APPLICATION FOR CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY
Fox Energy Center 3

VOLUME II – STUDIES

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LIST OF APPENDICES

APPENDIX A SITING STUDY

Report on the

Gas Turbine Siting Study

Wisconsin Public Service

Project No. 74000

September 2013

Gas Turbine Siting Study

prepared for

Wisconsin Public Service
Green Bay, Wisconsin

September 2013

Project No. 74000

prepared by

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LIST OF ABBREVIATIONS

Abbreviation	Term/Phrase/Name
7Q10	Lowest average consecutive seven day flow rate over a 10 year period
ANR	ANR Pipeline Company
BMcD	Burns & McDonnell
Btu	British thermal unit
CCGT	Combined Cycle Gas Turbine
Dominion	Dominion Energy
EPA	Environmental Protection Agency
EPC	Engineer, Procure and Construct
Existing Generation Site	Existing large electric generating facility per PSC 111.53(2)(b)3 of the Wisconsin Administration Code.
FEMA	Federal Emergency Management Agency
FIRM	Flood Insurance Rate Map
GIS	Geographic Information System
gpm	gallons per minute
Guardian	Guardian Pipeline, LLC
HRSG	Heat Recovery Steam Generator
km	kilometer
kV	kilovolt
MGD	millions of gallons per day
MGY	millions of gallons per year
MISO	Midcontinent Indpendent System Operator
MM	million

Abbreviation	Term/Phrase/Name
MW	megawatts
MUST	Management and Utilizing System Transmission
NAAQS	National Ambient Air Quality Standards
NHI	National Heritage Inventory
NPS	National Park Service
NRHP	National Register of Historic Places
O&M	Operation and Maintenance
Project	400 MW gas turbine generation facility
psig	pounds per square inch
PTI	Power Technologies, Inc.
SCGT	Simple Cycle Gas Turbine
Study	Gas Turbine Siting Study
T&E	Threatened and Endangered
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WDNR	Wisconsin Department of Natural Resources
WHPD	Wisconsin Historic Preservation Database
WPS	Wisconsin Public Service
WWI	Wisconsin Wetland Inventory
WWTP	Wastewater Treatment Plant

1.0 EXECUTIVE SUMMARY

This section presents an executive summary of the Gas Turbine Siting Study (Study). The Study was completed by Burns & McDonnell Engineering Company, Inc. (BMcD) for Wisconsin Public Service (WPS), a wholly-owned subsidiary of Integrys Energy Group. The objectives, methodology and results of this Study are described in the following sections.

1.1 Study Objectives

WPS has completed capacity planning studies that indicate that approximately 400 megawatts (MW) of new generating resources will be required by 2019 in the WPS service territory. This Study was initiated by WPS to investigate the feasibility of developing a 400 MW gas turbine generating facility (Project) to satisfy these needs.

1.2 Selection of Candidate Site Areas

The project study area was defined to include all of the area within the Midwest Independent System Operator (MISO) Capacity Zone 2, which generally encompasses the eastern half of Wisconsin.

Candidate site areas were identified with consideration of the required infrastructure access (transmission lines, natural gas pipelines, and water resources) and through a review of prior siting studies and other strategically-advantageous locations already known by WPS. Previously undeveloped, or greenfield, sites as well as Existing Generation Sites[1] owned by WPS were considered.

In total, 18 preliminary sites were reviewed by the collective project team and seven sites were carried forward for detailed evaluations. The seven remaining sites were designated as candidate site areas and are listed below in Table 1-1. Their locations are shown on Figure 1-1.

[1] Existing Generation Site as referred to throughout this report is defined as an existing large electric generating facility per PSC 111.53(2)(b)3 of the Wisconsin Administration Code.

Table 1-1: Candidate Site Areas

Site Name	Type of Site	County Name
Bear Creek	Greenfield	Outagamie
Fox Energy Center	Existing Generation Site	Outagamie
Green Valley	Greenfield	Shawano
Pulliam	Existing Generation Site	Brown
Ridge Road	Greenfield	Portage
Rocky Run	Greenfield	Portage
Weston	Existing Generation Site	Marathon

