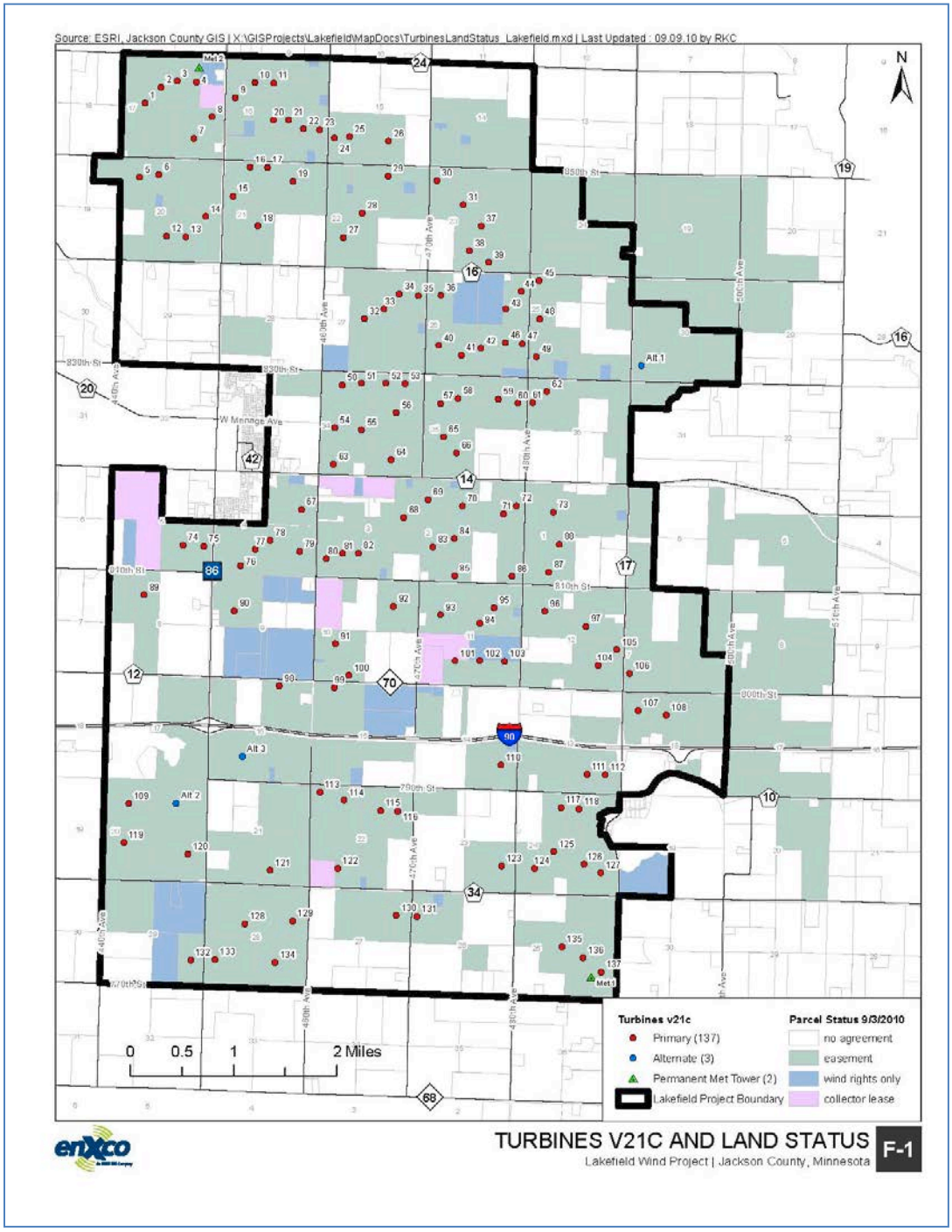
1. Submit a map documenting the areas where wind access rights have been obtained in relation to location of turbines and the electrical collection system.

2. Display the minimum 5-by-3 rotor diameter wind access buffer: 5 rotor diameters on the prevailing wind directions and 3 rotor diameters on the non-prevailing wind directions from the perimeter of lands where the permittee does not hold the wind rights. Consistent with the documentation provided during the permitting process, display the 5-by-3 rotor diameter as an oval centered on the turbine location with the longer axis oriented in the prevailing wind directions. The total length of the oval will be 10 rotor diameters. The total width of the oval will be 6 rotor diameters in the directions of the non-prevailing wind.

