Joint Application For

PSCW Certificate of Authority

and

WDNR Utility Permit

Paris-Albers Rebuild Project

PSCW Docket No. 137-CE-174

February 2014

SECTION **PAGE**

A	Ampere (Amp)
ACSR	Aluminum Conductor Steel Reinforced
ASNRI	Areas of Special Natural Resource Interest
ATC	American Transmission Company
BMPs	Best Management Practices
CPCN	Certificate of Public Convenience and Necessity
Commission	Public Service Commission of Wisconsin
CWA	Clean Water Act
DATCP	Department of Agriculture, Trade and Consumer Protection
dbh	Diameter at Breast Height
EMF	Electromagnetic Field
EHS	Extra High Strength
ER	Endangered Resource
FAA	Federal Aviation Agency
FCL	Forest Crop Law
FPP	Farmland Preservation Program
GIS	Geographic Information Systems
GPS	Global Positioning System
I-[Number]	United States Interstate Highway
kA	Kilo ampere
kcmil	Kilo circular mils
kV	Kilovolt
MFL	Managed Forest Law
MVA	Megavolt amperes
NHI	Natural Heritage Inventory
OHWM	Ordinary High Water Mark
OPGW	Optical ground wire
PSCW	Public Service Commission of Wisconsin (Commission)
RMS	Root mean square
ROW	Right-of-way
TCSB	Temporary clear span bridge
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
WisDOT	Wisconsin Department of Transportation
WDNR	Wisconsin Department of Natural Resources

WNHI	Wisconsin Natural Heritage Inventory
WPDES	Wisconsin Pollution Discharge Elimination System
WROC	Wisconsin Regional Orthophotography Consortium
WWI	Wisconsin Wetland Inventory

JOINT APPLICATION FOR PSCW CERTIFICATE OF AUTHORITY AND WDNR UTILITY PERMIT

This Joint Application has been prepared in accordance with the Public Service Commission of Wisconsin (PSCW or Commission) and Wisconsin Department of Natural Resources (WDNR or Department) *Application Filing Requirements for Transmission Line Projects in Wisconsin*, Version August 2013, and the *Application Filing Requirements for Substation Projects in Wisconsin*, Version August 2013 (together the Application Filing Requirements).

1.0 PROJECT OVERVIEW

American Transmission Company LLC and ATC Management Inc., its corporate manager, known collectively as American Transmission Company (ATC or Applicant), a Wisconsin public utility, is proposing the Paris-Albers Rebuild Project (Project). The Project involves the replacement of structures and conductor on ATC's existing 138 kV transmission line between the Paris Substation southeast of Union Grove in the town of Paris, through the towns of Paris and Somers to the Albers Substation in the city of Kenosha, all in Kenosha County, at a cost of approximately $11.5 million as set forth in further detail below. The proposed facilities are needed to address deteriorating structures, which are reaching the end of their useful life, and to upgrade the conductor and associated facilities for anticipated future load growth. If approved by the Commission, construction is expected to commence in September 2014 with the transmission line placed in service in March 2015.

1.1 Owners and Investors

ATC is headquartered at W234 N2000 Ridgeview Parkway Court, Waukesha, Wisconsin 53188.

ATC owns and operates transmission facilities and transacts business as a transmission company with the sole purpose of planning, constructing, operating, and maintaining transmission facilities to provide electric transmission service. ATC is obligated to provide adequate and reliable energy transmission service that meets the needs of all transmission users in the areas it serves and that support effective competition in energy markets without favoring any market participant. The facilities proposed for construction in this application will be 100% owned by ATC.

1.2 Contracts and Agreements

There are no contractual agreements related to this project between ATC and any developer to construct, finance, lease, use or own the proposed transmission facilities.

1.3 Project Location and Endpoints

The Paris-Albers 138 kV transmission line (circuit 3124) originates at the Paris Substation in the town of Paris and proceeds generally east and south through the towns of Paris and Somers to the Albers Substation in the city of Kenosha, all in Kenosha County.

1.4 PSCW and WDNR Review

Pursuant to the requirements of Wis. Stat. §§ 1.12, 196.025, 196.49 and 196.491, and Wis. Admin. Code chs. PSC 4, and 112, ATC hereby applies (Joint Application) to the Commission for a Certificate of Authority (CA) together with any other authorization needed to construct the proposed project.

The proposed project rebuilds an existing 138 kV transmission line, greater than one mile in length within the existing ROW. ATC has determined that the project meets the exemption requirements of Wis. Stat. § 196.491(4)(c)1m and that a Certificate of Public Convenience and Necessity is not required for the project. The estimated cost of the project, approximately $11.5 million, exceeds the limits specified in Wis. Stat. § 196.49(5g). Therefore, the project requires a Certificate of Authority in accordance with Wis. Stat. § 196.49(3).

The Project is categorized as a Type III action pursuant to Wis. Admin. Code § PSC 4.10. ATC believes it will not have the potential to significantly affect the quality of the human environment. Information necessary for evaluation of the project and preparation of an Environmental Assessment, should the evaluation determine that one is necessary, is provided as part of this Joint Application.

Through this Joint Application and pursuant to Wis. Stat. ch. 283 and §§ 30.025(1s), 30.12, 30.123 and 281.36, and Wis. Admin. Code chs. NR 103, 216, 299, 320 and 329, ATC hereby applies to the WDNR for a Utility Permit covering the permits and authorizations necessary to construct the proposed Project listed in Section 8.0.

By this filing, ATC is confirming its understanding that through the pre-application process provided for in Wis. Stat. § 30.025(1m) the WDNR, the PSCW, and ATC have conferred and made a preliminary assessment of the Project's scope and alternatives and have identified potentially interested persons. ATC has also been made aware, in accordance with Wis. Stat. §§ 30.025(1m)(b) & (c), of the information that it is required to provide and the required timing for the information submissions.

The Project is not contingent upon or part of a project under another docket number.

1.5 Project Overview and Project Area Information

1.5.1 Location of Route and Associated Facilities

The Paris-Albers 138 kV transmission line (circuit 3124) is approximately 12.5 miles long. The line originates at the Paris Substation in the town of Paris, proceeding east and south through the towns of Paris and Somers to the Albers Substation in the city of Kenosha. A map of the proposed project is provided in Appendix A, Figure 1.

1.5.2 Footprint of Associated Facilities

The transmission line terminates at the existing bus positions in the Paris and Albers substations.

1.5.3 Generalized Geology, Topography, Land Cover and Land Use

Geology and Topography. Wisconsin has been divided into five natural geological regions, with three considered to be upland areas, and two being lowland. The general boundaries of the areas were predominantly established based upon the type of the underlying bedrock. The Eastern Ridges and Lowlands region encompasses the Project area within Kenosha County.

The area of the Eastern Ridges and Lowlands encompassing the Project area is characterized by level to gently rolling ground moraine landforms of upland ridges or hills with a gentle slope on one side and a steeper face on the other. These upland ridges are referred to as cuestas and lowland areas are referred to as vales. The easternmost part of the region, encompassing Kenosha County, is dominated by the Niagara Cuesta, which is approximately 25 to 45 miles wide between Milwaukee and the Illinois border. Within the Kenosha County area, the Niagara Cuesta is a relatively inconspicuous topographic feature with only moderate topographic relief. Bedrock of the area consists of Niagara limestone 450 to 800 feet thick. Southeastern Wisconsin was significantly affected by past glaciation. Glacial processes created moraines, drumlins, and outwash deposits resulting in broad rolling topography. The thickness of these features can range from a few feet on hilltops to a few hundred feet in lowlands.

Land Cover and Land Use. The Project area lies within the Kettle Moraines and Chiwaukee Prairie ecoregions. The Kettle Moraines ecoregion encompasses the western half of Kenosha County, with the Chiwaukee Prairie region encompassing the eastern half of the county.

The Kettle Moraines region contains numerous ground and end moraines, as well as outwash plains containing hilly moraines. Much of the area has been converted to agricultural uses; however, the region supports a variety of vegetation types as it represents a transitional area between historical hardwood forests and oak savannas to the west and tall-grass prairies to the south.

The Chiwaukee Prairie region was historically tall-grass prairie, resulting in fertile, productive soils. Due to the nature of the soils and relatively level topography, much of the region has been converted to agricultural uses. Much of the current land use remains in agriculture, with increasing amounts of urban development.

1.5.4 Special or Unique Natural or Cultural Resources

No special or unique natural resources, including WDNR managed lands, Important Bird Areas, and wildlife areas have been identified within the Project srea. No special or unique cultural resources have been identified as the result of the archaeological and historic site investigations.

1.5.5 Residential Concentrations and Urban Centers

Land use within the Project area is dominated by agriculture. Residential concentrations and urban centers within the Project area include the city of Kenosha located at the eastern end of the Project area.

1.5.6 Transmission Configuration

Generally, the proposed project will rebuild a single-circuit, 138 kV transmission line, primarily on wood H-Frame structures. See Appendix C figures for typical structure drawings. The existing "Hawk" conductor (477.0 kcmil 26/7 ACSR) will be replaced with twisted pair "Hawk" conductor (2-477.0 kcmil 26/7 ACSR). The existing "Leghorn" shield wires (134.6 kcmil 12/7 ACSR) will be replaced with one 7/16-inch EHS (Extra High Strength) Steel shield wire and one 24-fiber optical ground wire (OPGW). Additional detail on the transmission line configuration can be found in Section 5.3.

1.5.7 Project Right-of-Way (ROW)

The proposed project will re-construct the line wholly within the existing transmission line ROW. The existing transmission line ROW is 100 feet wide.

1.5.8 Substation Information

No new or expanded substations are associated with this Project. All modifications taking place are within the substations' existing footprints. The modifications per substation are:

Paris Substation

To support the required line ratings, bus tie 5-6 breaker will be replaced. The circuit breaker will be replaced with a 3000 A, 40 kA gas circuit breaker and placed on the existing breaker foundation. Associated jumpers will be replaced as necessary to support the required line ratings.

Albers Substation

Associated jumpers will be replaced as necessary to support the required line ratings.

1.6 Other Agency Correspondence, Permits and Approvals

1.6.1 Agency Correspondence

A copy of ATC correspondence with government agencies concerning the Project is included in Appendix H. The governmental agencies include the Kenosha Department of Planning and Development.

1.6.2 State and Federal Permits/Approvals Required

All state and federal permits and approvals required for this project and their status are listed in the tables below. Activities affecting navigable waters require permits or approval from the USACE and the WDNR. The United States Army Corps of Engineers (USACE) requires a permit under Section 404 of the CWA to place fill into waters of the

United States, which includes connected wetlands and tributaries to navigable waters of the United States. Activities affecting state-navigable waters require permits or approval from the WDNR. The WDNR permits and approvals are further discussed in Section 8.0. Consultation with the USFWS is required for federally-listed species and is further discussed in Sections 6.6.

Federal Agencies			
Agency	**Activity**	**Permit Type**	**Status**
U.S. Army Corps of Engineers (USACE)	Wetland Impacts	Section 404 of the Clean Water Act	This project will likely qualify for a General Permit. ATC will coordinate with the USACE prior to starting the Project.
	Archaeological Review	Section 106 National Historic Preservation Act	Investigations are complete. No further work recommended. ATC will provide results to USACE.
Federal Aviation Administration	Construction of Electric Transmission Lines Near Airports	FAA 7460 (Notification)	As part of final design.
United States Fish and Wildlife Service (USFWS)	Federally listed rare species review	Endangered Species Act	ATC has conducted a review of rare species in the Project area and will continue to coordinate with the agency as applicable.