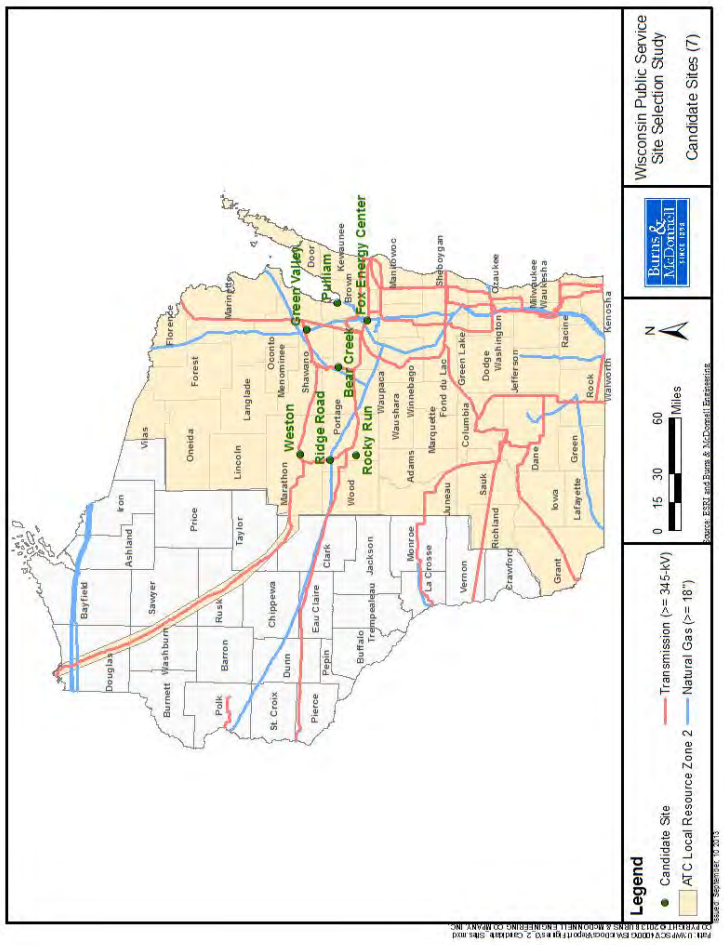


Figure 1-1: Candidate Site Areas

1.3 Candidate Site Evaluation

The seven candidate site areas were evaluated using a numerical decision analysis process to help further rank and screen these sites. The first step in using such a process is to identify the objectives or criteria to use in evaluating these sites. These criteria vary in their importance to the decision-making process so each criterion was also assigned a weight. Criteria with the highest weights are considered to be the most significant factors. These weights were assigned by first organizing the evaluation criteria into major categories. These major categories were then assigned weights totaling 100 percent. Within each major category, the individual evaluation criteria were assigned sub-weights to define their relative importance within that category. The major category weights and sub-weights were combined to yield a composite weight for each criterion

The evaluation categories, category weights, criteria, criteria sub-weights, and composite weights are summarized in Table 1-2.

Table 1-2: Candidate Site Evaluation Criteria

Major Category	Category Weight	Criterion	Scoring	Criterion Weight	Equivalent Pts (100 Pt Scale)
Electric Transmission	25%	*Transmission Ranking from Load Flow Analysis*		50%	12.5
		Top 20th Percentile	50		
		21st to 40th Percentile	40		
		41st to 60th Percentile	30		
		61st to 80th Percentile	20		
		Bottom 20th Percentile	10		
		Interconnection Cost		50%	12.5
		138-kV Substation	50		
		230-kV Substation	40		
		345-kV Substation	30		
		230-kV Line Tap	20		
		345-kV Line Tap	10		
Fuel Supply & Delivery	25%	*Distance*		30%	7.5
		Less than 2 miles to site	50		
		2 to 5 miles to site	30		
		Greater than 5 miles to site	10		
		Capacity and Pressure		30%	7.5
		Capacity Available To Meet 100% of Requirements	50		
		At Least 75% Available and Expansion Required	40		
		At Least 50% Available and Expansion Required	30		
		At Least 25% Available and Expansion Required	20		
		No Capacity Available and Expansion Required	10		
		Competitive Supply		20%	5.0
		2 or more fuel suppliers within 5 miles of site	50		
		Only one fuel supplier within 5 miles of site	10		
		Balancing		20%	5.0
		Monthly Balanced	50		
		Daily Balanced	10		
Water Supply & Delivery	20%	*Surface Water Availability*		40%	8.0
		Surface Water Available Within 5 miles	50		
		Surface Water Available Between 5 and 10 miles	40		
		Surface Water Available Between 10 and 15 miles	30		
		Surface Water Available Between 15 and 25 miles	20		
		Surface Water Greater than 25 miles	10		
		Groundwater Availability		30%	6.0
		High Probability of Water Availability	50		
		Moderate Probability of Water Availability	30		
		Low Probability of Water Availability	10		
		Municipal Reclaim Water Availability		30%	6.0
		Large WWTP within 15 miles	50		
		No Large WWTP within 15 miles	10		

Table 1-2: Candidate Site Evaluation Criteria (cont.)

Major Category	Category Weight	Criterion	Scoring	Criterion Weight	Equivalent Pts (100 Pt Scale)
Site Environmental	10%	*Wetlands*		30%	3.0
		High Probability of Avoiding Wetlands	50		
		Moderate Probability of Avoiding Wetlands	30		
		Low Probability of Avoiding Wetlands	10		
		Floodplain		30%	3.0
		Site Outside of Floodplain	50		
		Part of Site within Floodplain, Potential Developable Area	30		
		Extensive Floodplain, Limited Developable Area	10		
		Cultural Resources		20%	2.0
		Limited Potential for Cultural Resources to be Present	50		
		Moderate Potential for Cultural Resources to be Present	30		
		Significant Potential for Cultural Resources to be Present	10		
		Threatened and Endangered Species		20%	2.0
		3 Threatened & Endangered Species or Less Within County	50		
		4 to 7 Threatened & Endangered Species Within County	30		
		8 Threatened & Endangered Species or More Within County	10		
Air Quality Impacts	10%	*Class I Areas*		30%	3.0
		Greater than 75 Kilometers from Class I Area	50		
		50 to 75 Kilometers from Class I Area	30		
		Class I Area within 50 Kilometers	10		
		Air Permit Feasibility		40%	4.0
		Low relative probability of having NAAQS exceedances	50		
		Moderate relative probability of having NAAQS exceedances	30		
		High relative probability of having NAAQS exceedances	10		
		Nonattainment Status		30%	3.0
		Site is not in a nonattainment county	50		
		Site is in an area with high probability of going nonattainment	30		
		Site is in a nonattainment county	10		
Site Development	10%	*Existing Use*		25%	2.5
		Existing Generation Site / Brownfield Site	50		
		Agricultural Site Area	30		
		Forested / Natural / Undisturbed Site Area	10		
		Site Access		15%	1.5
		Less than 0.5 Mile to Paved Road	50		
		0.5 to 1.5 Miles to Paved Road	30		
		Limited Site Access or Greater than 1.5 Miles to Paved Road	10		
		Equipment Delivery		10%	1.0
		Class I Rail Line Within 1 Mile of Site	50		
		Class I Rail Line Within 1 to 5 Miles of Site	30		
		Class I Rail Line Greater than 5 Miles from Site	10		
		Site Preparation Work		15%	1.5
		Minimal Site Prep Work Expected	50		
		Moderate Site Prep Work Expected	30		
		Significant Site Prep Work Expected	10		
		Noise / Visual Receptors		25%	2.5
		Less than 10 Receptors Within 0.5 Mile of Site	50		
		11 to 25 Receptors Within 0.5 Mile of Site	30		
		Greater than 25 Receptors Within 0.5 Mile of Site	10		
		Proximity to FAA		10%	1.0
		No FAA facilities within 5 miles of site	50		
		FAA facility within 1 to 5 miles of site	30		
		FAA facility within 1 mile of site	10		