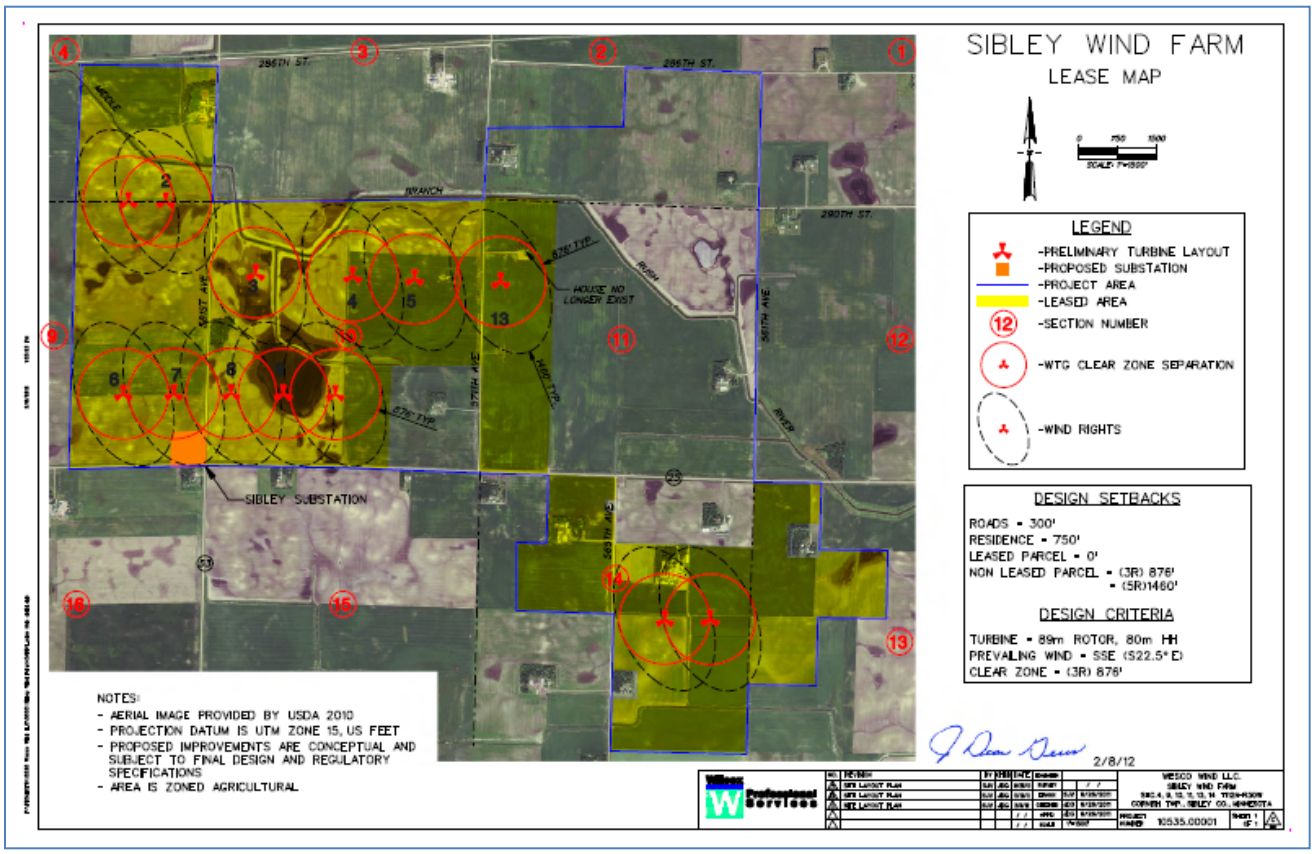
Examples: Click on the links below to see the examples.

Lakefield Wind Project, 09-1239, on page 25 of this guidance, **E-Dockets**
Document ID Number: 20109-54705-01
Sibley Wind Farm, 08-208, on page 26 of this guidance, **E-Dockets**
Document ID Number: 20122-71421-07

Example K1: Wind Rights documentation. This example shows the areas within the project and outside of the project where rights and easements have been obtained and the display shows a distinction in the types of rights obtained. Locations of project structures are identified on the map.



Example K2: In this example, the leased area is distinguished, and the locations of turbines and the substation are identified. The wind access buffer is displayed as the 3-by-5 rotor diameter setback, which is the required distance from the perimeter of lands where the permittee does not hold wind rights.



L. Shadow Flicker Analysis documentation

Purpose: To assess the potential for wind turbine shadow flicker impacts upon identified receptors.

1. Describe the methods, models, assumptions, analysis, results and conclusions of the assessment.

2. Include in the filing the steps that will be taken to mitigate shadow flicker. Those who may be impacted and who are offered mitigation measures must not be expected to bear the cost of mitigation.

3. E-file the report prepared to document the assessment.

Example: Click on the link below to see the example which provides an explanation of how shadow flicker comes about. This example describes assumptions in the modeling and analysis; includes maps showing predicted duration of shadow flicker at various receptors; and includes a table of the results for residences.

Lakefield Wind Project, 09-1239, **E-Dockets Document ID Number: 20109-54304-01**

M. Power Purchase Agreement or Other Enforceable Mechanism documentation

Purpose: E-filing documentation of the power purchase agreement, in accordance with the text of the permit condition, provides confirmation of having obtained a Power Purchase Agreement or other enforceable mechanism and provides notice of reasons if these are not obtained within the timeframe specified in the permit.

1. Notify, according to the permit requirements. For example, if a Power Purchase Agreement(s) or other enforceable mechanism is not obtained within two years after permit issuance, advise the Commission of the reasons.

2. If the permit requires filing of documentation or if the documentation is requested, provide a list of the parties to each Power Purchase Agreement and terms of the agreement (for example, quantity or percentage of power over what length of time and termination date of the agreement), with an affidavit of the accuracy of the documentation. If the Power Purchase Agreement was approved by the Commission or was part of a Minnesota Utility Resource Plan, provide the e-Dockets document number instead.

3. Documentation of "other enforceable mechanism" will be evaluated on a case-by-case basis.

N. Complaint Reporting Procedures in accordance with the permit attachment

Purpose: To provide confirmation of the complaint reporting procedures that will be in place for the permitted facility.

Rely on the Complaint Handling Procedures attachment to the site permit for content. E-file, in addition, the name, address, phone number, and email address of an individual who should be named as permittee contact to receive complaints and also any additional facility specific procedures.