State Agencies			
Agency	**Activity**	**Permit Type**	**Status**
Department of Transportation (WisDOT)	Road Crossing	Design Approval	Form DT-1553 will be submitted prior to construction.
	Construction adjacent to, with-in, or co-location with the ROW of State Highways & Roads	Utility Permit DT 1553	
	Oversize Loads or	Wis. Stat. ch. 348	Construction has not

State Agencies			
Agency	**Activity**	**Permit Type**	**Status**
	Excessive Weights on Highways	Vehicles – Size, Weight and Load; Wis. Stat. § 348.25-Vehicle Weight and/ or Load Permit	identified oversize loads or weights. Applicant will apply for necessary permits if conditions change.
Wisconsin Historical Society	Site Preparation and Grading	Approval of Archaeological Surveys (Wis. Stat. § 44.40 and Section 106 of National Historic Preservation Act)	Investigations complete. No further work recommended. The report is provided in Appendix I, Exhibit 1 for State approval.
WDNR	See Section 8.0	Utility Permit	Being applied for with this Joint Application to the PSCW.

1.6.3 Local Permits

In addition to the approvals and permits issued by state agencies, the necessity of seeking local approvals for this utility construction project is governed by Wis. Stat. §§ 196.491(3)(i) and 196.491(4)(c). ATC works with all local units of government to assure that the representatives of those units of government affected by ATC's proposed construction projects are informed concerning ATC's proposed construction activities.

ATC applies for those permits and other authorizations governed by local ordinances (county, town, village or city) that involve matters of public safety. Because the ordinances of the local units of government vary, each construction project may involve different local permits or authorizations. The public safety-related permits or authorizations that ATC applies for generally include road crossing permits, road weight limits, noise abatement ordinances (usually involving hours or times of construction), building permits (for such construction as control houses), and other similar public safety concerns for which permits or authorizations may be required by local ordinance.

Local ordinances also often address siting and location issues for the construction of utility facilities or land use issues including recreational uses and aesthetics. These types of authorizations would require conditional use permits, zoning permits or variances, which often involve quasi-judicial proceedings and the exercise of discretion on the part of the local unit of government on whether the authorization or permit may be granted. Because the Commission's statutory obligation is to address

the siting of proposed utility facilities, and to address land use, recreational use and aesthetics in the siting and route selection for transmission lines, ATC does not apply for these types of permits or authorizations. However, ATC does supply the involved local governments with information and requests the local unit of government provide the PSCW and ATC with its comments or concerns regarding the siting and location of the proposed project.

No local zoning-related permits would be required absent the exemption provisions of Wis. Stat. § 196.491(4)(c). Kenosha County Shoreland Zoning and Erosion Control Permits are not required because the project is considered maintenance of an existing transmission line within the bounds of the existing route and ROW. See Appendix H, Exhibit 1, for documentation of discussions with Kenosha County authorities.

1.6.4 Railroad

The existing transmission line crosses the Canadian Pacific and Union Pacific railroads one time each but does not otherwise share or parallel railroad ROW. The rebuilt line will cross at the same locations.

1.6.5 Pipeline

The transmission line does not share or cross any pipeline ROW.

1.6.6 Wisconsin DOT ROWs

The existing transmission line crosses I-94 and STH 31 one time each but does not otherwise share or parallel state or interstate highway ROW. The rebuilt line will cross at the same locations.

1.7 Construction Schedule

ATC anticipates constructing the Project according to the following schedule:

Project Activity	Preliminary Date
Joint PSCW CA and WDNR Utility Permit Application Submittal	February 2014
PSCW CPCN Approval - Anticipated	July 2014
WDNR Utility Permit Issuance - Anticipated	30 Days after PSCW Order
Start Transmission Line Construction	September 2014
Start Substation Construction	December 2014
Project In-Service	March 2015

ATC has not identified any specific seasonal construction constraints at this time. However, some specific construction activities are dependent on obtaining required line outages on

transmission and distribution lines that are owned by multiple entities or may only be accomplished during specific generating unit outages. Therefore, these schedules are dependent on the availability of outages.

Possible transmission constraints could arise during high load periods with a planned construction start date in September 2014. High load periods due to hot weather combined with summer line ratings could cause constraints in the Project area. Generation at the Paris generating plant would be limited due to this line outage if all units were called for full output in 2015. Two of the units at this plant are not available until January 1, 2015, so there would be no limitation until that time period.

1.8 Project Maps

Consistent with the Application Filing Requirements, a set of Project maps is provided in Appendix A, Figures 1 through 6. The maps showing the transmission line route and other Project data are provided on aerial photographs and include Environmental, Parcel, Land Use, and Existing Utility/Infrastructure data. Also included is environmental information required to support WDNR permitting activities. ATC is providing separately to the Commission, in electronic format on disc, Geographic Information System (GIS) data files supporting the mapping.

1.9 ESRI ArcGIS Data Files

All Project maps were created using ESRI ArcGIS Version 10.1. A spreadsheet of each GIS file, including the description of the data, the data source, and the date of when the data was generated or collected is provided on the data disc with the GIS data files.

1.10 Mailing Lists

As discussed and agreed to between ATC and Commission staff, mailing lists are being provided separately on disc for:

- All affected private and public landowners along and adjacent to the transmission line centerline and properties on both sides of a street;
- Kenosha County, city of Kenosha, and town of Somers and Paris municipal clerks;
- Chief executive officers of Kenosha County, city of Kenosha, and towns of Somers and Albers;
- The appropriate Regional Planning Commission;
- Applicable state and federal agencies; and
- Local print and broadcast media that have been informed about the Project.

Project communications with landowners were initially based on tax roll and spatial data acquired from Kenosha County. ATC requested data through the county's land information office. Some of the data was supplied in a spatial format that allowed ATC to query parcels in certain proximity to the proposed routes.

Each county in the state performs parcel updates differently and with varying regularity. Some county data will be quite current upon delivery while other counties may only update their information quarterly or annually. The parcel updates performed by local governments include, but are not limited to, parcel splits, annexations and newly created parcels that may result in new right-of-way impacts on landowners. Based on this variability of data from government sources, owner contact information throughout our outreach process may be incomplete or inaccurate. Whenever possible, returned mail from project communications are tracked and the affected parcel records for these individuals are searched for more current information. Parcel information is also updated when feedback is provided to the Applicants from landowners or from another third party.

New parcel data is requested strategically (and subsequently data records are refreshed) throughout the life of a project in an attempt to utilize the latest information that is publicly available for project outreach. It is important to keep in mind that parcel ownership continually changes—thus no data set can ever be considered 100% accurate.

2.0 PROJECT NEED AND ENGINEERING

Project Need

This is an asset renewal driven project with ampacity needs to provide operating flexibility. The existing 138 kV Line 3124 has wood H-Frame structures that are deteriorating and approaching the end of their useful life. The transmission line was constructed in 1947. The average wood pole age is 54 years.

The latest ground line inspection, performed in 2005, identified that the majority of the wood structures on the transmission line are approaching the end of their useful life. The ground line inspection categorized on average approximately 31% of the structures as either rejected or decayed/damaged and needing replacement. Several wood poles have been re-enforced or replaced in the recent past. In 1999 approximately fifteen wood poles were braced with wood stub poles.

Walking patrols in 2007 and 2011, identified several rotten pole tops, and weathered, cracked or otherwise damaged cross arms. The poor condition of the Paris-Albers transmission line requires the line to be rebuilt in order to continue safe and reliable operation.

ATC has strived to maintain these old wood H-Frame structures, and the performance of the Paris-Albers line has been good, but the physical condition suggests that a downturn in the line's reliability can be expected if the line is not rebuilt in the near future. Pictures of representative structures illustrating structure degradation and interim measures taken to maintain structure reliability are provided in Appendix D, Exhibit 1.

Because there is a continued need for the line and the entire line needs to be rebuilt due to the asset renewal needs, ATC performed an analysis to determine if the existing conductors were adequate to handle expected future flows. The analysis determined the Paris-Albers 138 kV line with its existing conductor can be expected to exceed its emergency rating under a number of multiple outage conditions. The analysis concluded that the transmission line should be uprated to be capable of at least 380 MVA (1593 A) under emergency conditions for all four seasons. The Planning Support Document (found in Appendix D, Exhibit 2) describes the process used to determine the minimum required rating for the Paris-Albers transmission line. While the line conductor is not in urgent need of replacement, it should be replaced as part of the line rebuild to provide future operating flexibility and to accommodate the higher ratings as specified by the Planning Support Document.

With the rebuild, ATC will replace one of the shield wires with 24-fiber Optical Ground Wire (OPGW) to support ATC's protective relaying and communication needs.

2.1 Area Load Information

While the need for the Project is driven by asset renewal, it was appropriate for ATC to identify the required target rating and operating voltage for the Project. To do this, ATC identified the study area for identifying the minimum target ratings as Kenosha and Racine Counties. The historical loads for the We Energies distribution substations located in these two counties and interconnected to the ATC transmission system are shown in Appendix E

of the Planning Support Document provided in Appendix D, Exhibit 2, of this Joint Application. The load forecast used by ATC can be found in Appendix E of the Planning Support Document (Appendix D, Exhibit 2).

2.2 Modeling Information

Section 3 of the Planning Support Document provides a discussion of the load flow models used for the minimum target rating analysis. Data files containing power flow modeling information supporting the Project are being provided separately at the Commission staff's request, with a request for confidentiality.

2.3 Transmission System Alternative Studies

ATC considered two system alternatives to address the Project need:

Alternative 1 (the proposed Project) covers the required rebuild needs of the entire 138 kV line between the Paris and Albers substations based on condition, safety and reliability, ATC Planning and Operations rating needs as well as Information Technology and Protection needs. This is the only feasible system alternative. The minimum required ratings were determined to be 1230/1593A (normal/emergency) for all seasons. Section 3.1.3 of the Planning Support Document describes how the required ratings were determined.

Alternative 2 would have ATC continue to perform periodic maintenance on the line as necessary, essentially a "do nothing" alternative. This alternative is not feasible due to the condition of the wood poles and the continued need for the transmission line. In addition, it does not address the future ampacity requirements needed to provide operating flexibility for system outage conditions. The line also does not have the OPGW ATC needs for information technology and system protection.

2.4 No-build Options

Rather than rebuild the Paris-Albers 138 kV line, an option that was considered was removing the line entirely. This option was discarded for two reasons. The first reason is that the Paris-Albers 138 kV line is one of three outlet lines for generation at Paris. There are four electric generators located at Paris. Each unit is capable of generating 88 megawatts. It is desirable to have multiple outlet lines to accommodate potential contingency and line maintenance outage conditions. The second reason for keeping the Paris-Albers line is that We Energies plans to construct a new distribution substation known as Berryville. The substation will be interconnected to the Paris-Albers 138 kV line and is expected to be placed in service in 2017.

An additional option would be to continue the maintenance of the existing line. Since the transmission line is nearing the end of its useful life, ATC could respond to actual or imminent structure and related facility issues as they occur. However, this option was dismissed because it negatively impacts line reliability.

2.5 Energy Conservation and Efficiency, and Demand Response

Reducing line load through implementation of additional conservation and efficiency measures will not remove the asset renewal needs. Section 2.4 describes why the line cannot be removed from service. However, the 2009 and 2012 load forecasts provided by We Energies include the energy conservation and efficiency impacts they have accounted for in their resource planning and in future load projections.