The individual scores for each candidate site and criterion were used along with the corresponding weights to calculate a weighted composite score for each site. These composite scores are calculated as the sum of the products of each individual score and criterion weight. Composite scores were developed for a base case and for several sensitivity analyses.

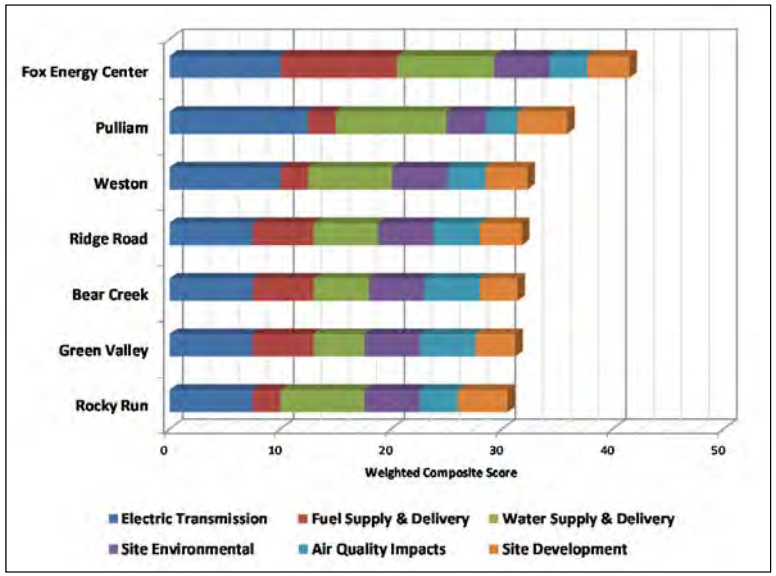
For the base case, the weighted composite scores for each site were calculated using the base weights for each major evaluation category. In the collective judgment of the project team, these base category weights represent an appropriate balance between all factors. All of the individual criterion scores and composite weights for the base case are summarized in Table 1-3.

Table 1-3: Candidate Site Area Evaluation Summary

Major Category/ Criterion	Category/Criterion Weight	Bear Creek	Fox Energy Center	Green Valley	Pulliam	Ridge Road	Rocky Run	Weston
Electric Transmission	**25%**							
Transmission Ranking from Load Flow Analysis	50%	50	50	50	50	50	50	50
Interconnection Cost	50%	10	30	10	50	10	10	30
Fuel Supply & Delivery	**25%**							
Distance	30%	50	50	50	10	50	10	10
Capacity and Pressure	30%	10	50	10	10	10	10	10
Competitive Supply	20%	10	50	10	10	10	10	10
Balancing	20%	10	10	10	10	10	10	10
Water Supply & Delivery	**20%**							
Surface Water Availability	40%	40	50	20	50	50	50	50
Groundwater Availability	30%	20	30	40	50	20	50	50
Municipal Reclaim Water Availability	30%	10	50	10	50	10	10	10
Site Environmental	**10%**							
Wetlands	30%	50	50	50	50	50	50	50
Floodplain	30%	50	50	50	30	50	50	50
Cultural Resources	20%	50	50	50	50	50	50	50
Threatened and Endangered Species	20%	50	50	50	10	50	50	50
Air Quality Impacts	**10%**							
Class I Areas	30%	50	50	50	50	50	50	50
Air Permit Feasibility	40%	50	10	50	10	30	10	10
Nonattainment Status	30%	50	50	50	30	50	50	50
Site Development	**10%**							
Existing Use	25%	30	50	30	50	30	30	50
Site Access	15%	50	50	50	50	50	50	50
Equipment Delivery	10%	10	50	10	50	30	50	50
Site Preparation Work	15%	50	50	50	30	50	50	50
Noise / Visual Receptors	25%	30	10	30	50	30	50	10
Proximity to FAA	10%	30	30	50	30	50	50	30
Total Composite Score	**100%**	**31.40**	**41.50**	**31.20**	**35.90**	**31.80**	**30.50**	**32.30**

Figure 1-2 is a graphical representation of the composite scores for the base case.

