



APPLICATION FILING REQUIREMENTS FOR TRANSMISSION LINE PROJECTS IN WISCONSIN

**Public Service Commission of Wisconsin
Wisconsin Department of Natural Resources
Department of Agriculture, Trade, and Consumer Protection**

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**PUBLIC SERVICE COMMISSION OF WISCONSIN AND
DEPARTMENT OF NATURAL RESOURCES**

**APPLICATION FILING REQUIREMENTS FOR ELECTRIC
TRANSMISSION LINES AND SUBSTATIONS**

**v. 17B
(11/2/07)**

(Part 2.00)

General Instructions

The filing requirements in this document apply to all electric transmission line and substation projects that require either a Certificate of Authority (CA) under Wis. Stat. § 196.49 or a Certificate of Public Convenience and Necessity (CPCN) under Wis. Stat. § 196.491 from the Public Service Commission of Wisconsin (PSC). This document also addresses information requirements for permits from the Department of Natural Resources (DNR) under Wis. Stat. § 30.025.

Participating State Agencies:

This document specifies basic information required for applications to construct transmission lines and substations and the format in which those applications must be submitted. The format specifications are intended to organize information consistently and to facilitate PSC and DNR staff review. The information will be used by the PSC and DNR in the preparation of either an Environmental Impact Statement (EIS) or an Environmental Assessment (EA).

Pre-application Consultation Process:

Pre-application consultation is required under Wis. Stat. § 30.025 (1m). Applicants should schedule pre-application consultation meetings with PSC and DNR staff well in advance of filing an application with the PSC. The filing requirements in this document will apply to many transmission facility construction projects. However, the state recognizes that all projects are not the same and that the information needed for one project may not be necessary for the next. For some projects, a complete application will require less information than is listed in this document. During the pre-application consultation process, PSC and DNR staff will determine what, if any, portions of the filing requirements will not be needed for application purposes.

For this reason pre-application consultation with the PSC AND DNR staff is imperative. Early in the consultation process, PSC and DNR staff will provide contacts, clarify which information requirements apply to a specific proposal, and explain important points in the state review process. Consultation meetings with PSC Staff are also required under Wis. Admin. Code § PSC 4.70(1) for any project categorized in Wis. Admin. Code § 4.10 as Type I or Type II actions.

Biological Surveys:

Biological (plant and/or animal) surveys may be required for transmission line projects that have the potential to impact important natural resources. Natural resources of particular concern include areas that support high quality, rare or important wetlands, rivers, or natural communities. Areas where endangered, threatened or special concern species and/or habitats occur are also of concern.

Applicants should seek, during the pre-application consultation process, agency guidance regarding the kind and type of surveys that will be required for a specific application. In order for agency staff to provide such guidance, appropriate data including a proposed project schedule, description of major project actions and current aerial photos, in digital format, will most likely be required at the beginning of any pre-application phase. Information on the project will then be used by agency scientists to provide detailed guidance on the type and timing of biological surveys. The information needs to be provided at least 2-4 months before the beginning of the survey season. In Wisconsin, the field season begins in mid-May. Applicants must meet with agency staff early enough to ensure that field surveys will not be delayed.

Application Completeness:

For CPCN applications the regulatory review process starts only when the state receives a complete application. PSC and DNR staff will examine the application during a 30-day completeness review period as required under Wis. Stats. §196.491(3)(a)(2). Applicants will be notified by letter whether an application is or is not complete. Incomplete applications will be returned to the applicant with a detailed account of where the application is deficient. Applicants will be required to make adjustments and resubmit the application to the PSC and DNR for a new 30-day completeness review. When an application is deemed complete the PSC and DNR will notify the applicant. The PSC must review and take final action on complete applications within 180 days of the date the application is judged complete. The PSC may petition the Circuit Court for an additional 180 days for project review and decision making.

Applicants should be aware that complete applications rarely answer all the questions that the PSC and DNR must address. It is likely that applicants will be called upon to provide additional information and data to support its application. Applicants will be expected to respond to all staff inquiries made subsequent to a determination of completeness in a timely, complete, and accurate manner.

DNR Permits:

Based on information known at the time, DNR permits required for your project will be identified in the pre-application process. Information listed in these Information Requirements will likely include most of the information required to issue the necessary permits. **It is important to understand, however, that even though an application is deemed complete, additional information and modifications to project plans may be needed before the DNR can issue the required permits.**

Electronic Filing System:

Applications must be filed electronically using the PSC's Electronic Regulatory Filing (ERF) system. Project plans required under Wis. Stat. §196.491(3)(a)(3) must be filed with the DNR. Do not file a copy of the detailed project plan using ERF. Instead file a letter confirming that the project plan has been filed with the DNR. Include the date the project plan was filed.

Instructions for filing under the ERF can be found at the following web site:

http://psc.wi.gov/a_erf_public/default.aspx.

Applicants must also provide to PSC staff an electronic copy of the entire application in the latest version of Microsoft Word. For application tables 1-4, applicants must provide electronic versions in Microsoft Excel. In addition, provide a copy of the application and supporting maps and diagrams on CD with the documents in *.PDF format. Copies of this CD will be provided to members of the public upon request. The files on the CD should be well organized, such that a person not familiar with PSC filings can easily locate desired information.

Paper copies, for a CPCN, application must be received by the Commission before the state's 30-day completeness review period begins. Provide 25 copies¹ of the application for Commission use, plus one copy for each clerk and library as required by Wis. Stats. § 196.491(3)(a)1. Applicants should contact the PSC case coordinator for their project to verify the number of paper copies required for the project. In addition to paper copies of the application; paper and digital copies of all maps, engineering diagrams, facility layouts, and aerial photographs must also be provided to PSC staff. Paper copies are also required for DNR staff review. Questions about the number and format of maps, photos, and diagrams can be answered during the pre-application consultation meetings or by contacting the PSC case coordinator. Paper copies are also required for CA applications. Consult with the PSC case coordinator to determine the proper number of copies to provide.

In practice, most applications require significant modification before they can be determined complete. This process can result in a confusing array of application documents that contain both modified and outdated information, often created under separate covers and organized in a variety of formats. In order to provide complete, accurate, and well organized applications for PSC and DNR staff, the PSC Commissioners, and the public, applicants will be required to resubmit their applications after fully integrating all responses to staff's completeness questions. Applicants should consult with the PSC case coordinator to determine how many paper copies of the integrated application that will be required. Subsequent completeness review periods will begin after paper copies of the integrated applications are received at the Commission.

¹ Twenty-five copies are required in large part because the Commissioner's Office (CO) and the Office of General Council (OGC) must receive copies of the application in addition to project staff. Multiple copies of the application are needed in the CO since each Commissioner and Executive Assistant must be supplied with paper copies of the application. In addition the OGC typically requires a copy for the General Council and one each for the attorneys assigned to the case. Members of the division's Core Management Team must also receive copies.

Reduction of Paper:

Applicants are required to minimize the physical size of their applications by eliminating superfluous information and bulk information not material to the case. The following examples should be used as a guide:

- When submitting required information such as local ordinances, land use plans or other local and county planning documents, only submit those pages relevant to the information requirement, i.e. pages specific to land use or noise. If the entire document would be helpful for context, the PSC may require the applicant to provide one copy under a separate cover.
- Minimize duplicative information. For example, if certain information, such as a Developer's Agreement, is applicable to more than one area of the CPCN application, include the entire document as an Appendix and reference it in the application text.
- When submitting correspondence between the applicant and state, local and federal government permitting agencies, submit only copies of "official" correspondence, i.e. letters from the applicant to an agency and the agency response to the applicant. PSC staff needs to review this correspondence to verify that the applicant has applied for the necessary permits and to ascertain the status of the permit review. Do not include unofficial minutes of meetings or records of telephone conversations between the applicant/applicant's consultant and permitting agencies as these documents represent hearsay and are not considered factual information.
- Submit applications on double-sided printed pages. This includes the text of the application as well as copies of supporting documentation submitted in the application. Begin each section (i.e. 2.1, 2.2, 2.3 etc.) on a new and separate page. Exceptions to this requirement are large maps and figures (sized larger than 8 1/2 x 11 inches).

Important notes on digital forms of maps and diagrams

- All required maps identified in sections 2.3.1, 2.3.2, and 2.3.3 as well as facility layouts and diagrams identified in sections 2.1.4 and 2.6.1 must be supplied in both hard copy and digital formats.
 - Digital GIS map formats:
 - Provide map files in .mxd format for all GIS maps in the application.
 - Provide published map files in .pmf format for all GIS maps in the application.
- Line drawings must be in AutoCad *.dwg format or *.dxf format (check with PSC staff for the appropriate AutoCAD release). The preference is *.dwg.