2.6 Non-transmission Alternatives

This Project is driven by asset renewal needs based on deteriorating wood H-Frame structures as well as a future operating flexibility requiring a higher line rating. The only potential non-transmission solutions in and near Racine and Kenosha counties are existing generators at Paris. The Paris-Albers 138 kV line is one of the three outlet lines for the four natural gas generators at Paris. While adjusting the output of the Paris generators can affect the flow on the Paris-Albers 138 kV line, it will not resolve the deteriorated condition of the line's wood poles and conductor.

2.7 Market Efficiency Projects

This is an asset renewal driven project with ampacity needs to provide operating flexibility. As discussed in Section 2.4, removing the line is not an option. No market efficiency study was performed because of the reliability need for the line and the project.

2.8 Transmission Network Alternatives

2.8.1 Relevant Regional Studies

This is an asset renewal driven project with ampacity needs to provide operating flexibility. Construction of other regional projects does not eliminate the need to rebuild the Paris-Albers 138 kV line due to its deteriorated condition.

2.8.2 Reliability and Performance Benefits

The line is needed for reliability reasons as described in Section 2.4.

2.8.3 Electrical Losses

The line will be rebuilt with a larger conductor. While a loss analysis was not performed, it is expected the system losses could be reduced slightly.

2.8.4 Generator Interconnection Studies

This Joint Application does not include a generator interconnection. Therefore, these studies are not applicable.

2.8.5 New Distribution Substations

This Application does not include a new distribution substation. However, the chosen line rating will reliably serve a planned We Energies distribution interconnection in 2017.

2.8.6 Files

As stated in Section 2.2, data files supporting the Project Scoping Document are being provided separately on disc with a request for confidentiality.

2.9 Local Transmission Level Alternatives

This is an asset renewal driven project with ampacity needs to provide operating flexibility. Adding capacitors or using operating guides will not resolve the condition issues associated with the Paris-Albers 138 kV line. The only option that will resolve the condition issues is rebuilding the line.

2.10 Regional Transmission Organization Information

This is not a regional project. ATC provides transmission service under the terms of the Open Access Transmission and Energy Markets Tariff (OATT), which is administered by the Midcontinent Independent System Operator (MISO).

3.0 MAGNETIC FIELDS

ATC recognizes concerns expressed by stakeholders regarding exposure to transmission line magnetic fields. Along with the energy industry, ATC continues to monitor developments on this issue. While studies of magnetic fields have produced little conclusive data regarding health effects, scientists generally agree that the studies taken as a whole show no consistent association between exposure and health risks.

As demonstrated by the information provided in this section, magnetic field levels decrease rapidly as distance from the proposed transmission line increases. Recognizing that distance is the principal means of mitigating magnetic field exposure from transmission lines, ATC proposes transmission line routes and line designs that to the extent practical, increase the distance of the proposed lines from permanently occupied dwellings and other potentially sensitive receptors.

A report has been prepared documenting magnetic field calculations performed for the proposed line route and design configurations following the Application Filing Requirements, using the AC/DC Line program, Version 3.0, developed by the Electric Power Research Institute. The report, as summarized below, is contained in Appendix G.

3.1 Magnetic Field Profiles

The configuration of the transmission line within any segment may vary depending on the transmission line, the presence or absence of existing facilities, and other constraints. Appendix G, Tables 1 and 2, provide a cross reference associating the Appendix G tables and figures referenced below for each configuration.

3.2 Routes with Electric Lines

Distribution and transmission facilities along the route are identified in Appendix G, Figures 2 through 21. Magnetic field profiles for these existing lines and the post-construction scenario that incorporates the rebuilt and existing lines are in Appendix G, Tables 3 through 13. There are no overhead electric distribution facilities along the transmission line route that will be underbuilt with the overhead transmission line. No distribution facilities in close proximity to the proposed transmission line will be modified or relocated as a result of the Project.

3.3 Routes with Multiple Adjacent Underground Circuits

Segments with adjacent underground distribution circuits are identified in Appendix G, Figures 2, 5, 7 and 10 (existing) and Figures 12, 15, 17 and 20 (proposed). Magnetic field profiles for these existing lines and the post-construction scenario that incorporates the rebuilt and existing lines are in Appendix G, Tables 4, 7, 9 and 12, respectively. No underground distribution facilities in close proximity to the proposed transmission line will be modified or relocated as a result of the Project.

3.4 Magnetic Field Data Tables

Detailed calculated magnetic field profiles for each transmission line segment are provided in Appendix G. Appendix G, Tables 4 through 13, contain the estimated magnetic field data. Magnetic field levels for the transmission line facilities (1) at system peak and (2) under normal (defined as 80% of system peak), intact system conditions, are provided in the report contained in Appendix G for the planned in-service year of 2015 and 10 years following, year 2025. Additionally, calculated magnetic field levels are provided for the existing transmission and distribution lines, where applicable. Calculations were performed for each line segment on the route, using the height of the lowest conductor above ground at mid-span for overhead transmission and distribution lines. Underground distribution circuits are horizontally configured with 6-inch spacing between conductors, and a burial depth of 3.3 feet. The results of magnetic field calculations for the proposed transmission line design configurations that could be constructed by the proposed Project are provided in Appendix G, Tables 4 through 13.

The magnetic field levels listed in the tables contained in the report are the root mean square (RMS) resultant level at one meter above ground. The conductor phase arrangement and phase angles, and distribution facility arrangement are provided in the cross section figures, Appendix G, Figures 2 through 21, included with the report. The transmission line phase arrangements are based on those currently existing.

3.5 Magnetic Field Model Assumptions

Magnetic field modeling assumptions for each segment configuration are provided in Appendix G, Figures 2 through 21. The following information is provided on each figure:

- Phase ID and angles;
- Pole design diagram including dimensions of pole arms and conductor locations showing conductor horizontal distance from pole and conductor vertical distance from ground at the structure; and
- Height of lowest conductor(s) at mid-span.

As requested in Section 4.0 of the Substation Filing Requirements, the magnetic field readings associated with the existing substations are provided in Appendix G, Figures 22 and 23, for the Albers and Paris substations, respectively.

The following readings measurements were taken with a Sypris model 4090 Magnetic Field meter:

- Magnetic field readings at each corner and mid-way along each fence and also outward from the fence at 25 feet intervals out to 100 feet from the fence.
- Magnetic field readings at the fence where the transmission line enters and leaves the substation.
- Magnetic field readings at several representative locations within the substation fence.

4.0 PROJECT COSTS

The following table provides the total project cost expressed in 2015 dollars (in-service year).

PROJECT COST CATEGORY	
Transmission Line	
Material	$2,604,500
Labor	$4,088,000
Other	$3,388,500
Transmission Line Subtotal	**$10,081,000**
Substation - Paris	
Material	$123,000
Labor	$156,000
Other	$241,000
Substation - Albers	
Material	$21,500
Labor	$42,500
Other	$111,500
Substation Subtotal	**$695,500**
Pre-certification Costs	$750,000
Operation and Maintenance (during Construction Only)	-
Other Subtotal	**$750,000**
TOTAL PROJECT COST	**$11,526,500**

5.0 ROUTE INFORMATION

5.1 Routing and Siting

Once it was determined that the Line 3124 would be rebuilt, ATC evaluated whether to maintain the existing H-frame configuration, or to reconstruct the line using steel monopole structures. The line was modelled with both structure types. The line was modelled with steel monopole structures maintaining the current span lengths and with longer spans resulting in fewer structures but requiring easement changes. It was determined that the continued use of wood H-frame structures was more economical and would not require any changes in easements.

The existing transmission line will be rebuilt within the existing right-of-way (ROW) with like structures. No ROW adjustments or new ROW is required.

5.2 Changes to Existing Easements

No new easements or changes to existing easements are required.

5.3 Route Segments

The route of the transmission line is divided into four segments based on the predominant structure type in each segment. The segment locations are identified in the Appendix A figures and are described below.

Segment 1 is from the Paris Substation west out of the substation parcel and across a 40 acre parcel to where the line turns from an east-west orientation to a north-south orientation. This segment is approximately 0.5 miles long and primarily consists of existing steel lattice towers. In Segment 1, six phases of new "Hawk" conductors (477 kcmil 26/7 ACSR) will be installed on both sides of the existing steel lattice towers. The corner structure at the end of Segment 1 will be replaced with a new steel pole with arms approximately 40 feet north of its existing location but within the existing ROW. See Appendix C, Figure 1. An additional new steel pole structure will be installed just outside the Paris Substation in order to transition from three phases of TP-Hawk to six phases of single Hawk conductors.

Segment 2 travels south and easterly from the angle structure to a structure located just east of 56th Avenue in the city of Kenosha, crossing Interstate Highway I-94, and the Union Pacific and Canadian Pacific railroads. This segment is approximately 9.4 miles long and primarily consists of wood H-Frame structures. The existing wood H-Frame structures will be replaced with new wood H-Frame structures. See Appendix C, Figures 2 and 3. The new wood H-Frames will have a typical height of 70 to 90 feet. The span lengths of the existing structures range from approximately 400 feet to 715 feet. There are two 345 kV crossings in this segment. The OPGW and 7/16-inch EHS steel shield wires will terminate at structures on each side of the two 345 kV line crossings. Splice boxes will be installed on each of the four structures and the OPGW will be brought across the spans underground. The six spans immediately west of 56th Avenue were recently rebuilt with steel monopole structures with braced-post insulators and TP-Hawk conductors that will be retained. This project will

replace the last structure on this segment (just east of 56th Avenue) with a new self-supporting steel monopole structure to eliminate down guys. See Appendix C, Figure 4.

Segment 3 proceeds south to an angle structure located between 46th and 45th Streets, from where the line turns east to the Albers Substation. This segment is approximately 0.9 miles long and consists of both steel monopole and wood H-Frame structures. One steel, single-pole structure will be replaced. See Appendix C, Figure 5. The H-Frame structures in this segment will be replaced or refurbished as needed.

Segment 4 travels east from the corner structure between 46th and 45th Streets to Albers Substation. This segment is approximately 1.7 miles long and consists of existing double-circuit steel monopole structures (one circuit vacant) with suspension insulators on davit arms and 1033.5 kcmil ACSR "Ortolan" conductors. In this this segment, TP-Hawk conductor will replace the existing "Ortolan" conductors on the existing structures.

5.4 Impact Tables

The following route summary and segment impact tables are included in Appendix B.

Table 2 – General Route Impacts

Table 3 – Distances of Residential Buildings from ROW Centerline

Table 4 – Distances of Schools, Daycare Centers, and Hospitals from ROW Centerline

Table 5 – Land Cover

Table 6 – Federal, State, Local, and Tribal Lands Excluding Road ROWs

Table 7 – Route Impact Summaries

Route impact tables, which quantify the general impacts of constructing the transmission line, have been prepared for the Project. Tables 2 through 7 of Appendix B summarize impacts associated with the proposed transmission line corridor. An outline of the methods used to prepare the impact tables and a summary of the results for the route are presented below.

The information contained within Tables 2 through 7 of Appendix B was developed based on a combination of sources including available reference data, aerial photography and field observations along the route. These sources were utilized to measure and calculate impacts using GIS software.

The reference data utilized include county tax parcel data obtained in October 2013; databases from the State of Wisconsin regarding the locations of schools, daycares and hospitals; and state managed lands information from the WDNR. The Wisconsin Regional Orthophotography Consortium (WROC) photography from 2010 was the primary source of the aerial photography used. As a supplement, aerial photographs from several recent dates were also viewed in Pictometry, a licensed imagery-based system that provides high resolution, two- or four-way oblique views of the ground surface.