Figure 1-2: Candidate Site Evaluation Scores for Base Case



Review of Table 1-3 and Figure 1-2 shows that the base composite evaluation scores range from a low of 30.50 for the Rocky Run site to a high of 41.50 for the Fox Energy Center site. The average and median scores are 33.51 and 31.80, respectively. These composite evaluation scores should not be used as an absolute measure of each site's suitability for the proposed generating station but can be used as an effective screening tool.

The sensitivity of the evaluation scores to varying weights was also tested. For these sensitivity analyses, only the weights assigned to the six major evaluation categories were adjusted. The subweights for the criteria within their respective categories and the individual scores assigned to the sites for each criterion were not changed. Six different sensitivity cases were executed: one for transmission, fuel, water, environmental, air quality and site development, respectively. The weight for the category that was emphasized was increased 10 percent, and then the other five categories were all assigned the same weighted percentages, equal to 2 percent less than the original value for the category being emphasized.

The composite weights for each category and weighted composite scores for each site were then recalculated.

The results of the sensitivity analyses were summarized by comparing each site's ranking under the various cases. These ranks are summarized in Table 1-4.

Table 1-4: Candidate Site Rankings for Sensitivity Analyses

Site Name	Base Weighted Rank	Transmission Weighted Rank	Fuel Weighted Rank	Water Weighted Rank	Environmental Weighted Rank	Air Quality Weighted Rank	Site Dev Weighted Rank
Fox Energy Center	1	1	1	1	1	1	1
Pulliam	2	2	2	2	2	2	2
Weston	3	3	6	3	3	6	3
Ridge Road	4	4	3	4	4	5	4
Bear Creek	5	5	4	6	5	3	7
Green Valley	6	6	5	7	6	4	6
Rocky Run	7	7	7	5	7	7	5

= Denotes rank moved out of the top 3 positions
= Denotes rank moved in to the top 3 positions

Review of Table 1-4 shows that under most scenarios, the site rankings remain robust even when the weighting factors are adjusted. The top-ranked sites remain at or near the top under most scenarios. Likewise, the lowest-ranked sites do not significantly improve when the weighting factor are varied. However, the Weston site does decrease to the sixth ranked site under the fuel weighted and air quality weighted scenarios.

1.4 Selection of Preferred Site Areas

Field reconnaissance of the seven candidate site areas was performed in August 2013 by a multi-disciplinary project team consisting of members from WPS and BMcD. The field reconnaissance consisted of an automobile survey along public roads in the vicinity of each potential site area. In general, most of the information collected during the desktop analysis was confirmed in the field.

Following the field reconnaissance of the seven preferred site areas and subsequent analyses, the project team evaluated the relative strengths and weaknesses of each site. Of the seven candidate sites, comparative analyses led to the recommendation for WPS to carry forward two existing generation sites and one greenfield site. However, no fatal flaws were identified at any of the candidate sites and the other four candidate sites should be considered viable alternate sites should WPS not move forward with development of the Project at one of the three recommended sites.

The three sites recommended for advanced development activities were:

- Fox Energy Center

- Pulliam Generating Station
- Ridge Road

A summary of the major features of the preferred sites is included in Table 1-5.

Table 1-5: Summary of Preferred Site Areas

	Name	Fox Energy Center	Pulliam	Ridge Road
Site	County	Outgamie	Brown	Portgage
Fuel	Primary Fuel Supplier	Guardian[2]	ANR	ANR
	Primary Pipeline (miles)	3.8	9.8	0.1
	Capacity/Pressure Avail.	Yes	No	No
Transmission	Interconnection (miles)	At Site	At Site	At Site
	Interconnection Point	Fox Energy Center Switchyard	New Substation	New Substation
	Capacity Available	Yes	Yes	Yes
Development	Land use	Existing Generation Site, agricultural	Existing Generation Site	Agricultural, undisturbed
	Distance to Rail (miles)	At existing site	At existing site	1.5
Water	Water Supply Options	Heart of the Valley WWTP, Fox River	Green Bay, Fox River	Wisconsin River
	Groundwater Probability	Moderate	High	Low to Moderate

1.5 Conclusions

The conclusions reached from this study are presented below. For convenience, these conclusions are organized by their primary subject matter.

[2] The Fox Energy Center is currently supplied with fuel from ANR. However, ANR indicated that capacity was not available to the Project without incurring significant upgrades. Guardian indicated capacity was available.

1.5.1 General

- Subject to the limitations that may be imposed by regulatory and permitting agencies, there are sites available within the project study area that can accommodate the development of the Project.
- Within the project study area, the search for viable power plant sites yielded seven site areas with reasonable potential for development.
- No fatal flaws were identified at any of the seven candidate site areas and each site appeared to be suitable for development of the Project. Should one of the three preferred sites not be developed in the future, the other potential sites are considered to be viable alternatives.
- The following sites are recommended as the preferred sites to proceed with advanced development activities (listed in alphabetical order):
  - Fox Energy Center (Existing Generation Site)
  - Pulliam (Existing Generation Site)
  - Ridge Road (greenfield site)
- The Fox Energy Center is the only site with a nearby fuel supply option that has capacity to support the Project without requiring significant system upgrades.
- Compatible Existing Generation Sites may allow the existing facilities to share staff with the Project thereby reducing on-going operation and maintenance (O&M) costs. Should combined cycle gas turbine (CCGT) technology be selected for the Project, the Fox Energy Center would have relative advantages as the existing units at the Fox Energy Center are CCGT units. The Weston and Pulliam sites were not considered to be compatible with a new gas turbine facility for sharing staff as those sites have coal-fired units and a small simple cycle gas turbine (SCGT) unit.
- The Fox Energy Center and Pulliam sites have existing water supply infrastructure in place, unlike the greenfield sites. However, water supply infrastructure upgrades would likely be required at both locations.