- Geographic Information Systems (GIS) data files must be submitted in Shapefile format (ESRI ArcGIS 9). All GIS data submitted must be projected to Wisconsin Transverse Mercator (WTM), a projection system unique to Wisconsin and used by Wisconsin state agencies. The WTM uses North American Datum (NAD) 83/91. The projection parameters for WTM are:

Projection	Transverse Mercator
Spheroid	GRS80
Scale Factor at Central Meridian	0.9996
Longitude of Central Meridian	90° W (-90°)
Latitude of Origin	0°
False Easting	520,000
False Northing	-4,480,000

- Photographic renderings of proposed facilities on the existing landscape must be submitted in a high-resolution uncompressed *.tif format (preferred) or high-resolution *.jpg format.
- Digital versions of aerial photographic images of the existing landscape MUST be suitable for use on the PSC’s GIS platform. DO NOT obscure any portion of the aerial photographic images provided in the application. Digital aerial photographic images must be properly georeferenced. All digital aerial photographic images MUST be accompanied by the geographic coordinate and projection system to which they have been georeferenced.
- Scanned maps and diagrams which cannot be submitted in any other format must be submitted in *.gif format at a depth of 256 colors or less.
- When providing maps, note facility locations but do not obscure map details.

Tables required for applications

Impact tables will be required for all applications. These tables are referenced in the body of this AFR. PSC route and segment impact tables (Tables 1A & B – 4) are provided as Excel spreadsheets. Each spreadsheet contains two worksheets. The first worksheet contains a sample of the table with examples of how data should be presented. The second worksheet contains a blank table which should be used in the application. Applicants must use the table formats accompanying this AFR. The spreadsheets contain the format and imbedded formulas needed to properly present the impact data required for staff analysis. Cells containing formulas are shaded and protected. Tables 1A & B -4 and Table 6 may be modified on a case by case basis, upon agreement with Commission staff, during pre-application consultation.

Direct questions concerning these information requirements to William A. Fannucchi of the PSC staff, at (608) 267 3594, e-mail william.fannucchi@psc.state.wi.us.

Part 2.00 - Information Requirements for Electric Transmission Lines and Substations

A complete application must contain the following information or a showing must be made as to why the information is not applicable. The application's organization must follow the format and numbering system of this filing requirement. Questions about the applicability of specific information requirements for transmission lines and substations should be discussed with PSC and DNR staff during pre-application consultation.

2.1 ENGINEERING INFORMATION

- 2.1.1. Describe the type and location of the line construction required (new construction, rebuild, reconductoring, line removal).
- 2.1.2. Provide a general description of the proposed line, including:
 - 2.1.2.1. Size of lines (voltage, size of conductor, average span length, structure height above ground, structure type, design, material, engineering drawings).
 - 2.1.2.2. For a new transmission line, description of configuration (e.g. single-circuit line on new right-of-way or a new double-circuit line on existing right-of-way).
- 2.1.3. Provide a study of the problems and possible solutions that show:
 - 2.1.3.1. System normal, showing present loads served and generation output (no contingencies).
 - 2.1.3.2. Single contingencies (line and transformer outages), identifying low voltage and facility overload problems. Also discuss any corridor or extreme disturbance criteria issues as defined by NERC.
 - 2.1.3.3. Alternative transmission network solutions,
 - 2.1.3.3.1. Provide prior relevant regional studies of transmission network solutions.
 - 2.1.3.3.2. Provide details, as available, of the reliability and performance benefits of each network solution studied.
 - 2.1.3.4. Electrical losses for each alternative, peak MW and annual GWH estimates.
 - 2.1.3.5. For generator interconnections, supply the detailed short circuit, stability and thermal analysis studies that have been performed. There must be some initial studies performed in order for the application to be complete.

- 2.1.3.6. For new distribution substations, supply the information from the Load Serving Entity on the need and alternatives considered. Those issues include existing conditions, voltage profiles, line capacities, outages, load growth, alternate substation feed pickup capability, etc
- 2.1.3.7. On an individual application basis, as requested by the assigned engineer, provide the computer network simulation(s) data input files, output files, and/or output summaries.
- 2.1.4. Identify and describe substation facilities needed at new sites and additions at existing sites. Supply an area electric schematic and the substation's physical layout to scale. Also supply property lines and ownerships.
- 2.1.5. Provide contractual agreements between developer and utilities to construct, finance, lease, use or own transmission facilities.²
- 2.1.6. Provide transmission service agreements, if applicable.
- 2.1.7. Cost
 - 2.1.7.1. **Segment Cost Estimate:** Provide an estimated total cost for each route segment. Separate costs according to the following categories.
 - 2.1.7.1.1. Capital costs
 - 2.1.7.1.2. Operation and Maintenance
 - 2.1.7.1.3. Removal (if applicable)
 - 2.1.7.1.4. Add, if appropriate, a nodal or transition cost for each possible route segment connection
 - 2.1.7.2. **Route Cost Estimate:** For all voltage levels provide a total cost for each proposed route. Include the following cost breakdown:
 - 2.1.7.2.1. Transmission Line
 - 2.1.7.2.1.1. Facilities
 - 2.1.7.2.1.1.1. New
 - 2.1.7.2.1.1.2. Upgrades
 - 2.1.7.2.1.2. Land/Land Rights
 - 2.1.7.2.2. Distribution system modifications
 - 2.1.7.2.3. Substation Construction
 - 2.1.7.2.4. Total Capital Costs
 - 2.1.7.2.5. Removal
 - 2.1.7.2.6. Salvage
 - 2.1.7.2.7. Operation and Maintenance
 - 2.1.7.2.8. Expense including pre-certification
 - 2.1.7.2.9. Gross Project Cost
 - 2.1.7.3. **Projects for 345 kV or Greater:** Provide the following cost components

² These can be submitted under the PSC confidentiality procedures. For instructions on how to do this call the PSC at (608) 267-1208.

2.1.7.3.1. Transmission

2.1.7.3.1.1. Material

2.1.7.3.1.2. Labor

2.1.7.3.1.3. Other

2.1.7.3.2. Substation

2.1.7.3.2.1. Material

2.1.7.3.2.2. Labor

2.1.7.3.2.3. Other

2.1.7.3.3. Environmental Protection and Licensing

2.1.7.3.3.1. Environmental Monitoring Services

2.1.7.3.3.1.1. Cost for internal environmental monitors if applicable

2.1.7.3.3.1.2. Cost for independent environmental monitors

2.1.7.3.3.1.3. Agricultural protection

2.1.7.3.3.1.4. Environmental protection wetlands, etc.

2.1.7.3.3.2. Technical support services

2.1.7.3.3.3. Costs listed as licensing and regulation (provide description and a breakout of costs)

2.1.7.3.4. Provide an estimate of all fee payments that must be made to the Department of Administration under Wis. Stat. §196.491(3g).

2.1.7.4. For regional projects, supply the cost benefit analysis and the likely cost allocation per the Midwest ISO's filings.

2.1.7.5. Provide cost of electrical losses and the assumptions.

2.1.8. Provide the anticipated construction schedule for the project, noting any seasonal construction constraints.

2.1.9. Description of applicable transmission tariffs.

2.2 PROJECT DEVELOPMENT AND ALTERNATIVES CONSIDERED

Describe local transmission level alternatives that have been studied and rejected for the proposed project. Explain why these alternatives were not selected.

2.2.1. Local transmission level alternatives can include but are not limited to:

- An upgrade of existing transmission circuits with larger capacity conductors,
- Installation of capacitor banks,
- Installation of new substation equipment,
- New operating guides,
- Smaller and less expensive line/s in other locations.

2.2.2. Describe the factors considered when evaluating possible routes and locations for the transmission line and its associated facilities particularly in connection with the requirements of Wis. Stat. §1.12(6). If factors were weighted, then describe the

weighting criteria.

- 2.2.3. Identify route corridors (including existing transmission line corridors in the area, roads, railroads, pipelines, and major land use boundaries) that were considered and explain why those corridors were or were not chosen.
- 2.2.4. List and describe all attempts made to communicate with and provide information to the public. Describe efforts to date and any planned public information activities. Provide copies of public outreach mailings and any handouts used at information meetings.

2.3 GENERAL TRANSMISSION LINE SITING INFORMATION

Provide the following information for each proposed transmission line route solution. Provide at least two viable routes for the proposed project. Information requirements for substations are covered in section 2.6.