Field observation of the route included both windshield surveys completed in 2012 and field surveys completed in May 2013. Fieldwork on existing ROW included wetland delineations and direct land cover observations.

5.4.1 Table 2 – General Route Impacts

Methods

The general ROW requirement and ROW sharing characteristics for the route are presented in Table 2 of Appendix B. For this table, the route was broken into segments to facilitate analysis. Segment breaks were based on several factors such as total ROW width required, and type and extent of existing ROW sharing. GIS software was used to determine segment lengths for this table.

The type and extent of existing ROW was determined from the following sources in conjunction with aerial photography and field observations:

- Road: County parcel data was used to determine the width of road ROW.
- Transmission line: Typical existing easement widths were determined from a review of representative easement agreements, and/or aerial photo review.

The total required ROW width for each segment was determined by engineering analysis.

Route Summary

The Paris-Albers route is approximately 12.5 miles long with a ROW width of 100 feet (Appendix B, Table 2). This route is existing transmission line ROW along its entire length. This route also shares road ROW along portions of Segment 3. One-hundred percent of this route's ROW acreage is shared with existing ROW areas.

5.4.2 Table 3 – Distances of Residential Buildings from ROW Centerline

Methods

The types of residential buildings (homes and apartments) and the distance of these buildings from the route centerline were determined using GIS measurements on aerial photography. The building type was also field verified to the extent possible from existing ROW. Residential buildings were tallied according to five distance categories from the route centerlines: 0-25 feet, 26-50 feet, 51-100 feet, 101-150 feet, and 151-300 feet.

Route Summary

The Paris-Albers Route has a total of 177 homes and 30 apartment buildings (280 units) within 300 feet of the centerline (Table 3). Four of these homes are located within 25 feet of the centerline and 5 of the homes occur within 26-50 feet of the centerline (all along Segment 4). All of the homes within 0-25 feet and 26-50 feet of the centerline are on the side of the double-circuit line where no conductors are installed. Sixteen homes and 10 apartment buildings (107 units) occur within 51-100 feet of the centerline of this route.

5.4.3 Table 4 – Distances of Schools, Daycare Centers and Hospitals from ROW Centerline

Methods

The number of sensitive receptors (schools, daycare centers and hospitals) and the distance of these buildings from the route centerline were determined in a similar fashion as the residential buildings in Appendix B, Table 3. In addition, the following databases were used to identify these facilities:

- Locations of licensed family and group child care centers were provided by the Wisconsin Department of Children and Families (date of data is 9/2/2013);
- Public and private school locations were provided by the Wisconsin Department of Public Instruction (date of data is 9/9/2013); and
- Hospital locations were provided by the Wisconsin Department of Health Services (date of data is 7/31/2013).

Similar to Appendix B, Table 3, the building type was also field verified to the extent possible from existing ROW.

Route Summary

One daycare facility is located within 300 feet of the centerline of the Paris-Albers route. This receptor is located along Segment 3, between 151-300 feet of the route centerline.

5.4.4 Table 5 – Land Cover

Methods

Land cover along the route was identified using aerial photography and field observations. Land cover was digitized into a GIS layer to quantify land cover impacts, and the land cover categories correspond to the categories specified in Appendix B, Table 5. The polygons of each land cover type were then clipped with the route and existing ROW corridors. The acreages of each resulting polygon were quantified with GIS software. The resulting acreages were summed by land type for each segment.

Route Summary

The land cover present along the route and identified in Table 5 includes agricultural lands, undeveloped lands, and developed/urban lands as described in more detail below.

Agricultural Land Use

Agricultural land cover includes active fields, pastures, recently fallow fields (old field) and specialty crops (e.g., orchards). Fields or other areas with no evidence of recent tillage or agricultural production were not included as agricultural land. A detailed discussion of agricultural lands is included in Section 6.1.

Undeveloped Lands

The types of undeveloped lands include upland prairie / grassland, non-forested wetland and upland woodland.

Prairie / Grassland

Grasslands identified along the route consist primarily of open fields dominated by herbaceous vegetation, and to a lesser extent grasses in road ROW, along agricultural field lines and within agricultural swales. These grasslands are typically maintained (i.e., mowed). Species commonly observed in these grasslands include smooth brome grass, Kentucky blue grass, Canada goldenrod, Queen Anne's lace, milkweed and thistles. Upland areas dominated by shrubs and/or tree saplings (e.g., buckthorn and honeysuckle), which typically occur along agricultural field lines, are included in this land cover category but represent a small percent of the total area. Approximately 22 acres of grassland occur along the Paris-Albers route. The majority of grassland along this route occurs within Segment 2.

Non-Forested Wetland

This section refers to non-forested wetland types encountered along the route (e.g., wet meadow, farmed wetland, emergent). A detailed discussion of all wetland types along this route is provided in Sections 6.4 and 8.1. The majority of the non-forested wetland occurs along Segment 2.

Forested Wetland

Forested wetlands do not occur within the proposed ROW of the Paris-Albers route.

Upland Woodland

A detailed discussion of forested lands along the route, including the criteria used to identify forested areas, is included in Section 6.3. Only approximately 0.8 acre of upland woodland occurs along the route. All of the woodland occurs within Segment 2 and is comprised of forested areas encroaching into the margins of the existing cleared corridor since the last vegetation maintenance was conducted.

Developed / Urban Land

Developed / urban lands located along the route include residential, commercial, industrial and other developed lands such as paved/gravel roads and railroads. For homes located within subdivisions, the extent of the residential land generally equals the length of the lots across the route. For homes located in rural areas, the area was determined by the extent of lawns associated with these residences. Commercial and industrial lands are comprised of individual businesses and adjacent grounds (including parking lots). Maintained grassland in the project corridor immediately adjacent to developed land on both sides of the corridor (e.g., along Segments 3 and 4) was also classified as this land cover type. The extent of roads was determined by paved or graveled surface while railroad areas were determined by the extent of ballast. Other land cover within road/railroad ROW was placed in the appropriate land

cover category (e.g., grassland, woodland). Approximately 32 acres of developed / urban land occurs along the Paris-Albers route. The majority of this cover type occurs along Segment 4.

5.4.5 Table 6 – Federal, State, Local and Tribal Lands Excluding Road ROWs

Methods

County parcel data obtained in October 2013 was used to identify federal, state, local and tribal lands along the route; road ROW was not included in this evaluation. The acreages of these lands intersecting the Project ROW were determined by digitizing the relevant information in a GIS; however, a representative length is also provided for each entry in Appendix B, Table 6. The length refers to the maximum length of a parcel within the proposed ROW paralleling the centerline.

Route Summary

No Tribal lands, Native American reservations, federally owned (or managed) lands or state owned (or managed lands) are present along the route. However, several City of Kenosha parcels occur within the project ROW. These parcels include a water utility parcel, a City bus garage, a vacant parcel and George Limpert Park. No new ROW is required in these municipally owned parcels.

5.5 Construction Impacts

Construction of an overhead transmission line requires several different activities at any given location. The following information generally describes the major construction activities and approximate sequence, along with the anticipated impacts associated with each activity:

- Surveying and staking of ROW – minimal impact, typically completed by a two-person crew travelling by foot, ATV, or pick-up truck.
- Clearing of ROW – to facilitate construction equipment access and ensure safe clearances between vegetation and the transmission line, all vegetation will be cleared for the full width of the ROW. Vegetation will be cut at or slightly above the ground surface using mechanized mowers, harvesters, or by hand. Root stocks will generally be left in place, except in areas where stump removal is necessary to facilitate the movement of construction vehicles, or required by the landowner. Where permission of the landowner has been obtained, stumps of tall-growing species will be treated with an herbicide to discourage re-growth.
- Temporary staging of poles and other materials along ROW – generally minimal impact. Trucks, loaders, and cranes are needed to unload poles and other materials near each work location.
- Installation of erosion control Best Management Practices (BMPs) – BMPs will be location specific and installed prior to all anticipated ground disturbance. Where unexpected ground disturbance occurs, BMPs will be installed immediately after the disturbance occurs.

- Foundation installation and/or excavation – In general, the excavated holes for direct embed wood structures will range from 2.5 to 3.5 feet in diameter and may be 9.5 to 14 feet in depth, or greater depending on soil conditions. The excavated holes for concrete foundations for steel structures will range from 5 to 7.5 feet in diameter and from 15 to 24 feet in depth. The method of installation, diameter, and depth of the foundation will vary depending on the soil capability and structure loadings. Excavation is required for all structures whether they are direct embedded or use reinforced concrete foundations.

  Excess soils from excavations may be spread in the ROW in upland areas and stabilized or hauled to an offsite disposal location, depending on the setting and the property owner's requirements.

  In areas where groundwater seeps into the excavation, or where water is needed to hold the hole during drilling, it may be necessary to dewater the excavation. Depending on site conditions, the water may be de-silted and discharged to an upland area where it is allowed to re-infiltrate, or removed from site via a tank truck.

  For direct-embedded poles (no concrete foundation required), a hole is excavated to the appropriate depth. The base of the structure is placed into the excavated hole, and the area around the pole is backfilled with clean granular fill.

  For structures requiring a reinforced concrete foundation, the required hole is excavated, and a rebar cage and anchor bolts are placed into the excavation. The excavation is then filled with concrete to a point where the rebar cage and anchor bolts are covered leaving a typical one to two foot reveal of the foundation above grade with exposed threaded anchor bolts. The complete caisson is allowed to cure.

  Typical equipment for this phase of construction includes: dump trucks, drill rigs, cranes, vacuum trucks, and tanker trucks.

- Structure setting – after the direct embed base is set or the caisson is cured, the remainder of the steel pole structure (or sections) is mounted to the base. Typical equipment for this phase of construction are cranes and bucket trucks.

- Wire stringing and clipping – once all of the structures within a wire pull segment are set, the wires are pulled and clipped into place. This requires access to each structure with either a bucket truck or helicopter. Wire set up areas containing reel trailers, wire pullers, and related equipment are located at each end of the wire pull.

- Cleanup and Restoration of ROW – Upon completion of construction, cleanup and site restoration is completed. This includes removing construction mats, temporary clear span bridges, and other material or debris from the ROW, and any necessary seedbed preparation and seeding. Typical equipment for these activities includes mat trucks, bobcats, pickup trucks and other light duty vehicles.

Transmission line construction will be confined to the ROW, the access routes, and the laydown and staging areas. ATC will utilize existing roads or ROW, and arranged access locations where roadways are not present. Most disturbances will likely occur in the area

immediately surrounding transmission line structures. In areas where access cannot be gained from existing roads, some disturbance from vehicular traffic may also occur. Disturbance at these areas may include clearing of vegetative cover, soil compaction, vehicular tracking, and some topsoil disturbance.

All substation construction will occur with the substation fence and control house. No excavations will be required.

5.6 Staging Areas and Temporary Work Space

Laydown yards will be required throughout construction for the setup of job trailers and storage and staging of construction equipment and material. Potential laydown yards have been identified based on the construction requirements of the Project, proximity to work areas, and environmental and landowner impacts. These laydown yards have been selected to minimize the amount of disturbance and preparation required to provide suitable surfaces for temporary storage and staging of construction equipment and material. The amount of grading and clearing at these sites will be kept to a minimum as the sites were chosen with these considerations in mind. For example, sites that are paved and/or have been previously graded and cleared of vegetation, such as parking lots, old gravel pits, and fields are ideal locations for laydown yards.