1.5.2 Environmental

The following is a summary of conclusions reached as part of the environmental portion of this Study:

- All of the seven candidate site areas are located in counties that are in attainment with National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. Therefore, it should be practicable to obtain a permit for the air emissions from the Project at any of these sites; however, additional review and refined modeling will be required to verify this statement.

- Although there are reported occurrences of state or federal threatened & endangered (T&E) species in the vicinity of many of the candidate site areas, actual impacts to any of these species from plant development are unlikely given the type of habitat available at these sites. Consultation with the U.S. Fish and Wildlife Service (USFWS) and/or the Wisconsin Department of Natural Resources (WDNR) would need to be initiated to determine possible impacts to these species and/or their habitats.
- A wetland delineation would need to be conducted to verify the presence of any possible jurisdictional wetlands; however, it is believed that potential wetland impacts, which could result from plant development, can be avoided or minimized at all three of the preferred sites. However, any wetland impact that cannot be avoided or minimized can usually be successfully mitigated.
- Cultural resources have been evaluated in accordance with Chapter 44.40 of the Wisconsin State Statutes. The potential for adverse impacts to cultural resources at all of the candidate site areas is considered low due to the lack of known cultural sites located within the proposed footprints of the candidate sites and because the sites have been previously disturbed by development or agricultural practices.
- Dependent on site layout and land availability, it is believed that all of the sites will allow for plant development outside of a flood zone.

1.5.3 Electric Transmission

The following is a summary of conclusions reached as part of the electric transmission and system impact portion of this Study:

- All of the candidate site areas are located in relative close proximity to existing high-voltage transmission facilities that, according to the preliminary load flow analysis, should not require significant upgrades to support the Project.

1.5.4 Fuel Delivery

The following is a summary of conclusions reached as part of the fuel delivery portion of this Study:

- Each of the candidate site areas is located near an existing large diameter natural gas pipeline. However, there will likely be a need for off-site pipeline improvements in order to handle high capacity and/or pressure requirements for the Project at all sites that would utilize the ANR pipeline as the primary fuel supplier.

- The Fox Energy Center is the only site with nearby access to the Guardian pipeline which, according to company representatives, is expected to have sufficient capacity and pressure available near this site area without significant upgrades. Guardian indicated that upgrades would be required on their pipeline in the areas north of the Fox Energy Center, such as the near the Pulliam site, because the pipeline reduces to smaller diameters in those areas.

1.5.5 Water Supply

The following is a summary of conclusions reached as part of the water supply portion of this Study:

- Within the project study area, potential water sources for a combustion turbine facility could include surface water (lakes and rivers), groundwater, or municipal reclaim water.
- The existing water supply pipeline from the Heart of the Valley wastewater treatment plant (WWTP) to the Fox Energy Center would likely require upgrades to support the Project at this site. As an alternate supply option, it may be possible to obtain water from the nearby Fox River.
- The existing water supply infrastructure at Pulliam would likely require upgrades to support the Project at the Pulliam site.

* * * * *

2.0 INTRODUCTION

Burns & McDonnell Engineering Company, Inc. (BMcD) was retained by Wisconsin Public Service (WPS), a wholly-owned subsidiary of Integrys Energy Group, to perform a Gas Turbine Siting Study (Study) to evaluate the potential development and construction of a new gas turbine generating facility to be located in Wisconsin. This introduction presents a discussion of the Study objectives, an overview of the methodology, and identifies the project team.

2.1 Background

WPS has completed capacity planning studies that indicate that approximately 400 megawatts (MW) of new generating resources will be required by 2019 in the WPS service territory. This Study was initiated by WPS to investigate the feasibility of developing a 400 MW gas turbine generation facility (Project) to satisfy these needs.

2.2 Study Methodology

The principal component of this report is a gas turbine siting study. The objective of the Study was to identify potential sites that would be capable of supporting development of at least 400 MW of new gas-fired generation. Previously undeveloped, or greenfield sites, as well as Existing Generation Sites[3] owned by WPS were considered.

The site identification and selection efforts were completed in three phases. A brief description of these phases is included below.

- **Step 1:** Preliminary site areas were first identified with consideration of the required infrastructure access (transmission lines, natural gas pipelines, and water resources) and through a review of prior siting studies and other strategically advantageous locations already known by WPS. An initial screening, using readily available maps and aerial photographs, was then completed to eliminate any of these preliminary sites with obvious development constraints or to merge similar sites that were in close proximity to one another. The remaining sites were designated as “candidate site areas”.

[3] Existing Generation Site as referred to throughout this report is defined as an existing large electric generating facility per PSC 111.53(2)(b)3 of the Wisconsin Administration Code.