- 2.3.1. **General Route Maps:** Detailed maps clearly showing the location of proposed line routes and the location of new substation facilities or substation expansion. Maps should include local infrastructure including roads, existing utility facilities (electric transmission and distribution, pipelines etc.), location of sensitive sites (day-care centers, hospitals or other health care facilities, cemeteries)
 - 2.3.1.1. **Topographic Maps:** Topographic maps at 1:24,000 scale showing all routes and any viable route segments investigated
 - 2.3.1.2. **Maps showing land ownership by parcel boundaries.** (*Applicants formerly provided plat maps for rural portions of routes*) Parcel boundary maps should show the location of all routes and viable route segments investigated. Parcel maps should be based on the most recent data available and include corrections so that land ownership is accurate.
 - 2.3.1.3. **Street Maps:** Street maps of urban and suburban areas showing all routes and route segments.
- 2.3.2. **Aerial Photographs:** Recent (within last three years – more recent in rapidly developing areas) aerial photos in paper copy of transmission line routes at a scale of 1:4800 or larger. (**Actual aerial photographs are required – reduced size photos are not adequate.**) Photos should show all routes and route segments. DO NOT obscure any portion of the photographic images provided in the application. The aerial photography must be inclusive enough to show the landscape context within which the proposed facilities could be placed. Photographs limited to the width of the ROW ARE NOT acceptable. Describe relevant changes to the area since the photos were taken. **Consult with PSC staff regarding age of photos.**
- 2.3.3. **Geographic Information Systems (GIS) data:** GIS data is essential to the efficient processing of an application. Applicants must submit project information digitally in addition to paper copies. GIS data files should be in Shapefile format (ESRI ArcGIS 9x). **All GIS data submitted must be projected to Wisconsin Transverse Mercator (WTM).** See page 4 for projection parameters.

- 2.3.3.1. **General Route Maps:** Submit GIS versions of all maps listed in Section 2.3.1 *(All maps should be ESRI mxd ArcMap format)*
- 2.3.3.2. **Aerial Photographs:** Submit digital versions of aerial photographs **properly georeferenced** and suitable for use with GIS (projection parameters are described on page 3) for all routes and route segments. DO NOT obscure any portion of the digital photographic images provided in the application. The aerial photography must be inclusive enough to show the landscape context within which the proposed facilities could be placed. **Digital data limited to the width of the ROW ARE NOT acceptable.**
- 2.3.3.3. **GIS Shapefiles:** Provide GIS ESRI shapefiles or ESRI ArcInfo coverages for the following:
 - 2.3.3.3.1. All route segments organized by proposed routes. *(Include all viable alternate segments even though those segments are not part of a final proposed route.)*
 - 2.3.3.3.2. Wetlands: Provide separate shapefiles for all delineation techniques used in preparing the application. *(Wetland shapefiles must identify, in the attribute table, each wetland polygon's wetland classification using the WWI wetland classification system.)*
 - 2.3.3.3.2.1. WDNR-Wisconsin Wetland Inventory (WWI)
 - 2.3.3.3.2.2. Wetland delineations prepared for the project using recent aerial photography.
 - 2.3.3.3.2.3. Field delineations.
 - 2.3.3.3.2.4. Land Ownership – parcel data in shapefile format with contiguous same-owner parcels dissolved into one polygon shape. Attribute data should contain parcel number and owner names.
 - 2.3.3.3.3. Copies of all shapefiles used to create the general route maps required in Section 2.3.3.1
- 2.3.4. **Zoning**
 - 2.3.4.1. Provide current zoning maps for all routes and route segments and any new or expanded substations or switching stations.
 - 2.3.4.2. Provide zoning GIS data (projected to WTM - see page 4) for all routes and route segments and new or expanded substations or switching stations.
- 2.3.5. Current land-use plans for the project area. Include in the application copies of the relevant sections of the most recent land-use plans for the project area. This includes recreational plans, agricultural plans, and any other plan available for the project area.
- 2.3.6. Floodplain maps (Flood Insurance Rate Maps (FIRM)) for the project area – also include a digital version of floodplain maps for the project area.

2.4 DETAILED ROUTE INFORMATION

Fulfilling requirements in this section will require the preparation of standard PSC impact tables (Tables 1A & B – 4). See Page 5 for general instructions on preparing application tables. For each table in this section indicate the type and date of source material and the

methods used to determine table inputs.

For projects qualifying for expedited review as defined in Wis. Stat. § 196.491(3b)(a), PSC staff may determine during the pre-application consultation phase that requirements under section 2.4.1 may be modified or waived based upon the details and potential impact associated with the proposed project.

2.4.1. **General Route Impacts:** Provide the following information for each route, by route segment and in table format. In addition, include in a separate table any segment or segments not included as part of a proposed route. (*See - Tables 1A & B*)

2.4.1.1. TABLE 1A – Provide the following information for each route, by route segment: (*Use the standard Excel spreadsheet that accompanies this AFR. Any segments not used in a route should be reported in a separate table.*)

- 2.4.1.1.1. Total segment length (in feet and miles). *Standard Table 1A worksheet will calculate the mile value.*
- 2.4.1.1.2. Length (ft) – (*This is the length of the segment being evaluated in each spreadsheet row. In most cases this length will be the same as the total segment length in Column B but may be less if the amount of ROW sharing changes within the segment – see footnote #2 on sample Table 1B.*)
- 2.4.1.1.3. Total width of the ROW required (this is the entire width needed for the line exclusive of any potential corridors that can be shared)
- 2.4.1.1.4. ROW Requirement (acres). This is the total acre requirement if there were no ROW sharing available. *Standard Table 1A worksheet will calculate this value.*
- 2.4.1.1.5. Type of existing ROW, if any, that would be used (shared) by the proposed new ROW. *See sample Table 1A for list of ROW codes.*
- 2.4.1.1.6. Shared existing ROW Metrics. *Include only that portion of the existing ROW that will be overlapped by the new ROW. For the purposes of the application, corridors that are adjacent to, but do not overlap the new proposed corridor, are not to be included in this category.*
 - 2.4.1.1.6.1. Length (ft) of the existing ROW to be shared.
 - 2.4.1.1.6.2. Width of the entire existing ROW (in feet).
 - 2.4.1.1.6.3. Width (ft) of the existing ROW that would be shared
 - 2.4.1.1.6.4. Area (acres) of the existing ROW that would be shared. *Standard Table 1A worksheet will calculate this value.*
- 2.4.1.1.7. New (additional) ROW required.
 - 2.4.1.1.7.1. Width (in feet)
 - 2.4.1.1.7.2. Area (acres) – *Standard Table 1A worksheet will calculate this value.*
- 2.4.1.1.8. Corridor sharing – *Standard Table 1A worksheet will calculate these values.*
 - 2.4.1.1.8.1. Percent new ROW length shared
 - 2.4.1.1.8.2. New ROW width shared
 - 2.4.1.1.8.3. Percent Existing ROW width shared
 - 2.4.1.1.8.4. Percent New project ROW width shared.

- 2.4.1.2. **Railroad and pipeline corridors:** For Railroads indicate whether it is active or abandoned. For both railroad and pipeline corridors identify the owner and whether or not the owner agrees to corridor sharing. Provide copies of all correspondence with owners and copies of any ROW sharing agreements.
- 2.4.1.3. **Interstate or state highways:** Supply documentation from DOT that the proposed sharing is generally acceptable. Provide details on how the power line ROW would be combined with the road or highway ROW.
- 2.4.1.4. TABLE 1B- for each route, by route segment, provide the following: *(Use the standard AFR Excel Spreadsheet- see sample Table 1B. Segments not used in a route should be reported in a separate table.)*
 - 2.4.1.4.1. The number and type of each building within the following distance categories – as estimated from the centerline: 0-25 feet, 26-50 feet, 51-100 feet, 101-150 feet, and 151-300 feet. *Identify buildings using the Building Codes provided in Table 1B.*
 - 2.4.1.4.1.1. Homes
 - 2.4.1.4.1.2. Apartments
 - 2.4.1.4.1.3. Schools
 - 2.4.1.4.1.4. Daycare Centers
 - 2.4.1.4.1.5. Hospitals
 - 2.4.1.4.1.6. Commercial/Industrial (Report only those buildings within 100 feet of centerline).
- 2.4.1.5. **Changes to Existing Easements -** For each route, by route segment, indicate the following:
 - 2.4.1.5.1. Dates when existing easements were reviewed for this project. (a general date range will be adequate)
 - 2.4.1.5.2. If existing easements are to be renegotiated and/or rewritten indicate the reason.
 - 2.4.1.5.2.1. Modernization of language only
 - 2.4.1.5.2.2. Changes in size of easement required
 - 2.4.1.5.2.3. Other reasons
- 2.4.2. **Detailed Route Impacts by Existing Land Cover:** Provide estimated resource impacts for the proposed project in table format.
 - 2.4.2.1. TABLE 2 – For each route, by route segment, provide the following. *(Use the standard AFR Excel Spreadsheet – see sample Table 2. Segments not used in a route should be reported in a separate table.)*
 - 2.4.2.1.1. Existing/New Row width required in feet. *(Use a ratio type designation e.g. 80/40; 0/100 etc.)*
 - 2.4.2.1.2. Existing ROW Width (ft) used (excluding road ROW).
 - 2.4.2.1.3. New ROW width (ft) (excluding road ROW)
 - 2.4.2.1.4. Total segment length (ft) *(If multiple rows must be used for a segment, report this number only for the first row used – see example in 2.4.2.1.5))*