ATC has identified two potential laydown yards for the Project. The Paris Substation site is located on the Paris Substation property at 172nd Avenue in the town of Paris. The Yutka site is located northeast of the corner of I-94 and 12th Street in the town of Somers. An environmental review of the potential laydown yards was conducted using existing GIS data, aerial photography, and field review. The following resources were utilized in the evaluation: WDNR Hydro Layer, WDNR Wisconsin Wetland Inventory, Wisconsin State Historical Society database, county soil maps, and the Endangered Resources Review for the project. The laydown yards are shown on site maps included in Appendix A, Figure 5.

The Paris Substation site is comprised of an approximate 4-acre open field on the western portion of the substation property. The field is primarily comprised of meadow vegetation comprised of smooth brome grass (*Bromus inermis*) and Queen Anne's lace (*Daucus carota*). A narrow wet-meadow wetland is located within the transmission ROW on the southwestern part of the substation property. To utilize the substation property as a laydown yard, portions of timber construction matting may be temporarily placed within the wetland areas. Appropriate erosion control practices will be utilized to avoid potential impacts. The site appears to contain little or no potential habitat for rare species.

The Yutka site is an existing gravel parking lot. No wetlands or waterways are located onsite. There are open water and wetland off-site to the north and east. If necessary, appropriate erosion control practices will be utilized. The site appears to contain no potential habitat for rare species. Prior to the development of the laydown yard, appropriate erosion control measures will be implemented. Additionally, access points and haul routes for this site will be selected and designed to minimize disturbance to soils and to minimize off-site tracking.

During construction, temporary wire pulling/handling areas will be required approximately every 10,000 feet along the route. A typical area used for wire pulling/handling would be

approximately 40 feet by 300 feet. ATC will attempt to locate wire pulling/handling areas outside of wetlands; however, based on the typical distance between these areas, it may be necessary to temporarily locate wire pulling/handling areas in certain wetlands. In such circumstances, no permanent wetland fill would be needed.

If additional laydown yards are required, ATC will notify the Commission of these new locations and will submit the necessary information to the Commission prior to establishing such areas in accordance with Wis. Admin. Code § PSC 112.073.

5.7 Off ROW Access Roads

No off-ROW access roads are necessary for the construction of the Project. The Project is located adjacent to, or commonly crosses public roads. ATC intends to access the route down the Project ROW or directly from public roads that intersect the Project ROW, unless the contractor is able to arrange for alternative access that minimizes environmental and/or landowner impacts. ATC may seek voluntary agreements from landowners for off-ROW alternate access. ATC will notify the Commission of any off-ROW access paths and will submit the necessary information to the Commission prior to utilizing the path in accordance with Wis. Admin. Code § PSC 112.073.

6.0 NATURAL RESOURCE IMPACTS

6.1 Agriculture

6.1.1 Type of Farming

Agricultural land uses were identified during field observations and by using aerial photography. Wisconsin Regional Orthophotography Consortium (WROC) photography from 2010 was the primary source of aerial photography used. As a supplement, aerial photographs from several recent dates were also viewed in Pictometry, a licensed imagery-based system that provides high resolution, 2- or 4-way oblique views of the ground surface. Field observation of the route included both windshield surveys completed in 2012 and field surveys completed in May 2013. Fieldwork on existing ROW included wetland delineations and direct land cover observations

The amount and type of agricultural land along the route is detailed in Appendix B, Table 5. Property classified as being in agricultural use includes active fields, pastures, recently fallow fields (old field), and specialty crops (e.g., tree farms, orchards, cranberry bogs, ginseng). Fields or other areas with no evidence of recent tillage were not included as agricultural land. As with other land cover types, agricultural acreage by type was determined by digitizing these land cover types with GIS software. Refer to Section 5.4 for a summary of this methodology.

Most of the route traverses agricultural lands. The majority of the agricultural lands are in row crop production, comprised of corn and soybeans. Other crops such as alfalfa/hay fields are also present, and the project also crosses a few fields that are comprised of pasture.

Approximately 0.1 acre of land is comprised of an apple orchard, located along Segment 2. No other specialty crops, such as ginseng, tree farms, or cranberry bogs were observed within the project ROW along the route.

All substation construction is within the existing Paris and Albers substations so will not result in the loss of farmland.

6.1.2 Agricultural Practices Affected By Project

Based on field observations along the route, aerial photograph review, and database queries, agricultural practices that may be affected by the Project (construction or operation), such as irrigation systems, aerial seeding or spraying, windbreaks, organic farms and drainage tiles, were documented.

No clear evidence of drain tile lines along the route was apparent from either aerial photography interpretation or field investigation. However, there are many areas of farmland along each route that contain hydric soils and are in proximity to ditches, which suggests that drain tiles may exist in these locations. Prior to construction, ATC will work with the landowners to place structures such that impacts to drain tiles are minimized, to the extent practicable. During construction, matting may be used to

more evenly distribute the weight of heavy equipment and/or low ground impact construction equipment may be used. Post-construction, ATC will work with the landowners to repair any damaged drain tiles to pre-construction conditions.

No center pivot irrigation systems are known to occur along the route.

Based on review of a National Organic Program database provided by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP), there are no farms along the route that utilize organic management practices or are certified organic.

The small apple orchard discussed above is located directly under the transmission line. Trees directly under the wires will be cleared as required by ATC's vegetation management standards. The extent of any additional clearing is being evaluated and will depend, in part, upon the type of tree and ATC construction access needs.

6.1.3 Farmland Preservation Program

Based on a review of the DATCP Farmland Preservation Program (FPP) database, there are no parcels located along the route currently enrolled in this program. Additional information received from Kenosha County in October 2013, identifies a preliminary list of FPP parcels. The status of these parcels still requires approval which is anticipated the near future. The preliminary list provides the parcel number and acreage of parcels slated for enrollment in the FPP program.

The preliminary FPP parcels that intersect the centerline of the route are listed in Table 6.1.3-1. The parcel sizes specified in this table represent the entire parcel, not the area impacted by the route. All of the parcels are located in the town of Paris in Kenosha County.

Table 6.1.3-1 – Preliminary list of parcels slated for enrollment in the Farmland Preservation Program

Parcel Tax ID	Acres	Segment
45-4-221-041-0200	70.47	1 and 2
45-4-221-043-0102	84.10	2
45-4-221-043-0300	49.94	2
45-4-221-043-0400	63.89	2
45-4-221-044-0206	49.04	2
45-4-221-091-0201	90.52	2
45-4-221-091-0310	69.27	2
45-4-221-094-0301	48.03	2
45-4-221-094-0400	38.65	2
45-4-221-103-0100	125.67	2

Parcel Tax ID	Acres	Segment
45-4-221-131-0301	40.66	2
45-4-221-132-0300	78.48	2
45-4-221-133-0100	79.84	2
45-4-221-134-0100	37.53	2
45-4-221-141-0300	60.45	2
45-4-221-142-0300	81.47	2
45-4-221-144-0101	39.95	2
45-4-221-151-0100	80.08	2
45-4-221-151-0300	39.92	2
45-4-221-151-0350	37.92	2
45-4-221-152-0101	39.63	2
45-4-221-152-0110	80.23	2

Electric transmission lines are permitted on lands enrolled in the FPP and are considered to be compatible with agricultural use.

6.1.4 Mitigating Project Impacts In/Near Agricultural Lands

Potential construction-related impacts on agriculture will generally be short term in nature, and would primarily consist of crop losses, soil mixing, and/or soil compaction along equipment access routes and around structure installation sites. ATC would mitigate these short-term impacts by providing compensation to producers, and by restoring agricultural lands to the extent practicable. Where appropriate, mitigation techniques such as topsoil replacement and deep tilling will be utilized.

ATC has attempted to minimize long-term impacts associated with constructing the Project across agricultural lands through careful consideration of structure placement. There is no additional ROW required for this Project; therefore no additional loss of tillable land is expected.

Upon receipt of the Commission Order, ATC will coordinate with each agricultural landowner regarding farm operation (e.g., irrigation systems, drainage tiles), locations of farm animals and crops, current farm biological security practices, landowner concerns, and use of access routes. Potential impacts to each farm property along the ordered route will be identified and where practicable, construction impact minimization measures may be implemented. Site-specific practices would vary according to the activities of the landowner/farm operator, the type of agricultural operation, the susceptibility of site-specific soils to compaction, the degree of

construction occurring on the parcel, and the ability to avoid areas of potential concern.

6.1.5 Agricultural Impact Statement

This project involves the rebuild of an existing transmission line within the existing ROW. No Agricultural Impact Statement is required.

6.1.6 Induced Voltage

There are no confined animal dairy operations within 300 feet of the existing route centerline.

There are a total of 12 agricultural buildings located within 300 feet, all occurring along Segment 2.

No induced voltage issues have been identified or are anticipated.

6.2 Conservation Easements

Geographic information regarding properties with conservation easement agreements was acquired from the sources listed in Table 6.2-1.

Table 6.2-1 – Conservation Easement/Program Review

Property Type	Database Source
Wetland Reserve Program and Grassland Reserve Program Easements	Natural Resources Conservation Service
Emergency Watershed Protection Program - Floodplain Easement	Natural Resources Conservation Service
Riparian Easements	US Fish and Wildlife Service
State Fishery Areas, State Parks, Forests and Trails	State of Wisconsin Department of Natural Resources - Managed Lands
Land & Water Conservation Fund Properties	State of Wisconsin Department of Natural Resources, Bureau of Community Financial Assistance
Knowles-Nelson Stewardship Program Properties	State of Wisconsin Department of Natural Resources - Stewardship Grant Acquisitions
Natural Heritage Land Trust Easements	Natural Heritage Land Trust
The Nature Conservancy Easements	US Geological Survey Gap Analysis Program - Stewardship

Based on a review of this information, no parcels with conservation easements were identified along the route.

6.3 Forested Land

Forested lands were identified and reviewed using aerial photography and observations from fieldwork completed in May 2013. Forested lands are defined as areas where mature trees are present forming mostly closed stands (>20% canopy cover and trees with diameter at breast height [dbh] of six inches or more). Narrow tree lines (e.g., wooded fence rows) or windbreaks were generally not included as forested cover.

Forest lands occurring within the Project ROW are described below, and are summarized in the Environmental Inventory Table (Appendix F, Table 9). Forested areas were quantified as part of the impact analysis (Section 5.4) and the resulting acreages are outlined in the Land Cover table (Appendix B, Table 5).

The following tree size classification system was used: saplings refer to live trees from one to five inches dbh; pole timber ranges from five to nine inches dbh for softwoods and from five to 11 inches dbh for hardwoods; and saw timber is over nine inches dbh for softwoods, and over 11 inches dbh for hardwoods.

6.3.1 Woodlands Description

As previously discussed, the entire length of the Paris-Albers route occurs along existing ROW that is maintained free of taller-growing woody vegetation. No additional ROW is required for this project and the only impacted forested areas are those that have encroached into the existing ROW. Less than one acre of forested land occurs in the Project ROW (Table 5).

Three of the relatively larger forested areas encroaching into the ROW are identified in Table 9. Two of these areas are deciduous communities and are dominated by saw-sized oaks (*Quercus* spp.). These areas appear to have been pastured. The other forested area is deciduous and occurs along a waterway, and is dominated by pole / saw-sized box elder (*Acer negundo*) and red maple (*Acer rubrum*) with buckthorn (*Rhamnus* sp.) common in the understory. These forested areas are privately owned and their use is considered to be recreational or riparian habitat.