- **Step 2:** In the second step, the candidate site areas were evaluated against 22 criteria organized into six major categories: fuel supply and delivery; electric transmission; water supply and discharge; site environmental; site development factors; and air quality impacts. The results of this evaluation were used to further screen the candidate site areas in preparation for field reconnaissance.
- **Step 3:** Field reconnaissance was conducted at each candidate site during the last phase of the Study. This reconnaissance was completed to verify and update the information available for each site area relative to existing development, land use, and other factors. The project team used the information collected during the reconnaissance along with consideration of strategic factors to identify and recommend three "preferred site areas".

2.3 Project Team

This Study was completed by a multi-disciplinary team of professionals from WPS and BMcD. The project team included individuals with expertise in the planning, permitting, design and operation of electric generating facilities.

2.4 Organization of Report

This report is organized into several separate chapters and supporting appendices. These individual sections are listed below along with a brief description of their contents.

- **Chapter 1.0 - Executive Summary:** An executive summary of the Study.
- **Chapter 2.0 - Introduction:** A description of the Study's objectives, methodology and project team.
- **Chapter 3.0 - Selection of Candidate Site Areas:** A description of each of the candidate site areas.
- **Chapter 4.0 - Candidate Site Area Descriptions:** A description of the methods used to identify candidate site areas.
- **Chapter 5.0 - Candidate Site Area Evaluation:** A discussion of criteria used in the evaluation of candidate site areas and the results of this evaluation.
- **Chapter 6.0 - Selection of Preferred Site Areas:** A description of the field reconnaissance and rationale used to identify the preferred site areas.
- **Chapter 7.0 - Conclusions:** The conclusions reached during the Study.

* * * * *

3.0 SELECTION OF CANDIDATE SITE AREAS

The first step in the site selection process was the identification of candidate site areas. Candidate site areas are general locations that possess the necessary infrastructure and other characteristics that may make them suitable power plant sites. Candidate site areas may be much larger than the amount of land actually required for plant development. The following sections describe the steps and investigations completed to identify candidate site areas.

3.1 Project Study Area

The project study area was defined to include all of the area within the Midcontinent Independent System Operator (MISO) Capacity Zone Two[4], which generally encompasses the eastern half of Wisconsin. The project study area is shown on Figure 3-1 and Figure 3-2 at the end of this report section.

3.2 Retained Sites

In February 2005, WPS retained BMcD to complete a separate siting study to evaluate the potential development and construction of a new base load generating facility to be located in Wisconsin; a subset of the sites identified in that study were subsequently reevaluated by BMcD in September 2005 with an emphasis on natural gas as the primary fuel source (collectively, the "2005 Studies"). The following sites were extracted from the 2005 Studies for reevaluation in this Study:

- Fox Energy Freedom, Fox River, and Brown County (consolidated into Existing Generation Site Fox Energy Center)
- Pulliam
- Rocky Run
- Weston

For completeness, BMcD notes that the following candidate site areas from the 2005 Studies were not considered herein for the reasons described below:

- Calpine Fond du Lac: eliminated due to a new generation site that has been constructed in this area since completion of the 2005 Studies.
- Fitzgerald: eliminated due to its proximity to urbanized development and the Oshkosh airport.
- Isaar: eliminated due to concerns with electric transmission availability.
- Mirant: consolidated with nearby Rocky Run site.

[4] See section 3.3.2 for further explanation of MISO Capacity Zones

- Rock County: eliminated due to the distance to fuel supply and potential environmental restrictions due to an existing gas-fired plant located near the site.

3.3 Other Preliminary Sites

In order to minimize the potential impacts and costs of plant development, prospective site areas should be located as near as practicable to the infrastructure or physical resources that are critical to power plant development. The most significant of these include electric transmission, fuel, and water.

At the onset of the Study, the collective project team reviewed aerial photography within the aforementioned project study area to identify additional locations based on proximity to critical infrastructure and other strategic factors that may have made them suitable for development of the Project. Six sites were identified for further evaluation:

- Bear Creek
- Green Valley
- Ridge Road
- Kewaunee Nuclear Facility
- Stone Lake to Arrowhead
- Morgan to Plains

Upon review, the Bear Creek, Green Valley, and Ridge Road sites were retained for further evaluation and the Kewaunee Nuclear Facility, Stone Lake to Arrowhead, and Morgan to Plains sites were eliminated from further consideration. The rationale for eliminating these three sites is described in the following sections.

3.3.1 Kewaunee Nuclear Facility

The Kewaunee Nuclear Facility is the location of a nuclear power plant that ceased operations due to commercial considerations. The facility is located in Kewaunee County and is owned and operated by Dominion Energy (Dominion). The collective project team strongly considered utilizing a site in or near the existing facility, recognizing that significant existing electric and water infrastructure resources may have offered value to a new generating facility. However, the nearest suitable natural gas pipeline is located approximately 31 miles west of the facility. The cost to construct a lateral connection to this line is expected to exceed $45,000,000 based on preliminary estimates.

In addition, the existing plant, while closed for commercial operation, must continuously cool the spent nuclear fuel for years to come. Thus, re-use or modification of existing plant infrastructure could pose nuclear safety concerns.

Lastly, the site is owned and operated by Dominion. A partnership with Dominion of some form would be required to ensure Project success, and there is no guarantee that such a partnership could be established.

Because multiple alternate locations were identified with much closer proximity to a suitable natural gas pipeline and due to the potential safety, regulatory, and ownership challenges at this site, the Kewaunee Nuclear Facility was eliminated from further consideration.