- 2.4.2.1.5. Length (ft) (*This number corresponds to the length of the segment examined in each table row. For example, if a 5,000-foot segment has 2,000 feet of corridor sharing and 3,000 feet of new unshared corridor the resource impacts would be reported in two rows. In this case the value length would be 2000 ft. in one row and 3,000 ft. in the next row.*)
- 2.4.2.1.6. Segment length shared with an existing corridor (*Adjacent corridors with no overlap are not considered shared for the purposes of this table*)
- 2.4.2.1.7. Report the length of a segment that affects the following land cover types:
 - 2.4.2.1.7.1. Agricultural
 - 2.4.2.1.7.1.1. Crop land (row crops, hay)
 - 2.4.2.1.7.1.2. Pasture
 - 2.4.2.1.7.1.3. Old Field
 - 2.4.2.1.7.1.4. Specialty
 - 2.4.2.1.7.1.4.1. Ginseng
 - 2.4.2.1.7.1.4.2. Tree Farm (do not include pine plantations that result in mature trees)
 - 2.4.2.1.7.1.4.3. Orchard
 - 2.4.2.1.7.1.4.4. Cranberry bog
 - 2.4.2.1.7.2. Non-Agricultural-
 - 2.4.2.1.7.2.1. Upland
 - 2.4.2.1.7.2.1.1. Prairie/Grassland (Do not include converted forest on existing ROW in this category)
 - 2.4.2.1.7.2.1.2. Upland Forest (Existing ROW through previously forested land must be included in this category. Staff will differentiate between converted forest and new forest impact in its impact analysis.)
 - 2.4.2.1.7.2.1.3. Other
 - 2.4.2.1.7.2.2. Wetland³ (*Identify source/sources from which wetland impacts were determined.*)
 - 2.4.2.1.7.2.2.1. Forested Wetland (Existing ROW through previously forested wetland must be included in this category. Staff will differentiate between converted forest and new forest impact in it's impact analysis)
 - 2.4.2.1.7.2.2.2. Non-forested wetland (all types combined)
 - 2.4.2.1.7.3. Developed land
 - 2.4.2.1.7.3.1. Residential
 - 2.4.2.1.7.3.2. Commercial/Industrial

³ Wetland determinations often involve use of a combination of sources. These include the DNR WWI, delineation using aerial photography, and actual field delineation. For Table 2 provide a single estimate based on the best information sources available. In general it is recommended that applicants begin with the DNR WWI and augment with additional delineation using either recent aerial photographs and/or field delineation. Identify the data and methods used for delineating wetlands.

2.4.3. **Impacts by Land ownership – Public and Tribal Lands:** Provide estimated potential impacts for the proposed project to public lands in table format.

2.4.3.1. TABLE 3 - Provide the following information by route and route segment. (*Use the standard AFR Excel Spreadsheet – see sample Table 3. Segments not used in a route should be reported in a separate table.*) :

- 2.4.3.1.1. Existing ROW width (ft) shared if any (*Adjacent corridors with no overlap are not considered shared for the purposes of this table*)
- 2.4.3.1.2. New ROW width (ft) required (*this would be only new or additional ROW in excess of any shared ROW*)
- 2.4.3.1.3. Total Segment Length (ft) (*Same value as 2.4.2.1.4*)
- 2.4.3.1.4. Length (ft) (*Same value as 2.4.2.1.5*)
- 2.4.3.1.5. Length (ft) of proposed line passing through the following ownership types:
 - 2.4.3.1.5.1. Federal land, (Identify by type –
 - 2.4.3.1.5.1.1. Parks.
 - 2.4.3.1.5.1.2. Trails.
 - 2.4.3.1.5.1.3. Scenic riverways.
 - 2.4.3.1.5.1.4. Wildlife and fish refuges.
 - 2.4.3.1.5.1.5. Other
 - 2.4.3.1.5.2. State properties
 - 2.4.3.1.5.2.1. Wildlife area.
 - 2.4.3.1.5.2.2. Fisheries area.
 - 2.4.3.1.5.2.3. State forest
 - 2.4.3.1.5.2.4. State natural area.
 - 2.4.3.1.5.2.5. Park
 - 2.4.3.1.5.2.6. Trail/bike path.
 - 2.4.3.1.5.2.7. Other
 - 2.4.3.1.5.3. County-owned land:
 - 2.4.3.1.5.3.1. Park
 - 2.4.3.1.5.3.2. County forest.
 - 2.4.3.1.5.3.3. Trail/bike path
 - 2.4.3.1.5.3.4. Office / garage
 - 2.4.3.1.5.3.5. Other
 - 2.4.3.1.5.4. Village, City or Town
 - 2.4.3.1.5.4.1. Park
 - 2.4.3.1.5.4.2. School forest.
 - 2.4.3.1.5.4.3. Office/garage.
 - 2.4.3.1.5.4.4. Other
 - 2.4.3.1.5.5. Tribal lands and Native American Reservations (Identify by name or tribe)

2.4.4. TABLE 4 - **Summary Table:** Prepare a summary table by Route. *Use the standard AFR Excel Spreadsheet – see sample Table 4. (Summary numbers should be derived from Tables 1B & 2).* Provide the following information:

- 2.4.4.1. Total route length (ft). (*From Table 1A*)
- 2.4.4.2. Route Length (miles) (*Standard AFR Table 4 will calculate this value*)
- 2.4.4.3. Agricultural impact (acres) – Existing and New ROW combined. (*From Table 2*)

- 2.4.4.4. Non-agricultural upland Impact - Existing and New ROW combined - (*see Section 2.4.2.1.7.2.1.1 – and Table 2*).
 - 2.4.4.5. Upland Forest (acres)
 - 2.4.4.5.1. Existing ROW -(*From Table 2*)
 - 2.4.4.5.2. New ROW (*From Table 2*)
 - 2.4.4.6. Wetland (acres). (*From Table 2*)
 - 2.4.4.6.1. Forested wetland (acres).
 - 2.4.4.6.1.1. Existing ROW.
 - 2.4.4.6.1.2. New ROW.
 - 2.4.4.6.2. Non-forested wetlands – Existing and New ROW combined. (*From Table 2*)
 - 2.4.4.7. Distance to residences and apartments. (*From Table 1B*)
- 2.4.5. **Agriculture:** By segment and for each route provide the following information.
- 2.4.5.1. Type of farming: pasture, row crops, or other type (e.g. orchards, tree plantations).
 - 2.4.5.2. Practices that may be affected, such as: type of irrigation used and potential interference by line; aerial seeding or spraying and potential interference with aerial applications; windbreaks; and drainage tiles.
 - 2.4.5.3. Identify parcels affected by the line that are enrolled in farmland preservation programs.
 - 2.4.5.4. Proximity to farm buildings: List, by route segment and route, the following building types where all or part of the building is located within 100 feet of the route’s centerline. (*Report farm residences in table 1B*)
 - 2.4.5.4.1. Buildings used to house animals
 - 2.4.5.4.2. Metal sheds or equipment storage buildings
 - 2.4.5.4.3. Provide a map showing the location of all farm buildings listed above. Identify the type of building on the map or provide a GIS shapefile showing the location of these buildings. (The GIS shapefile must identify the type of building)
- 2.4.6. **Forest Lands:** By route segment and for each route describe forest lands, where applicable including type of woodlands, dominant species, age, ownership (e.g. private, county forest) and use (e.g. recreation, timber).
- 2.4.7. **Conservation Easements:** By Route Segment and for each route identify any lands that have conservation easement agreements. Detail the potential effect of the ROW on the easement agreement and identify any penalty that may apply to the landowner.
- 2.4.8. **Endangered, Threatened, Special Concern Species and Natural Communities:** For each route segment, provide a general habitat assessment and identify where any rare species (endangered, threatened or special concern species) are located along the project route. Assessments should include construction and staging areas and any off ROW

access areas. Address any potential impacts the project could have on such species.

The objective of the habitat assessment is to provide the DNR and the PSC with adequate information to verify the applicant's determination of whether rare species may occur in the project area. Appropriate methodologies for assessments include aerial photo interpretation, roadside surveys, walking surveys, literature research, and consultation with local experts, including DNR staff (document any input from DNR staff).

For each rare species identified, describe how the proposed project could be modified to avoid, minimize, or mitigate any potential adverse effect on the species. Avoidance and minimization measures could include: route changes or special construction practices (including adjustments to the timing of construction activities). Mitigation may include post-construction restoration or habitat enhancement within the ROW. In addition to rare species, identify the location of any important, rare, or high-quality natural community that would be affected by any proposed construction.⁴ The filing of this information should comply with applicable DNR and PSC confidentiality requirements.