Several other smaller forested areas encroach into the ROW. A couple of these areas are deciduous and dominated by pole-sized crabapple (*Malus* spp.), black locust (*Robinia pseudoacacia)* and/or cherry (*Prunus* spp.). One area is a plantation dominated by pole / saw sized white pine. All of these areas are privately owned, and the use of these areas is considered to be recreational.

Substation construction for the Project will not impact forested lands.

6.3.2 Managed Forest Law / Forest Crop Law Programs

ATC obtained information from the WDNR identifying quarter-quarter (40 acre) sections in which all or some portion of the proposed ROW is enrolled in the Managed

Forest Land (MFL) or the Forest Crop Law (FCL) programs. Based on this information, parcels enrolled in the MFL or FCL programs are not present along the route.

6.3.3 Mitigating Construction Impacts In or Near Woodlands

Typical vegetation management will be performed within the existing ROW prior to project construction.

As discussed in Section 6.7 (Invasive Species), tree clearing / pruning timing restrictions and slash management procedures can be implemented to prevent the spread of oak wilt, emerald ash borer and gypsy moth in forested areas.

6.4 Wetlands

A summary of all wetlands intersecting the routes is presented in Appendix F, Table 9 and shown on Appendix A, Figure 3. As discussed in Section 8.3, wetlands were identified during field investigations conducted along the entire route.

Substation construction for the Project will not impact wetlands. In addition, wetlands will not be impacted by off-ROW access (refer to Section 5.7).

6.4.1 Wetland Crossings

Twenty two wetlands occur within the proposed transmission line ROW for the Paris-Albers route. Three of these wetlands occur in Segment 1, with the remaining 19 wetlands occurring in Segment 2 (Appendix F, Table 9).

6.4.2 Number of Structures That Would be Constructed Within Wetlands

Structures occurring in wetlands are shown in Appendix A, Figure 3. Based on engineering design, four structures, all occurring along Segment 2, will be constructed within wetlands. Further detail on each wetland, including the area of wetland impact, is provided in Appendix F, Tables 8 and 9.

6.4.3 Avoiding / Minimizing Construction Impacts In or Near Wetlands

Through the engineering design of this project, the use of particular construction techniques, and implementation of BMPs and ATC's standard environmental protection practices, the Project will avoid or minimize wetland impacts to the extent practicable. However, because wetlands frequently occur along this route, equipment access during construction and pole installation within wetlands cannot be completely avoided. For this rebuild project, the four structures to be placed in wetlands will replace four structures currently present in these wetlands so no appreciable increase in permanent wetland impact will occur.

The use of heavy equipment in wetlands will be minimized to the extent practicable. Disturbance to wetlands will be minimized by one or more of the following standard construction techniques: completing wetland construction during dry or frozen conditions, the use of equipment with low ground pressure tires or tracks, placement of construction matting to help minimize soil and vegetation disturbances and distribute axle loads over a larger surface area thereby reducing the bearing pressure

on wetland soils, and/or the use of ice roads. Site conditions at the time of construction will dictate the type of construction access technique. Wetland access routes will not require permanent fill.

A general discussion of the dominant vegetation found within wetlands along the route is provided in Section 8.3, and dominant vegetation found within each wetland is provided in Appendix B, Table 9. If it is evident that transmission line construction activities could spread invasive plant species to new areas, appropriate protection measures will be implemented. These measures are detailed in Section 6.7.

Upon completion of the transmission line, the ATC will complete site restoration and re-vegetation consistent with the activities described in Section 6.9.

6.4.4 "Significant" or "High-Quality" Wetlands

The majority of wetlands along the proposed Project ROW are wet meadows and farmed wetlands, most of which are characterized by low plant diversity due to domination by invasive species or agricultural crops (and associated weedy facultative hydrophytes). Based on field investigations, no "significant" or "high quality" wetlands are present along the proposed Project ROW. Refer to Appendix F, Table 9, for further descriptive details, map page numbers, proposed construction activities, and access methods associated with each of the listed wetlands.

Two wetlands within Segment 2 (W12 and W13) have been identified (and *italicized*) in Appendix F, Table 9, as Areas of Special Natural Resource Interest (ASNRI), in accordance with Wis. Admin. Code. § NR 1.05. Wetlands are considered "ASNRI" when they fall within (entirely or in part), or are contiguous with, one or more of the designated special features listed in NR 1.05 (e.g., trout streams, state wildlife areas or parks, etc.). However, despite their association with these special features, these two wetlands are not considered significant or of high quality as they are impacted by agricultural practices and dominated by reed canary grass (*Phalaris arundinacea*), an invasive species.

Because significant or high quality wetlands are not present along this route, completion of Sections 6.4.4.1 through 6.4.4.3 if the Transmission Line Filing Requirements is not necessary.

6.5 Waterbodies/Waterways

A summary of all waterbodies and waterways (hereafter collectively referred to as "waterways") intersecting the routes is presented in Appendix F, Table 9, and shown on Appendix A, Figure 3. The identification of waterways was based on review of the WDNR 24K Hydro layer and field observations along the route. Those features with a distinguishable bed and banks were considered to be navigable waterways, regardless of the width or if it was identified in the WDNR 24K Hydro layer. Several waterways appear on the WDNR 24K Hydro layer that did not appear to have defined bed and banks based on field review. These features are identified in Appendix F, Table 9, (but not given a unique waterway label) with the explanation that it is our interpretation these features would likely

not be considered navigable. Because these waterways were not evident based on field review, they were not identified on Appendix A, Figure 3. ATC understands the WDNR has final jurisdictional authority over navigability determinations.

All substation construction will occur within the substation fence and therefore, will not impact waterways.

6.5.1 Proposed Waterway Crossings

Seven waterways (R1-R7), and six other water features (e.g. ponds), were identified within the Project ROW. These six additional water features consist of natural (R2a) and man-made (R5a) open water ponds, a rock-lined, stormwater drainageway (R8) and associated storm water detention ponds (R8a, R8b), and a scour pool (R9) that exists at an outlet of a waterway that is piped underground. Two waterways will require a temporary clear span bridge (TCSB) crossing, while the other waterways/features will be crossed during wire pull activities (no equipment crossing).

6.5.2 Structures Constructed Below the Ordinary High Water Mark (OHWM)

No transmission line structures, or temporary structures for construction access, are proposed to be placed below the OHWM of waterways along the route. However, two existing structures in close proximity to a waterway (R5) must be replaced. If the structures are completely removed or cut below the ground surface, this may result in temporary deposition of material below the OHWM of this waterway. Proper erosion control will be installed prior to beginning work in this area, and ground contours will be restored to the original grade once the structures are removed. Refer to Section 8.0 for more detail regarding this work.

6.5.3 Need and Method of Constructing Waterway Crossing

A summary of the waterways proposed to be crossed along the route, and their proposed crossing methods, are presented in Appendix F, Table 9. The majority of the waterways will only be crossed for wire pull activities (no stream crossing with equipment is required for wire pulls); only two TCSBs will be needed. All proposed crossings are required to allow for safe and efficient construction access along the route.

Where necessary and authorized by the WDNR, the TCSBs will be placed to avoid in-stream disturbance. The TCSBs will consist of construction mats and/or steel I-beam frames, or other similar material, placed above the OHWM on either side to span the stream bank. Preparation for setting the bridge may include minor blading and excavation confined to the minimum area necessary for safe bridge installation. Removal of low-growing trees, shrubs, and other shoreline vegetation will be kept to a minimum. Proper erosion control measures will be implemented and maintained during and after the utilization of the temporary crossing. For those streams that will not be crossed by construction vehicles and where stream crossing permits have not been acquired, wire will be pulled across those waterways by boat or by a person traversing across the waterway. Additional detail regarding waterway crossings (e.g.,

typical detail drawing of a TCSB crossing, photos of waterways observed in the field) are provided in Section 8.0.

6.5.4 Avoiding / Minimizing Construction Impacts In or Near Waterways

The number of potential temporary stream crossings has been minimized by proposing to access from the ROW on either side of the stream or by using existing public crossings to the extent practical. ATC will work with private landowners near the TCSB crossings to identify an alternate access route to further reduce the use of stream crossings, if possible. This crossing may not be required if ATC is able to secure alternate access via privately owned land. However, ATC has applied for a WDNR permit for these crossings in the event that avoidance is not possible. ATC will also attempt to minimize soil disturbance during removal of structures immediately adjacent to waterways (e.g., by cutting the existing poles at the ground surface). However, land use and landowner preferences may limit the ability to use this method.

As discussed in Section 6.5.2 and 6.5.3, the amount of disturbance associated with removal of structures near waterways and deployment of the TCSBs will be minimized to reduce potential impact to the waterways. Other mitigation methods will be employed during construction to further reduce impacts. Refer to Section 6.7 for a description of mitigation methods that will be employed to avoid the spread of invasive plants and Section 6.9 for a discussion of re-vegetation and restoration plans for disturbed areas, including those near waterways. Additionally, an Erosion Control Plan will be prepared prior to construction, and BMPs will be employed near waterways to minimize the potential for erosion.

6.5.5 Mitigation for Special Waterways

Waterways that are considered to be ASNRI, which includes the classifications in Sections 6.5.5.1 - 6.5.5.3 of the Transmission Line Filing Requirements, are identified in Appendix F, Table 9. The WDNR's Surface Water Data Viewer web site (http://dnrmaps.wi.gov/imf/imf.jsp?site=SurfaceWaterViewer) was used to identify these designated waterways in the Project area.

Refer to Section 6.5.4 for procedures to avoid, reduce and mitigate impacts associated with all waterway crossings. In addition, the following provides further methods to mitigate potential impacts to designated waterways in the Project area.

Three waterways (R3, R5 and R7) are considered to be ASNRI (identified as NHI waters); however, these features are channelized and/or impacted by agricultural practices within and immediately adjacent to the ROW. All of these waterways have existing poles in close proximity to them. Impacts to these waterways will be minimized as the proposed poles will either be placed further away from the waterway (i.e., R5) or they will be replaced in the same position (i.e., R3 and R7). Impacts will also be minimized during construction by cutting the existing structures off at the ground surface (minimizes temporary soil disturbance) if feasible.

As previously discussed, an Erosion Control Plan will be prepared once additional site-specific information is available. BMPs will be employed near waterways during construction to minimize the potential for erosion.

There are no waterways designated as Outstanding Resource Waters or Exceptional Resource Waters, no trout streams, and no designated Wild and Scenic Rivers within the existing ROW.

6.6 Rare Species and Natural Communities

6.6.1 Communication with WDNR and USFWS

Pre-application consultation with the WDNR regarding state-listed rare species and natural communities has occurred in the form of telephone calls, email correspondence, and the submittal of an Endangered Resources (ER) Review. In addition, the USFWS has been consulted regarding a federally threatened plant species record that occurs in the vicinity of the Project area, as well as the results of a habitat suitability assessment performed within the Project area for the rare plant.

6.6.2 Compliance with WDNR and USFWS Direction

An ER Review has been submitted to the WDNR. Due to confidentiality requirements for the Wisconsin Natural Heritage Inventory (NHI) data, a redacted copy of the ER Review is included in Appendix I, Exhibit 2. Appropriate follow-up actions will be coordinated with the USFWS and WDNR. ATC will continue regular communication with the agencies throughout the application process to follow state and federal endangered resources laws during Project evaluation, planning, and implementation.