3.3.2 Stone Lake to Arrowhead

The Stone Lake to Arrowhead site is located along an existing American Transmission Company, LLC 345-kV transmission line. However, the site is located outside of MISO Capacity Zone 2 and the MISO capacity construct dictates that firm transmission service be procured in order for generating facilities located outside the owner's Capacity Zone to be fully counted as a capacity resource. This requirement dictates that the owner must take the risk of procuring and maintaining firm, long-term transmission service from the generator into the applicable MISO Capacity Zone. A significant physical failure of the Arrowhead to Weston 345-kV transmission line would represent a threat to reliable service and operation of the generating facility, and also instantly remove a significant portion of capacity from the WPS mix, thereby potentially reducing reliability within Capacity Zone 2. An outage event such as this, and any contingency plans to mitigate the risk, represent potentially significant costs to the WPS rate payers. Therefore, the site was eliminated from further consideration.

3.3.3 Morgan to Plains

The Morgan to Plains site area was previously identified as a potential site based on a proposed 345-kV transmission line. The transmission line does not yet exist and has not entered into definitive planning activities. Because no certainty can be attributed to the commercial operation date, the site was eliminated from further consideration.

3.4 Candidate Site Areas

The seven remaining sites were designated as candidate site areas. These candidate site areas are listed in Table 3-1 along with the counties within which they are located.

Table 3-1: Candidate Site Areas

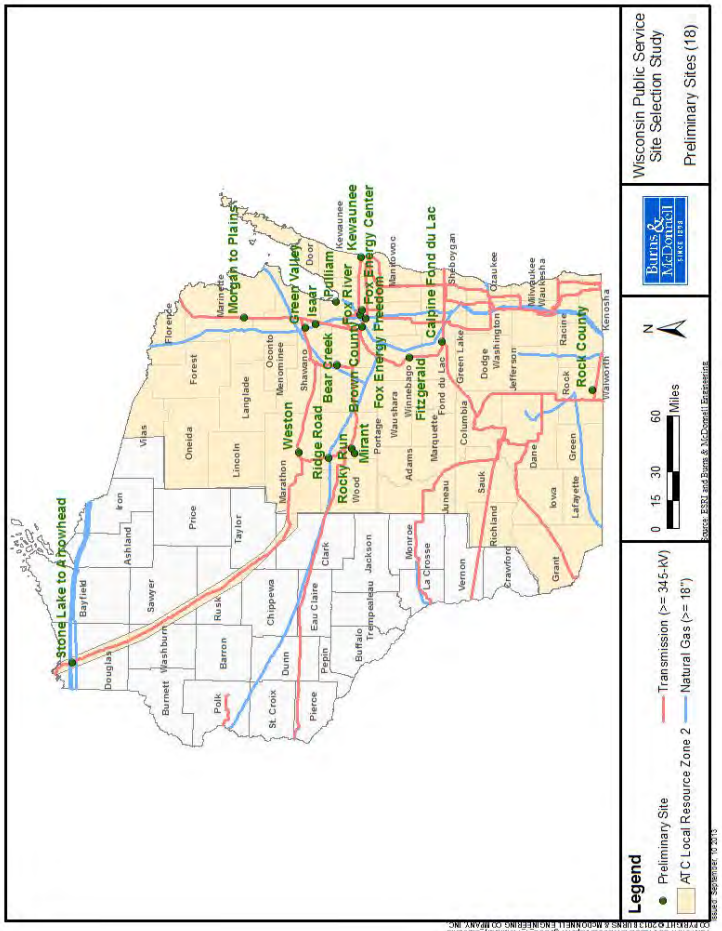
Site Name	Type of Site	County Name
Bear Creek	Greenfield	Outagamie
Fox Energy Center	Existing Generation Site	Outagamie
Green Valley	Greenfield	Shawano
Pulliam	Existing Generation Site	Brown
Ridge Road	Greenfield	Portage
Rocky Run	Greenfield	Portage
Weston	Existing Generation Site	Marathon

A map depicting the 18 preliminary sites considered is shown on Figure 3-1 and the seven remaining candidate sites that were carried forward for detailed evaluations are shown on Figure 3-2.

A narrative description of each candidate site area is provided in Chapter 4.