- 2.4.9. **Archeological and Historic Resources:** Provide a list of all historic and archeological sites potentially affected by the proposed project.⁵ List also each county, town, range, section and ¼, ¼ section in which construction would occur. For each archeological or historical resource identified, describe how the proposed project might affect the resource and how the project could be modified to reduce or eliminate any potential effect on the resource. Modifications to the proposed project could include route changes and construction practices. If after consultation with the Wisconsin Historical Society (WHS) and PSC staff, the work of a qualified archeologist is required, reference the archeologist's report in the application.
- 2.4.10. **Airports:** Provide information on the location of all private and public airports and airstrips that may be affected by the proposed project. Describe any potential for impact to aircraft safety and intrusion into the glide path. Clearly describe potential construction limitations and permit issues. Provide copies of all correspondence with the WDOT Bureau of Aeronautics and the FAA.
- 2.4.11. **Access Issues:** Identify all locations where access to proposed project sites, involving remote areas (wetlands, streams/rivers, forests), cannot be achieved from existing ROW easements or roads. Identify where additional access would be required, what kind of access would be needed, and whether the access would be temporary, for construction purposes, or permanent.
- 2.4.12. **Waterway Permitting Activities:** For each route segment, identify and number all waterway activities, based on Table 5 (Supplement to DNR Form 3500-53). For each

⁴ This information is available from the Wisconsin DNR, Office of Energy.

⁵ This information is available from the WHS, Wisconsin Archeological and Historic Resources database (WisAHRD), which may require a fee or subscription. Qualified archeologists generally have access to the WisAHRD database.

stream or waterbody provide the width at the top of the bank and the slope of the banks at the proposed activity location. For each activity, note if the waterway is defined as an Area of Special Natural Resource Interest (ASNRI) under the provisions of Ch. NR 1 Wis. Admin. Code. If a temporary bridge is required for construction, identify the type of structure to be used. Use Table 5 as the format for completing this information request. See Figure 1 for information on GMU location and abbreviations.

2.4.13. **Wetlands:** For each route segment, identify and number all wetland crossings. Insert this information in Table 5 as discussed above in directional order with the waterways.

2.4.13.1. Identify all wetlands on a map using data from the Wisconsin Wetland Inventory (WWI) and identify any other wetlands or changes to WWI boundaries based on delineations using all forms and information required by and in accordance with the January 1987 Technical Report Y-87-1 entitled, "Corps of Engineers Wetland Delineation Manual," including relevant guidance documents. Wetland delineation reports should NOT be submitted as a hardcopy with the application. Electronic copies of wetland delineation reports (in MS Word format, or similar) may be submitted on a CD.

2.4.13.2. In lieu of the information outlined in the preceding section (2.4.12.1), it is acceptable to utilize a more conservative approach to identify wetland boundary locations by using the following methods:

2.4.13.2.1. Use remote sensing tools to identify wetland locations and boundaries in relation to WWI mapping.

2.4.13.2.2. Refine the remote sensing mapping by ground-truthing. Conduct a simple field survey to conservatively locate the upland/wetland boundary. The general upland/wetland boundary should be placed at an obvious break in slope and/or at the location where non-hydrophytic vegetation appears to be more prevalent. Obvious seeps and springs should be considered wetlands. If a determination is not easily ascertained by vegetation, use County Soil Survey information to label areas with hydric soils as wetland. If vegetation is lacking, use hydrology indicators (as listed on *Data Form-Routine Wetland Determination--1987 COE Wetlands Delineation Manual*) including: inundation, saturation in upper 12 inches, watermarks, drift lines, sediment deposits, drainage patterns, and water-stained leaves.

2.4.13.3. **For each wetland crossing:**

2.4.13.3.1. Describe the length of crossing.

2.4.13.3.2. Identify wetland type using the WWI classification, and wetland type as identified by plant community type (shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, calcareous fen, wet meadow shrub-carr, low prairie, hardwood swamp).

- 2.4.13.3.3. List the presence or absence of invasive species discussed with staff during pre-application consultation noting whether they are dominant.
- 2.4.13.4. Determine if any wetlands affected are considered sensitive including any wetlands in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code) including:
 - 2.4.13.4.1. Cold Water Community as defined in § NR 102.04(3)(a), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes.
 - 2.4.13.4.2. Lakes Michigan and Superior and the Mississippi River.
 - 2.4.13.4.3. State- or federally-designated Wild and Scenic River.
 - 2.4.13.4.4. State-designated riverway.
 - 2.4.13.4.5. State-designated scenic urban waterway.
 - 2.4.13.4.6. Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study.
 - 2.4.13.4.7. Calcareous fen.
 - 2.4.13.4.8. State park, forest, trail or recreation area.
 - 2.4.13.4.9. State and federal fish and wildlife refuges and fish and wildlife management area.
 - 2.4.13.4.10. State- or federally-designated wilderness area.
 - 2.4.13.4.11. State-designated or dedicated natural area (SNA).
 - 2.4.13.4.12. Wild rice water listed in § NR 19.09, Wis. Adm. Code.
 - 2.4.13.4.13. Surface water identified as outstanding or exceptional resource water in ch. NR 102, Wis. Adm. Code.
 - 2.4.13.4.14. Other sensitive wetlands are deep marsh, northern or southern sedge meadow not dominated by reed canary grass, wet or wet-mesic prairie not dominated by reed canary grass, fresh wet meadows not dominated by reed canary grass, coastal marsh, interdunal or ridge and swale complex, wild rice-dominated emergent aquatic, open bog, bog relict, muskeg, floodplain forest, and ephemeral ponds in wooded settings.
- 2.4.14. **Mapping Wetland and Waterway Crossings:** For segments in or adjacent to wetlands or waterways, provide three (3) maps per segment of the proposed transmission line on 11x17 inch paper, each with the same scale.
 - 2.4.14.1. Recent air photo showing only the line and ROW.
 - 2.4.14.2. Topographic map showing line and ROW.
 - 2.4.14.3. Recent air photo with the following items:
 - 2.4.14.3.1. Transmission line.
 - 2.4.14.3.2. ROW.

- 2.4.14.3.3. Pole locations-- label each pole by number if appropriate. For rebuild projects, the maps should include the location of existing poles and proposed poles if they are to significantly change location.
- 2.4.14.3.4. Waterways.
- 2.4.14.3.5. WWI (as a transpicuous layer).
- 2.4.14.3.6. Delineated Wetlands (clearly marked).
- 2.4.14.3.7. Hydric soils- (as a transpicuous layer) indicated faintly to be used as secondary review if needed.
- 2.4.14.3.8. Proposed temporary bridge locations (labeled to correlate with Table 5).
- 2.4.14.3.9. Locations for other Chapter 30 activities such as grading or riprap (labeled to correlate with Table 5).
- 2.4.14.3.10. Locations of proposed access routes that involve wetland or waterway impacts.

2.5 CONSTRUCTION METHODS

2.5.1. General Construction Information:

- 2.5.1.1. Identify the type and location of structures to be used.
- 2.5.1.2. Report whether existing structures will be used, modified, or removed
- 2.5.1.3. Identify how structures will be placed in the ground (i.e. direct buried, concrete foundations, etc.)
- 2.5.1.4. If concrete foundations are required, describe the types of structure foundations required and the size and depth of excavation required for each structure type and handling and disposition of spoil material.
- 2.5.1.5. Describe the types of machinery to be used.
- 2.5.1.6. Describe width of construction disturbance zone.
- 2.5.1.7. Identify the location of staging areas and any additional temporary workspace,
- 2.5.1.8. Provide a general description of project construction methods. Include a general description of how construction will occur in and around:
 - 2.5.1.8.1. Agricultural lands,
 - 2.5.1.8.2. Forestlands,
 - 2.5.1.8.3. Surface waters and wetlands.

2.5.2. Underground Construction (if applicable)

- 2.5.2.1. Provide details for crossing roads and driveways and methods for mitigating inconvenience caused by construction to home owners and businesses.
- 2.5.2.2. Provide details on safety procedures, methods and timing of notification during construction and duration of construction as it affects individual property owners.

2.5.3. Stream/river Crossings:

Describe specific methods to be used for stream crossings for any streams marked as

perennial or intermittent on USGS topographic maps, including:

- 2.5.3.1. Description of the method of crossing including structure type if applicable,
- 2.5.3.2. An estimate of the area and volume of excavated materials from uplands adjacent to the waterway,
- 2.5.3.3. Identify the location of access roads associated with placing temporary bridges and describe the methods of construction.
- 2.5.3.4. In the case of underground construction describe the size, depth and location of boring pits and the estimated amount of excavated materials that will result.
 - 2.5.3.4.1. Describe methods for de-watering of boring pit or structure foundations. Include a discussion of discharge locations and suspended solids standards for discharge water,
 - 2.5.3.4.2. Identify contingency plans for bore refusal and frac-outs if directional boring is proposed. Provide pre- and post-project diagrams for all crossings including top view and cross section or side views.