6.6.3 Concerns and Potential Impacts to Rare Species

The ER Review summarizes all state-listed rare species, natural communities and other natural features with element occurrence records within one mile of the Project segments for terrestrial and wetland occurrences, and within two miles for aquatic occurrences. Some of the rare species and natural communities have multiple element occurrence records along the route segments. In addition to providing an inventory of rare species and communities, the ER Review also outlines the required follow-up actions necessary to protect threatened and endangered animal species, as well as the recommended follow-up actions to help conserve rare species, communities, or other natural features that are not legally protected or are exempt from protection by the Project (i.e., special concern animal species; threatened, endangered, and special concern plant species; and natural communities).

6.6.3.1. Endangered Species Law Impacts on Project

Figure 3A of the ER Review (Appendix I, Exhibit 2) summarizes the specific segments along which element occurrence records exist for protected animal species. Due to the lack of suitable habitat along the Project corridor, no required actions are necessary for threatened and endangered animals. If during the course of the Project new information becomes available for

protected animals, ATC will coordinate with the WDNR Bureau of Natural Heritage Conservation on appropriate conservation measures.

6.6.3.2. Voluntary Conservation Actions

Recommended actions to help conserve Wisconsin's rare species are included in the ER Review. ATC will implement appropriate erosion and runoff prevention per the Erosion Control Plan to avoid indirectly impacting rare aquatic species. Additionally, the project construction schedule is outside of the active period for a migratory bird with potential habitat within the Project area, thus allowing the prevention of potential impacts to that species.

6.7 Invasive Species

The following summarizes invasive species observed along the route and identifies BMPs to minimize the spread of these species.

6.7.1 Invasive Species/Disease-Causing Organisms

The route ROW was evaluated for invasive plant species during field investigations from May 20 through 23, 2013. The general location and composition of dominant invasive species present within the ROW were identified and noted on field maps during wetland delineations and vegetation mapping evaluations.

Invasive plant species were commonly observed along the route ROW during the field investigations. Overall, ten invasive plant species were noted along the route, all falling into the "Restricted" category of Wis. Admin. Code Chapter NR 40. There were no "Prohibited" species found. The observed species include:

- Garlic mustard (*Alliaria petiolata*)
- Canada thistle (*Cirsium arvense*)
- Dame's rocket (*Hesperis matronalis*)
- Bell's honeysuckle (*Lonicera x bella*)
- Wild parsnip (*Pastinaca sativa*)
- Phragmites (*Phragmites australis*)
- Common buckthorn (*Rhamnus cathartica*)
- Glossy buckthorn (*Rhamnus frangula*)
- Multiflora rose (*Rosa multiflora*)
- Narrow-leaf cattail (*Typha angustifolia*)

The most commonly observed "Restricted" plant species along the route are narrow-leaf cattail, Bell's honeysuckle, buckthorn (*Rhamnus* spp.), and garlic mustard.

Disease-causing organisms

Oak wilt (*Ceratocystis fagacearum*) is known to occur throughout Kenosha County. Numerous large oak trees (*Quercus* spp.) are encroaching within the Project ROW. To minimize the spread of oak wilt, ATC will avoid cutting or pruning oak trees during the restricted times required by the Commission in Wis. Admin. Code § PSC 113.051 (April

15 – July 1). Other recommended restricted times that fall outside of this window may also be followed (e.g., WDNR or local restrictions) if practicable.

The Project falls within the emerald ash borer (*Agrilus planipennis*) quarantine area, which includes all of Kenosha County. Practices that minimize the spread of this species include avoiding movement of ash wood products (logs, posts, pulpwood, bark and bark products, slash and chipped wood from tree clearing) and hardwood firewood from emerald ash borer quarantine areas to non-quarantine areas, as required by Wis. Admin. Code § ATCP 21.17. Where ash wood products cannot be left on-site, alternative plans will be developed to meet the requirements.

The Project is located within the gypsy moth (*Lymantria dispar*) quarantine area, which includes all of Kenosha County. Standard practices to avoid the spread of the gypsy moth include inspections and avoiding movement of wood products (logs, posts, pulpwood, bark and bark products, firewood, slash and chipped wood from tree clearing) from gypsy moth quarantine areas to non-quarantine areas, as required by Wis. Admin. Code § ATCP 21.10.

6.7.2 Mitigation Methods

ATC will comply with Wis. Admin. Code ch. NR 40 by implementing BMPs when encountering species listed as "Restricted" or "Prohibited." Standard BMPs have been developed to avoid and minimize the spread of NR 40-listed species. These BMPs will vary along the route based on the degree of invasiveness, severity of the current infestation, and susceptibility of non-infested areas to invasion.

Typical BMPs include:

- Avoidance through construction timing and alternate access;
- Proper management of construction vehicles and materials (i.e., storage, cleaning);
- Minimizing ground disturbance;
- Placing a barrier between construction vehicles and plants (i.e., construction matting);
- Proper storage and disposal of plant materials;
- Promoting native regeneration; and
- Leaving cut vegetation on site where it is cut (i.e., mowing shrubs).

Appropriate BMPs will be incorporated into Environmental Access Plans and implemented during construction.

6.8 Archeological and Historic Resources

Great Lakes Archaeological Research Center, Inc. (GLARC) conducted archaeological investigations of the project corridor in October 2011. The Archaeological Site Inventory (ASI), maintained by the Wisconsin Historical Society was accessed to determine which sites are coincident with the existing ATC ROW. An archival and literature search of the ASI database revealed that there are eight previously identified and recorded sites coincident

with the Project area. It was recommended that the eight sites undergo Phase I archaeological testing.

The eight sites within the project boundaries and were surveyed through a combination of visual inspection, pedestrian survey, soil coring, and shovel testing. Phase I archaeological survey of two of the sites resulted in the recovery of "non-diagnostic lithic flakes." The areas surrounding the finds were tested intensively and no further cultural materials were recovered. As a result of the "non-diagnostic material and the dearth of material", neither of the two sites is considered eligible for the National Register of Historic Places. Therefore, no further work in these, or the other six sites, was recommended, and it was recommended that the rebuild proceed as planned. GLARC re-affirmed their conclusions in correspondence dated September 23, 2013. GLARC's report is included in Appendix I, Exhibit 1.

6.9 Restoration

The need for and approach to site restoration and re-vegetation will be based on the degree of disturbance caused by construction activities and the ecological setting of each site, and will need to reflect and satisfy the requirements of the property owner. If construction can be accomplished without creating appreciable soil disturbance, restoration may not require active re-vegetation efforts. Restoration activities will be implemented following the completion of construction activities. These activities will begin as soon as practical and as allowed by seasonal conditions.

6.9.1 Proposed Revegetation

ATC will develop a restoration plan for disturbed sites based on the level of ground disturbance and the site setting. In some cases, re-growth of vegetation in disturbed areas may be allowed to occur without supplemental seeding. In cases where there is no sign of re-growth of pre-existing vegetation species in the first month of the subsequent growing season, an assessment will be made and if necessary, an appropriate seed mix will be brought in and properly applied. ATC will monitor the sites that are seeded to ensure adequate growth occurs.

The restoration and re-vegetation methods for wetland areas are described in Section 8.1.4 below.

6.9.2 Vegetative Monitoring Criteria and Methods

During active construction, ATC or their representatives will inspect re-vegetation and restoration activities in accordance with Wis. Admin. Code ch. NR 216 and the Wisconsin Pollution Discharge Elimination System (WPDES) general permit conditions. Written documentation of the inspection will be maintained by ATC describing the re-vegetation progress and corrective measures taken, if applicable.

Restoration will be dependent on post-construction site conditions and landowner concerns. A post-construction monitoring plan will be developed once construction is complete and an assessment of environmental impacts has been conducted. The

monitoring plan will focus on wetlands, waterway crossings, and areas where special site-specific erosion controls were implemented. Most areas will be monitored until 70% re-vegetation has occurred.

6.9.3 Invasive Species Monitoring and Management

The invasive species located along the Project corridors and the BMPs to avoid the spread of invasive species are discussed in Section 6.7. A post-construction assessment of these areas will be conducted and, if necessary, follow-up monitoring performed.

7.0 COMMUNITY IMPACTS

7.1 Communication with Potentially Affected Public

A letter was sent January 15, 2014, to property owners along the existing transmission line corridor notifying them of ATC's intention to file an application with the PSCW seeking permission to rebuild the transmission line and the reasons for the project. A contact person was provided, and the public was invited to submit any comments or feedback they may have on the project. A copy of the letter is provided in Appendix E.

Additional communication with landowners will occur as needed to provided construction and access information.

All public comments received as a result of the mailing will be forwarded to the commission.

7.2 Community Issues

No issues with the rebuild of the existing transmission line in the same location and with the same configuration have been raised.

7.3 Land Use Plans

Existing land use plans are provided in Appendix A, Figure 6.

7.4 Residential and Urban Areas

Segments 3 and 4 of the existing transmission line are located within the city of Kenosha. Construction activity on Segment 3 will be limited with only some structures being replaced or modified. Construction activity on Segment 4 will be limited, consisting of replacing conductor and shield wire.

Construction of the transmission line and access roads will generate temporary impacts to residential/urban neighborhoods (Appendix B, Tables 3 and 5). The Project will be built using conventional construction equipment (e.g., bulldozers, heavy trucks, drill rigs, cranes and hydraulic and pneumatic tools). Work will generally be completed during daylight hours under a typical 8 to 12 hour work day, unless night work is specifically required (e.g., Wisconsin Department of Transportation (WisDOT) required nightly lane closures).

ATC will mitigate construction impacts to residential and urban areas, where possible. Noise generated during construction will be temporary and sporadic throughout a typical work day including night work if specifically required and permitted. Dust will be controlled by periodic wetting of access roads and work areas or by application of polymer to exposed soil. Tracking pads will be constructed at frequently used access points to minimize mud being tracked onto public roads. Road sweepers will be used to remove mud tracked onto the road, at a minimum of, the end of each work day. Wet sweeping will be used as needed to minimize dust. Traffic control plans will be developed and implemented during construction to minimize traffic impacts and comply with permit requirements.

Use of residential concrete or blacktop driveways will be avoided whenever possible. If access is unavoidable, the driveways may be protected using composite mats or other low

profile protection systems. Commercial or industrial driveways may be used without surface protection, but will be evaluated prior to their use. Any damage caused by construction access will be repaired as needed.

7.5 Aesthetic Impacts

The proposed project consists of rebuilding an existing transmission line in the same location and with similar structures maintaining the current visual aesthetic. No photo simulations were requested or prepared.

The line does not cross or parallel any designated scenic or rustic roads.

7.6 Parks and Recreation Areas

The route crosses the north end of George Limpert Park, which is owned by the city of Kenosha, along Segment 4. This park contains a small playground, full basketball court and general open space (which appear to be partially utilized for yard waste disposal). Because additional ROW will not be required, and construction in this area only involves conductor and shield wire replacement (the existing structures will not be replaced), no long-term impacts to this park are anticipated. Short-term construction impacts will be mitigated in coordination with the city through strategic scheduling.

No other parks or recreational areas are crossed by the route, although Jamestown Park along Segment 3 and Hobbs Park along Segment 4 are immediately adjacent to the route. In addition, Washington Park Golf Course is immediately adjacent to the Albers Substation. These adjacent parks, which are owned by the city of Kenosha, will not be impacted by this project.