2.5.4. Wetland Crossings:

- 2.5.4.1. Describe specific methods to be used for wetland crossings including location and methods of construction for:
 - 2.5.4.1.1. Crossing structures,
 - 2.5.4.1.2. Access roads,
- 2.5.4.2. Describe cleaning of machinery to prevent spread of invasive species.
- 2.5.4.3. Provide an estimate for the area and volume of excavated materials from wetlands,
- 2.5.4.4. Describe methods and discharge locations for site de-watering, and locations for stockpile of fill materials.

2.5.5. Re-vegetation:

- 2.5.5.1. Provide a detailed re-vegetation and site restoration plan including a timetable for construction and monitoring.
- 2.5.5.2. Provide plans for post-construction monitoring and operation phase maintenance measures.
 - 2.5.5.2.1. Provide a monitoring plan that details: the timeline for monitoring (generally 5 years post-construction) and specific methods for monitoring, including pre-construction (and prior to vegetation clearing) vegetation sampling.
 - 2.5.5.2.2. Provide a management plan for the operation phase that includes invasive species management and mid-course corrections (and when those measures are required).

2.5.6. Erosion Control Plan: Describe erosion control measures to be utilized, if appropriate. If the project will involve land disturbance in excess of 1 acre, the applicant's request for permits under Wis. Stat. §30.025 must include a request for a Construction Site Erosion Control and Storm Water Discharge Permit from DNR. The applicant will be required to submit a Construction Site Notice of Intent (NOI) form and to develop an Erosion

Control and Storm Water Management Plan describing the best management practices that will be used on-site for erosion control. The DNR-approved erosion and sediment control technical standard and NOI Form are available on the DNR Storm Water Program web-site at:

<http://www.dnr.state.wi.us/org/water/wm/nps/stormwater/publications.htm>.

Applicants may opt to refer to that company's state agency-approved Standard Erosion Control Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required. Any Standard Erosion Control Plan must be approved by the agency staff before being submitted as part of an application.

The following checklist serves as guidance in the completion of an Erosion Control Plan necessary to meet the requirements of the Chapter 30 and NR 216 Permits. The Erosion Control Plan should contain the following components:

2.5.6.1. Erosion Control Methods and Materials

The types of erosion control methods that will be used during project construction to protect disturbed areas. Include where applicable:

- 2.5.6.1.1. Soil and slope stabilization
- 2.5.6.1.2. Seeding and mulching
- 2.5.6.1.3. Matting, tracking pads, silt fences, stockpile protection
- 2.5.6.1.4. Dewatering-related erosion control
- 2.5.6.1.5. Channel protection
- 2.5.6.1.6. Any other appropriate erosion control measures
- 2.5.6.1.7. Details and typical section drawings of all the erosion control methods utilized.

2.5.6.2. Erosion Control Measure Site Plan

Include a site plan view and typical drawings illustrating:

- 2.5.6.2.1. Construction site boundary
- 2.5.6.2.2. The location of all erosion control measures
- 2.5.6.2.3. Location of stockpiled soil
- 2.5.6.2.4. Vehicle and equipment access sites
- 2.5.6.2.5. Areas of disturbance
- 2.5.6.2.6. The drainage area configuration
- 2.5.6.2.7. Surface water diversion measures
- 2.5.6.2.8. Topography
- 2.5.6.2.9. Existing floodplains and wetlands
- 2.5.6.2.10. Location of trees and unique vegetation

2.5.6.3. **Sequence of Erosion Control Measures**

List and give a detailed description of the sequence of erosion control measures that will occur (i.e. placed, relocated, and replaced) during all phases of construction including:

- 2.5.6.3.1. Clearing and grubbing
- 2.5.6.3.2. Material installation
- 2.5.6.3.3. Channel construction
- 2.5.6.3.4. Revegetation processes
- 2.5.6.3.5. Seeding and mulching/matting

2.5.6.4. **Off-site Diversion Methods**

- 2.5.6.4.1. Identify off-site contributions of water affecting project construction sites.
- 2.5.6.4.2. Methods of controlling off-site water contributions
- 2.5.6.4.3. Site plan indicating:
 - 2.5.6.4.3.1. Where the off-site water is originating from
 - 2.5.6.4.3.2. Locations of diversion measures on-site

2.5.6.5. **Provisions for Inspection and Maintenance**

Document the provisions for:

- 2.5.6.5.1. The regular inspection of all erosion control efforts
 - 2.5.6.5.1.1. Who will perform the inspections
 - 2.5.6.5.1.2. When will the inspections occur
 - 2.5.6.5.1.3. Any special circumstances initiating an inspection
- 2.5.6.5.2. The regular maintenance of all erosion control efforts
 - 2.5.6.5.2.1. Who is responsible for the maintenance
 - 2.5.6.5.2.2. Corrective actions if site is not maintained according to provisions

2.5.7. **Materials Management Plan:** Describe materials management methodology. Applicants may opt to refer to the company's standard Materials Management Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required. The following checklist serves as guidance in the completion of a Materials Management Plan necessary to meet the requirements of the Chapter 30 and NR 216 Permits. The Materials Management Plan should contain information on all of the following components, where applicable:

2.5.7.1. **Access Point Locations (If not otherwise provided in answer to 2.4.10)**

- 2.5.7.1.1. List the locations that will be used to gain access to the work site
- 2.5.7.1.2. Include a plan view of all access points

2.5.7.2. **Haul Routes**

- 2.5.7.2.1. Indicate how and where hauled materials will be routed, including:
 - 2.5.7.2.1.1. Inbound materials

- 2.5.7.2.1.2. Outbound materials
- 2.5.7.2.1.3. Clean fill materials
- 2.5.7.2.1.4. Contaminated materials
- 2.5.7.2.1.5. Others
- 2.5.7.2.2. Alternate locations if necessary
- 2.5.7.2.3. Include a haul route diagram indicating haul route locations
- 2.5.7.3. Stockpile Areas**
 - 2.5.7.3.1. List and describe:
 - 2.5.7.3.1.1. Material to be stockpiled
 - 2.5.7.3.1.2. Where will material be stockpiled on-site
 - 2.5.7.3.1.3. Measures to protect stockpiled areas, if applicable
 - 2.5.7.3.2. Provide a plan view diagram indicating stockpile area locations
- 2.5.7.4. Equipment Staging Areas**
 - 2.5.7.4.1. Where equipment will be stored on-site
 - 2.5.7.4.2. Include a plan view of equipment storage areas on-site
 - 2.5.7.4.3. Spill control and kits on-site
- 2.5.7.5. Field Screening Protocol for Contaminant Testing**
 - 2.5.7.5.1. If contaminated materials (i.e. soil) are encountered on-site, indicate:
 - 2.5.7.5.1.1. How will the materials be screened
 - 2.5.7.5.1.2. Where will the materials be tested
 - 2.5.7.5.1.3. What protocols will be followed
 - 2.5.7.5.1.4. How work will be impacted
- 2.5.7.6. Estimated Types, Concentrations and Volumes of Contaminated Materials**
 - 2.5.7.6.1. If contaminated materials are known to exist on-site, list and describe:
 - 2.5.7.6.1.1. The type of contaminant
 - 2.5.7.6.1.2. Where the contaminant is located on-site
 - 2.5.7.6.1.3. Media in which the contaminant is located within (i.e. soil, water, etc.)
 - 2.5.7.6.1.4. The estimated concentration of the contaminant
 - 2.5.7.6.1.5. The estimated volumes of the contaminant
- 2.5.7.7. Excavation Methods**
 - 2.5.7.7.1. List and describe:
 - 2.5.7.7.1.1. What materials will be excavated
 - 2.5.7.7.1.2. Where the excavated materials are located
 - 2.5.7.7.1.3. How the materials will be excavated and removed
 - 2.5.7.7.1.4. How will excavated materials be exported from site
 - 2.5.7.7.1.5. Where will excavated materials be exported
- 2.5.7.8. Methods for Dewatering of Excavated Materials**
 - 2.5.7.8.1. If free water is found present in excavated materials, list and describe:
 - 2.5.7.8.1.1. What methods will be used to correct the situation (i.e. how will water be removed)

- 2.5.7.8.1.2. Where these methods will take place on-site
- 2.5.7.9. **Estimated Volumes of In-channel and Upland Excavated Materials**
 - 2.5.7.9.1. Volume of Dredged Materials (cubic yards)
 - 2.5.7.9.1.1. Excavation from bed and bank of waterway
 - 2.5.7.9.1.2. Excavation from wetland
 - 2.5.7.9.2. Volume of Upland Materials (cubic yards)
 - 2.5.7.9.2.1. Excavation from areas outside of waterway and wetlands
- 2.5.7.10. **Estimated Volumes and Location of Re-used In-Channel and Upland Excavated Materials**
 - 2.5.7.10.1. Reuse of Dredged Materials
 - 2.5.7.10.1.1. Total Volume of Reused Dredged Materials (cubic yards)
 - 2.5.7.10.1.2. Location
 - 2.5.7.10.1.2.1. Indicate on project plans, OR
 - 2.5.7.10.1.2.2. Provide off-site address, property owner, site map drawn to scale
 - 2.5.7.10.1.3. Purpose of Dredged Materials (i.e. grading, trench backfill, etc.)
 - 2.5.7.10.2. Reuse of Upland Materials
 - 2.5.7.10.2.1. Total Volume of Reused Upland Materials (cubic yards)
 - 2.5.7.10.2.2. Location
 - 2.5.7.10.2.2.1. Indicate on project plans, OR
 - 2.5.7.10.2.2.2. Provide off-site address, property owner, site map drawn to scale
 - 2.5.7.10.2.3. Purpose of Upland Material Usage
- 2.5.7.11. Off-site Disposal Plans for Contaminated Materials and Non-contaminated Materials
 - 2.5.7.11.1. Disposal of Dredged Materials
 - 2.5.7.11.1.1. Total Volume of Disposed Materials (cubic yards)
 - 2.5.7.11.1.2. Disposal Site Location
 - 2.5.7.11.1.2.1. Type of Disposal Site (i.e. confined disposal facility, landfill, etc.)
 - 2.5.7.11.1.2.2. Disposal Site Information
 - 2.5.7.11.1.2.2.1. Site name
 - 2.5.7.11.1.2.2.2. Site address
 - 2.5.7.11.2. Disposal of Upland Materials
 - 2.5.7.11.2.1. Total Volume of Disposed Upland Materials (cubic yards)
 - 2.5.7.11.2.2. Disposal Site Locations
 - 2.5.7.11.2.2.1. Type of Disposal Site (i.e. confined disposal facility, landfill, etc.)
 - 2.5.7.11.2.2.2. Disposal Site Information
 - 2.5.7.11.2.2.3. Site Name

2.5.7.11.2.2.4. Site address

2.5.8. **Dewatering Plan:** Provide details for dewatering excavation for structure foundations or poles. Applicants may opt to refer to the company's standard Dewatering Plan to meet most of these requirements, though some form of supplemental information on project-specific elements may be required. The following checklist serves as guidance in the completion of the Dewatering Plan necessary to meet the requirements of the Chapter 30 and NR 216 Permits. Consider the following items in the Dewatering Plan.

2.5.8.1. Dewatering/Diversion of Flow

2.5.8.1.1. Provide detailed plans for the dewatering/diversion of flow/standing water removal. Include typical dewatering/diversion measure plans

- 2.5.8.1.1.1. Provide specifications for the dewatering/diversion of flow/ standing water removal
- 2.5.8.1.1.2. Methods employed to dewater/divert flow/treat water (if applicable)
- 2.5.8.1.1.3. How methods will be employed
- 2.5.8.1.1.4. Where methods will be employed
- 2.5.8.1.1.5. Capacities and capabilities

2.5.8.2. Downstream Impact Minimization:

List and describe methods of minimizing downstream impacts during high flow conditions.

2.5.8.3. Analysis of Possible System Overload Scenarios

Provide the following information if the stream is overloaded:

- 2.5.8.3.1.1. Estimated volume of system overload (i.e. what rainfall overloads the system)
- 2.5.8.3.1.2. Estimated frequency of system overload (i.e. how often will the system be overloaded)
- 2.5.8.3.1.3. Actions taken if stream is to be overloaded

2.5.8.4. Impacts of System Overload on Construction Activities and Water Quality

List and describe:

- 2.5.8.4.1.1. Anticipated number of lost work days
- 2.5.8.4.1.2. Possible water quality impacts
- 2.5.8.4.1.3. Methods of deterring adverse changes in water quality

2.5.8.5. Water Discharge Locations

Provide the following:

- 2.5.8.5.1.1. Where water will be discharged
- 2.5.8.5.1.2. How water will be discharged

2.5.8.5.1.3. A site map indicating discharge locations

2.5.8.6. Details of a Back-up System

If a back-up system becomes necessary, indicate:

- 2.5.8.6.1.1. What type of back-up system will be used (include backup and standby equipment/power supply)
- 2.5.8.6.1.2. Conditions when the system will be needed
- 2.5.8.6.1.3. How the back-up system will operate
- 2.5.8.6.1.4. Where the back-up system will be located

2.5.8.7. High Flow Plan

When flooding is likely to occur, list and describe the following:

- 2.5.8.7.1.1. How the water will be removed from the site
- 2.5.8.7.1.2. Methods of water removal (e.g. pumping)
- 2.5.8.7.1.3. Methods of minimizing water contamination (e.g. treatment methods)
- 2.5.8.7.1.4. Protocol for evacuating materials from the flood conveyance channel including:
 - 2.5.8.7.1.4.1. List of materials that would require evacuation during high flow periods
 - 2.5.8.7.1.4.2. How will the materials be evacuated from the flood conveyance channel
 - 2.5.8.7.1.4.3. Where will the materials be temporarily placed on-site
 - 2.5.8.7.1.4.4. How will the materials be transported
 - 2.5.8.7.1.4.5. Methods of protecting the materials
 - 2.5.8.7.1.4.6. Include a site map indicating the location of temporary placement
- 2.5.8.7.1.5. Protocol for evacuating machinery from the flood conveyance channel including:
 - 2.5.8.7.1.5.1. Type of machinery that would require evacuation during high flow periods
 - 2.5.8.7.1.5.2. How will the machinery be evacuated from the flood conveyance channel
 - 2.5.8.7.1.5.3. Where will the machinery be temporarily placed on-site
 - 2.5.8.7.1.5.4. Include site map indicating possible locations of temporary machinery placement

2.5.8.8. Contaminated Water

List and describe what measures will be taken if contaminated water is found on site including:

- 2.5.8.8.1.1. Methods of isolating the contaminated water
- 2.5.8.8.1.2. Methods of analyzing the contaminated water
- 2.5.8.8.1.3. Where the water will be tested
- 2.5.8.8.1.4. Methods of removing contaminated water from site
- 2.5.8.8.1.5. How the water will be treated and disposed

2.6 SUBSTATION INFORMATION

If the project includes the construction of a substation or modifications to an existing substation, provide the following information:

- 2.6.1. Drawing or diagram showing the location, dimensions (in feet and acres), and layout of any new substation or proposed additions to an existing substation. Recent aerial photography and digital aerial photos of the substation site, suitable for use on the PSC's GIS platform. (See Important notes on digital forms of maps and diagrams Page 4)
- 2.6.2. Size (in acres) of the land purchase required and orientation of the substation within the purchase parcel.
- 2.6.3. Details on any proposed landscaping.
- 2.6.4. Plat and topographic maps showing the location of the substation.
- 2.6.5. Location of all power lines entering and leaving the substation. Show details on any turning structures that might impact adjacent land owners (size, type of structure, guying, etc.). Description of additional transmission lines at same location to accommodate future generation additions.
- 2.6.6. Details on any access roads required (width, length, location, etc.).
- 2.6.7. Construction procedures including erosion control techniques (see section 2.56).
- 2.6.8. General environmental information including:
 - 2.6.8.1. **Land use and zoning.**
 - 2.6.8.1.1. Identify current land use at and surrounding the substation site.
 - 2.6.8.1.2. Identify the existing zoning for the proposed expansion or new substation. Include zoning within at least a ½ mile radius of the project site.
 - 2.6.8.2. **Impacts to agriculture** – include type of agriculture practiced on parcel, amount of farmland lost, and impacts to farming operations.
 - 2.6.8.3. **Impacts to forest lands** – include type of woodland, dominant species, age, ownership (private, county forest etc).
 - 2.6.8.4. **Endangered, Threatened, and Special Concern Species:** Identify endangered, threatened, and special concern species or important or valuable natural communities potentially affected by the proposed substation project. Include the results of the endangered resources review by the DNR Office of Energy conservation biologist. The filing of this information should comply with applicable DNR and PSC confidentiality requirements.