7.7 Airports

The existing proposed transmission line passes approximately 1.75 miles northeast of the Kenosha Regional Airport. The transmission line is being rebuilt in its existing location and configuration. A preliminary review of the proposed project facilities shows that their design will not conflict with the height restrictions associated with the Federal Aviation Agency (FAA) prescribed imaginary surfaces. ATC will obtain necessary Tall Structures Permit(s) prior to construction from the FAA and inform the WisDOT Bureau of Aeronautics. Necessary notifications will be issued during construction.

7.8 Communication Towers

No communication towers are located adjacent to the transmission line. The transmission line will be rebuilt in its existing configuration and therefore is not anticipated to impact any communications facilities.

7.9 Community Income

This section is not applicable to this Project because the proposed facilities are designed for operation at less than 345 kV.

7.10 Shared Revenue

No new substations are being constructed as part of this project. There will be a small, incremental increase in shared revenue payments to the town of Albers due to the investment at the Paris Substation and to the city of Kenosha due to investment at the Albers Substation. Kenosha County will receive additional incremental increase to shared revenue payment due to the investment at both substations.

8.0 WDNR PERMITS AND APPROVALS

It is anticipated that a WDNR Utility Permit will be required for this Project. The WDNR permits required for construction of the facilities proposed in this Joint Application include:

- Chapter 30 permit to place a temporary bridge in or adjacent to navigable waters, pursuant to Wis. Stat. § 30.123 and Wis. Admin. Code ch. 320;
- Chapter 30 permit to place miscellaneous structures within navigable waterways, pursuant to Wis. Stat. § 30.12 and Wis. Admin. Code ch. 329;
- Wetland fill permit, pursuant to Wis. Stat. § 281.36 and Wis. Admin. Code chs. NR 103 and 299;
- WPDES Storm Water Discharge permit pursuant to Wis. Stat. ch. 283 and Wis. Admin. Code ch. NR 216; and
- Any other applicable permit which is required, if the need for that permit is identified by WDNR.

The documentation required by WDNR to review the Project in consideration of the above-referenced permits, except for the NR 216 permit, is provided in the following section of the Joint Application and Appendix F. A Notice of Intent under NR 216 will be filed prior to construction of the Project.

Temporary Bridges

A TCSB crossing will be required at the waterways as described in Section 6.5 and Table 8 of Appendix F, and shown on Appendix A, Figure 3. These crossings require approval by the WDNR under Wis. Stat. § 30.123. These waterways are less than 35-feet wide and the crossings are designed to meet the standards and conditions for temporary clear span bridge crossings in Wis. Admin. Code § NR 320.06. Wis. Admin. Code § NR 320.04 indicates that bridges spanning navigable waterways shall maintain a clearance of not less than five feet unless all of the following conditions specified in Wis. Admin. Code § NR 320.04(3) are met:

- The waterway is known to have little or no navigation or snowmobile use;
- The waterway is not anticipated to have navigational use by other than lightweight craft;
- The owner provides a portage over or around the bridge or culvert; and
- The reduced clearance would not be detrimental to the public interest.

ATC would allow a portage over or around these bridges if necessary; however, given the stream dimensions at this crossings, it is unlikely this waterways are utilized by watercraft. ATC believes the other conditions specified in Wis. Admin. Code § NR 320.04(3) are met at these waterway crossings and therefore, a five-foot clearance is not required at this location.

The approximate channel dimensions of the waterways R4 are provided in Table 9 of Appendix F, and a photograph of these features is provided in Appendix F. A typical detail drawing of the TCSB at waterway crossing R4 is also provided in Appendix F.

Miscellaneous Structures

Two existing transmission line structures (both H-Frame configuration), which will be removed during construction, occur in close proximity to waterway R5 (Kilbourn Road Ditch). It has not been determined if these structures will be completely removed, cut flush to the ground surface or cut at a depth below the ground surface (typically 3 feet). Due to the proximity of these structures to the waterway, cutting them at a depth below the ground surface or completely removing them may result in a temporary deposit of soil below the OHWM of this waterway, which would require approval under Wis. Stat. § 30.12. The approximate area of disturbance should not exceed a total of about 60 square feet at both structures as only one leg of each structure is close enough to the waterway to be considered below the OHWM. (See photos of these locations in Appendix F.) Soil temporarily displaced during structure removal will be replaced to match the existing ground surface. Appropriate erosion control BMPs, which will be specified in the Erosion Control Plan, will be implemented to minimize impacts to the waterway. The replacement structures will be set back further from the waterway so this installation will not result in additional work below the OHWM. Photographs of the two structures in relation to the waterway are provided in Appendix F.

Discharges to Wetlands

Transmission structures to be placed in wetlands are summarized in Section 6.4. The proposed locations are specified and enumerated in Appendix F, Table 8, and the wetlands are shown in Appendix A, Figure 3. In addition, a small amount of soil may be temporarily displaced in wetlands at these locations during removal of the existing poles. The ground surface will be restored to match existing grade after pole removal. Placement of fill in wetlands, including the temporary fill resulting from protective matting placement, may require approval under Section 404 of the Clean Water Act (CWA) from the U.S. Army Corps of Engineers, and water quality certification from the WDNR under Section 401 of the CWA, Wis. Stat. §§ 281.15, 281.31, and 281.36, and Wis. Admin. Code ch. NR 299.

8.1 WDNR Tables for Wetlands and Waterways

As described in Section 8.0, a WDNR Waterway/Wetland Impact Location Table (Table 8) and an Environmental Inventory Table (Table 9) are provided in Appendix F for the route. In addition to wetlands and waterways encountered along both routes, Table 9 also includes upland natural communities which are referenced in other sections of the Joint Application (i.e., Section 6.3 – Forested Lands, and Sections 6.6 and 9.0 which are related to Endangered Resources and Natural Communities).

8.2 Wetland Practicable Alternatives Analysis

As discussed in other portions of this application, this Project is a rebuild of an existing transmission line. No additional ROW will be needed and poles will generally be replaced in the same location as the existing poles. The following summarizes the Wetland Practicable Alternatives Analysis for this project.

8.2.1 Corridor and Route Selection Process

Wetlands along the route were delineated in the field in May 2013 and Wisconsin Wetland Inventory (WWI) was used to discern the extent of wetlands in the general surrounding area. Because this is a rebuild of an existing transmission line, and other route options are not proposed, wetlands were not used extensively in the route selection process. However, the field-delineated and WWI wetland data was used to identify larger wetlands along the route and to generally evaluate the feasibility of avoiding these areas. While there are a few larger wetlands along the route, proposing a realignment to avoid them would add undue cost and likely result in additional impacts to wetlands, other natural resources and/or landowners.

8.2.2 Route Location and Design

This project is a rebuild of an existing line which utilizes an existing corridor thereby reducing wetland impacts. No additional ROW is required. Poles will generally be replaced in their current location along the route and no new poles will be placed in wetlands where they do not currently exist. Based on the number and extent of wetlands along the route, and structure spanning requirements, complete avoidance of wetlands is not practicable. As such, the location and design of the route avoids and minimizes wetland impacts to the extent practicable.

Access through wetlands will be minimized to the extent practicable by the following techniques:

- Attempts will be made to avoid access through wetlands that occur in only in a portion of the ROW;
- Access from roads at either ends of certain wetlands will attempt to be used so travel through the entire wetland length is not necessary; and
- Once the route is ordered, alternate access plans that further reduce wetland impacts will be evaluated and utilized if agreeable with the landowner.

In addition, the use of heavy equipment in wetlands will be minimized to the extent practicable. When wetland access is required, as described in Section 6.4, disturbance to wetlands will be reduced by one or more of the following: completing wetland construction during dry or frozen conditions; the use of equipment with low ground pressure tires or tracks; placement of construction matting to help minimize soil and vegetation disturbances and distribute axle loads over a larger surface area thereby reducing the bearing pressure on wetland soils; or the use of ice roads.

8.2.3 Why Project Alternatives Are Not Practicable

The overall purpose of the Project is to rebuild the Paris-Albers transmission line in Kenosha County to increase reliability in this area. The proposed route will utilize existing cleared corridor and no new ROW is required. New poles will not be placed in wetlands where they currently do not exist, thereby minimizing wetland impact. As wetlands are scattered throughout the Project Area, it is unlikely another route could

be identified that does not impact wetlands without unduly increasing project costs, or having additional landowner or natural resource impacts. In light of the overall project purpose, the scale of this project, and in consideration of a comprehensive list of practical limitations including but not limited to cost, available technology, and logistics, ATC was unable to identify a practicable alternative that would avoid wetland impacts.

8.2.4 Temporary and Permanent Impacts

A number of proven methods will be employed during construction to reduce impacts to those wetlands intersected by the Project alignment. The primary means for wetland impact minimization will be to limit, to the extent practicable, the operation of heavy construction equipment in wetlands as discussed in Section 8.2.2. When construction access through a wetland cannot be avoided, disturbance to wetlands will be reduced by implementation of several specialized construction techniques described in Section 6.4.3. Other protective measures may include scheduling wetland construction activities so they take place during dry or frozen conditions, construction of ice roads, use of low ground pressure equipment, and/or construction matting materials to help minimize soil and vegetation disturbances.

Upon completion of the transmission line, the ATC will complete site restoration and re-vegetation consistent with the activities described in Section 5.5.1 and 6.9.

8.3 Wetland Delineations

ATC's environmental consultant, Stantec Consulting Services Inc., completed wetland delineations in the field along the route in May 2013. Wetland delineations were completed using the methods outlined in the USACE Wetland Delineation Manual (USACE 1987), subsequent guidance documents (USACE 1991, 1992), and applicable Regional Supplements to the Corps of Engineers Wetland Delineation Manual. The wetland boundaries were mapped using a GPS (Global Positioning System) unit (sub-meter accuracy).

Wetlands identified during the field investigation are shown in Appendix A, Figure 3.

8.4 Wetland and Waterway Crossings

Refer to Appendix A, Figure 3 for recent aerial photographs overlaid with the following features: proposed transmission line route, locations of transmission line structures within wetlands, waterways, WWI wetlands, delineated wetlands, mapped hydric soils, proposed temporary bridge locations, locations of other Chapter 30 activities and proposed off-ROW access routes.

9.0 ENDANGERED, THREATENED, SPECIAL CONCERN SPECIES AND NATURAL COMMUNITIES

9.1 WDNR Endangered Resources Review

Due to confidentiality requirements for NHI data, the certified ER review is being provided with a request for confidentiality. A redacted version of the Certified ER Review is included in Appendix I, Exhibit 2.

9.2 Maps and Data Files Showing NHI Occurrences

Figures 3A and 3B of the ER Review show all NHI element occurrence records based on a WDNR query of the Wisconsin Natural Heritage Inventory (WNHI) database dated September 20, 2013, and provided to ATC. These figures are included in the ER Review provided to the WDNR Energy, Transportation and Environmental Analysis Bureau, and to the Commission.

9.3 Assessment and Biological Surveys for Proposed Route

In-field habitat characterization of the entire Project corridor was conducted in May 2013. Habitat assessment results are summarized by segment in Table 9. The results will be used in consultation with the WDNR to identify biological field survey needs if necessary, and to follow-up on recommended actions identified in the ER Review. In September 2013, a detailed habitat assessment was completed of eight wetlands at the west end of the Project Area to determine whether suitable habitat exists for a rare plant listed as federally threatened and state endangered. Results of the field assessment revealed that none of the wetlands provide suitable habitat for the rare plant species.