- 2.6.8.5. **Archeological and Historic Resources:** Provide a list of all historic and archeological sites potentially affected by the proposed project. List also each county, town, range, section and $\frac{1}{4}$, $\frac{1}{4}$ section in which construction would occur. For each archeological or historical resource identified, describe how the proposed project could be modified to reduce or eliminate any potential effect on the resource. Modifications to the proposed project could include route changes and construction practices. If after consultation with the WHS and PSC staff, the work of a qualified archeologist is required, reference the archeologist's report in the application.
- 2.6.8.6. Identify whether site construction would affect any waterways. In addition, identify which of these waterways are classified by the DNR as Outstanding and Exceptional Resource Waters.
- 2.6.8.7. If site construction would affect any wetland then provide:
 - 2.6.8.7.1. A map of the proposed facility and wetland boundary delineations using all forms and information required by and in accordance with the January 1987 Technical Report Y-87-1 entitled, "Corps of Engineers Wetland Delineation Manual," including relevant guidance documents.
 - 2.6.8.7.2. A description of the wetland type using the Wisconsin Wetland Inventory (WWI) classification, and wetland type identified by plant community type (shallow open water, deep marsh, shallow marsh, seasonally flooded basin, bog, floodplain forest, alder thicket, sedge meadow, coniferous swamp, calcareous fen, wet meadow shrub-carr, low prairie, hardwood swamp).
 - 2.6.8.7.3. List the presence or absence of invasive species noting whether they are dominant.
 - 2.6.8.7.4. Determine if any wetlands affected in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code):
 - 2.6.8.7.4.1. Cold Water Community as defined in § NR 102.04(3)(a), Wis. Adm. Code, including trout streams, their tributaries, and trout lakes.
 - 2.6.8.7.4.2. Lakes Michigan and Superior and the Mississippi River.
 - 2.6.8.7.4.3. State- or federally-designated Wild and Scenic River.
 - 2.6.8.7.4.4. State-designated riverway.
 - 2.6.8.7.4.5. State-designated scenic urban waterway.
 - 2.6.8.7.4.6. Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advanced delineation and identification study.
 - 2.6.8.7.4.7. Calcareous fen.
 - 2.6.8.7.4.8. State park, forest, trail or recreation area.

- 2.6.8.7.4.9. State and federal fish and wildlife refuges and fish and wildlife management area.
- 2.6.8.7.4.10. State- or federally-designated wilderness area.
- 2.6.8.7.4.11. State-designated or dedicated natural area (SNA).
- 2.6.8.7.4.12. Wild rice water listed in § NR 19.09, Wis. Adm. Code.

2.7 EMF INFORMATION

PSC staff will review and conduct a check of EMF calculations in order to verify that the EMF estimates in the application are reasonable. The applicant will be required to re-file calculations that are deemed incorrect.

2.7.1. Transmission line EMF

- 2.7.1.1. Identify existing electric distribution facilities and distribution lines that can potentially be underbuilt on the transmission line.

- 2.7.1.2. **For new transmission lines:**

Provide detailed EMF profiles in table format for each structure type under consideration. (Do not submit EMF profiles for every individual transmission structure.) If a transmission line design requires changes in structure type then submit one profile for each type. For example, in an application where the transmission design calls for a single-pole single-circuit structure in one location and a single-circuit H-Frame or a single-pole double-circuit structure in another location, the applicant will submit two EMF profiles: one profile for the single-pole single-circuit structure and another for the H-Frame or double-circuit design, whichever applies.

- 2.7.1.3. **For rebuilding or reconductoring existing transmission lines or where the proposed line will be double-circuited with an existing line:**

Provide an EMF profile of the existing line, as described in Section 2.7.1.2, and another profile estimating the EMF with the proposed project in place.

- 2.7.1.4. For **all** (present day and future) EMF estimates provide the following information (See also Table 6).

- 2.7.1.4.1. EMF estimates of new lines for anticipated normal load (normal load is defined as 80 percent of peak load - system normal), and peak load (100 percent peak load - system normal). Estimated load in amps for each load level.
- 2.7.1.4.2. EMF estimates (resultant field only) in milligauss (mG) for 1 meter above the ground, and at 0 feet (centerline at mid-span), 25 feet, 50 feet, 100 feet,

150 feet, 200 feet, and 300 feet either side of the line (highest number only). Report EMF estimates in table format at the distances shown above (see Table 5).

- 2.7.1.4.2.1. EMF estimates for the first year of operation, and at 10 years into the future (i.e. 2006 and 2016). For existing lines, an EMF estimate using present day loading as described in I and II above is also required.
- 2.7.1.5. Provide all assumptions used to model the EMF levels including:
 - 2.7.1.5.1. Phase angles.
 - 2.7.1.5.2. Pole design diagram showing dimensions of pole arms and conductor locations. Show conductor horizontal distance from pole and conductor distance from ground at the structure.
 - 2.7.1.5.3. Height of lowest conductor(s) at mid-span.
- 2.7.2. Existing substations. For existing substations affected by new generation and/or transmission lines, provide EMF measurements around the perimeter and within the substation on a diagram of the substation including:
 - 2.7.2.1. Readings at each corner and mid-way along each fence. Additional readings outward from each fence reading at 25-foot intervals out to 100 feet from the substation.
 - 2.7.2.2. Readings at the fence where overhead and underground lines enter and leave the substation. (Only one reading at the fence is necessary.)
 - 2.7.2.3. For substations associated with a generation project, an analysis of how the new generation source will affect the current flow on the lines and what the anticipated EMF changes will be.
- 2.7.3. New power plants requiring no transmission line additions. Provide an analysis to show how the new generation source will affect the current flow on the existing transmission system. Show how the change in current flow on the transmission lines, the project is connected to, will change the EMF produced by these lines.

2.8 DNR PERMITS AND APPROVALS

- 2.8.1. If the project will impact waterways or wetlands, fill out the joint state-federal permit application Form 3500-53.

<http://www.dnr.state.wi.us/org/water/fhp/waterway/permits/pack09a.pdf>

Use the enclosed Table 5 as discussed in 2.4.12 as a supplement to Form 3500-53. Use Table 5A to determine the cost of the activity to insert into Table 5. Mark the appropriate fee according to the fee sheet in Table 5, total the amount and submit the

check made out to the WDNR with the application.

- 2.8.2. Practicable alternatives analysis: Chapter NR 103, Wis. Admin. Code, Water Quality Standards for Wetlands, requires the applicant to demonstrate that all practicable alternatives to avoid and minimize wetland impacts have been considered. The term “practicable” is defined in the administrative code as, “... available and capable of being implemented after taking into consideration cost, available technology and logistics in light of the overall project purposes.” The following is more detailed guidance on the practicable alternatives analysis.
 - 2.8.2.1. Describe how wetlands were factored into the corridor and route selection process. If the project involves a substation, describe how the substation siting process considered wetlands.
 - 2.8.2.2. Describe how the design of proposed route avoids and minimizes wetland impacts including consideration for locating structures outside wetlands and such that access can avoid or minimize wetland impacts. For proposed substations that will impact wetlands, provide documentation of costs, technological constraints and logistical reasons why other sites or other site configurations are not practicable to avoid and minimize wetland impacts.
 - 2.8.2.3. If wetland impacts cannot be avoided, describe the construction and restoration methods that are planned to minimize wetland impacts.
- 2.8.3. Storm Water Management Permit: If the project will involve land disturbance in excess of 1 acre, Chapter NR216, Wis. Adm. Code requires the applicant to obtain a Construction Site Erosion Control and Storm Water Discharge Permit. This permit may also authorize construction site pit and trench dewatering wastewater discharges to surface waters or seepage systems.
- 2.8.4. Based on the endangered resources analysis completed by the DNR Office of Energy Conservation Biologist, as described in Sections 2.4.7 and 2.6.8.4 above, indicate whether an Endangered/Threatened Species Incidental Take authorization is required pursuant to Wis. Stat. §29.604. If an authorization is required, provide a copy of the authorization or indication of its status. If the determination has not yet been made, indicate the status of that determination including a detailed description of the information that needs to be provided to the DNR Office of Energy to make that determination (e.g., habitat assessment, species surveys, etc.).

2.9 OTHER AGENCY CORRESPONDENCE

- 2.9.1. Copies of the applicant’s correspondence to other state, federal, and local government agencies.

2.9.2. Copies of agency responses to the applicant's inquiries regarding the project.⁶

Including:

- 2.9.2.1. Wisconsin Department of Transportation
- 2.9.2.2. Department of Agriculture, Trade, and Consumer Protection (Agricultural Impact Statement)
- 2.9.2.3. Wisconsin Historical Society

2.9.3. Permits (noting federal permits that are administered by the state)

- 2.9.3.1. List local zoning permits: variances, zoning changes required, etc. List city or local permits for construction activities (road or highway department).
- 2.9.3.2. Federal permits of any kind relating to the project, i.e. Army Corps, Federal Energy Regulatory Commission (FERC), etc.
- 2.9.3.3. Any other permits that might apply.

2.10 PROPERTY OWNER INFORMATION

2.10.1. Separate alphabetized lists (in Microsoft Excel or compatible program) for each of the groups described below.

- 2.10.1.1. Property owners along each transmission line route including property owners on both sides of streets, roads, or other corridors, as well as adjacent landowners on cross-country portions and property owners adjacent to any substation included in the project.
- 2.10.1.2. Public property, such as schools or other government land.
- 2.10.1.3. Clerks of cities, villages, townships, counties, and Regional Planning Commissions (RPC) affected.
- 2.10.1.4. State and federal agencies with which the applicant is working, and local media who have been informed about the project. (For local media, include at least one print and one broadcast).

⁶ You must continue to provide the PSC with copies of all correspondence including communications that occurs after your application is submitted. This does not include telephone conversation logs.