* * * * *

Figure 3-1: Preliminary Site Areas



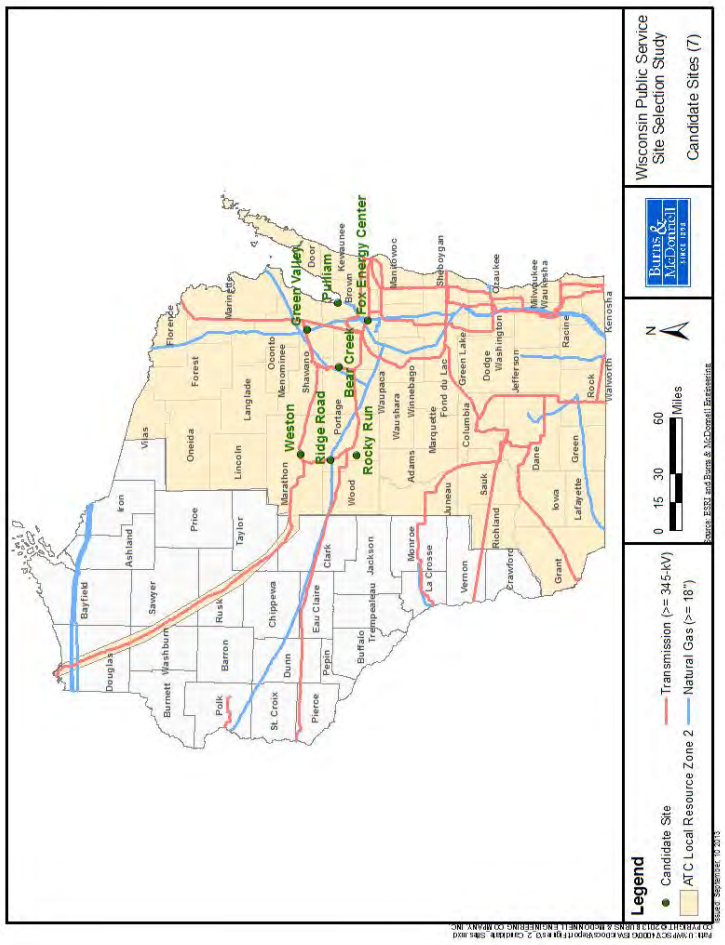


Figure 3-2: Candidate Site Areas

4.0 CANDIDATE SITE AREA DESCRIPTIONS

This chapter contains narrative descriptions and maps of the seven candidate site areas, with an emphasis on characteristics that are important in the subsequent evaluation process. The locations shown on the site maps herein are considered to be representative of areas in the general site vicinity. With consideration of future real estate conditions and further analyses, the site boundaries at any site selected for eventual development could be modified from those shown on the enclosed site maps.

4.1 Bear Creek Site Area

The Bear Creek site area is located in the northwestern portion of Outagamie County, approximately three miles southeast of Clintonville. This site area is an undeveloped, or greenfield, site location. A map of this site area is included as Figure 4-1. As shown on Figure 4-1, this site area was moved north following field reconnaissance in order to locate the site closer to the gas pipeline.

4.1.1 Current Site Conditions and Land Use

As designated, the site area comprises approximately 160 acres of agricultural land. The topography of the site is predominately flat but the site is not located within a designated floodplain. The site area is currently cropland and zoned for exclusive agriculture use. The site does not appear to contain unique or high value habitat for plant or wildlife species. A database search of records maintained by the Wisconsin Department of Natural Resources (WDNR) indicates that no known T&E species exist within the search criteria buffer of the site. The WDNR search criteria buffer area includes a one-mile buffer for wetland and terrestrial species and a two-mile buffer for aquatic species.

Road access to the site is provided by Deer Creek Road and County Road D, which bound the site area on the south and east, respectively. State Highway 76 is located approximately 2.5 miles south and U.S. Highway 45 is located approximately 1.5 miles to the west of the site.

Based on available Wisconsin Wetland Inventory (WWI) maps, there are no wetlands on this site; however there are some forested wetland areas that border the site to the northwest. A database search for cultural resource sites showed none have been recorded at this site.

There were 17 sensitive noise receptors identified within a one-half mile of the site.

4.1.2 Air Impacts

Outagamie County is classified as attainment for all criteria pollutants. The nearest Class I area is Seney National Wildlife Refuge, which is located approximately 167 miles (272 km) northeast of the site. At

this distance, adverse impacts to this Class I area are not expected to occur. There are 20 facilities within 12.4 miles (20 km) that emit pollutants that are regulated under National Ambient Air Quality Standards (NAAQS). None of these facilities are considered major sources for emissions of NO_x or $PM_{2.5}$ and therefore would likely not be a limiting factor for obtaining an air permit at this location.

The nearest public-use airport is Clintonville Municipal Airport, which is located approximately 2.5 miles north of the site. Because of the distance to this airport, there is little potential for adverse airspace impact from plant construction and operation at this site.

4.1.3 Fuel Supply

Natural gas fuel for a new gas turbine facility can potentially be supplied by a new lateral from an existing ANR 16-inch pipeline located approximately 0.5 miles west of the site. According to company representatives, the existing ANR gas pipeline system is likely insufficient to support a new gas turbine facility without significant upgrades.

4.1.4 Electric Transmission

Generating units at this site would be connected to the electric transmission system by building a 345-kV generator output line and tapping the Central Wisconsin to Werner West 345-kV transmission line located adjacent, to the east, of the site area. A preliminary thermal load analysis was performed at the proposed interconnection point to give an indication of required transmission system improvements. This analysis showed that the transmission system in this area appeared to be capable of supporting the Project without requiring significant upgrades.

4.1.5 Water Supply and Discharge

A surface water supply for this site could be obtained from alluvial wells or a new intake at the Wolf River, which is located approximately eight miles east of the site. BMcD performed a 7Q10 analysis on this river using data from the nearest upstream USGS stream gauge. The 7Q10 flow, or the lowest average consecutive 7-day flow rate over a 10-year period, was determined to be 96 MGD. Thus, assuming regulatory approval and/or permits could be obtained from the WDNR, this water source should be adequate to supply the plant without adverse impact to other water users.

The primary groundwater aquifer near the site area would be sand and gravel with a low to moderate potential for available groundwater. Research into potential public water sources, either potable water or treated wastewater effluent, did not identify any nearby sources within 15 miles of the site.

Wastewater from this site would most likely be discharged into the Wolf River or Embarrass River. These discharges are not expected to significantly impact the quality of these receiving water bodies.

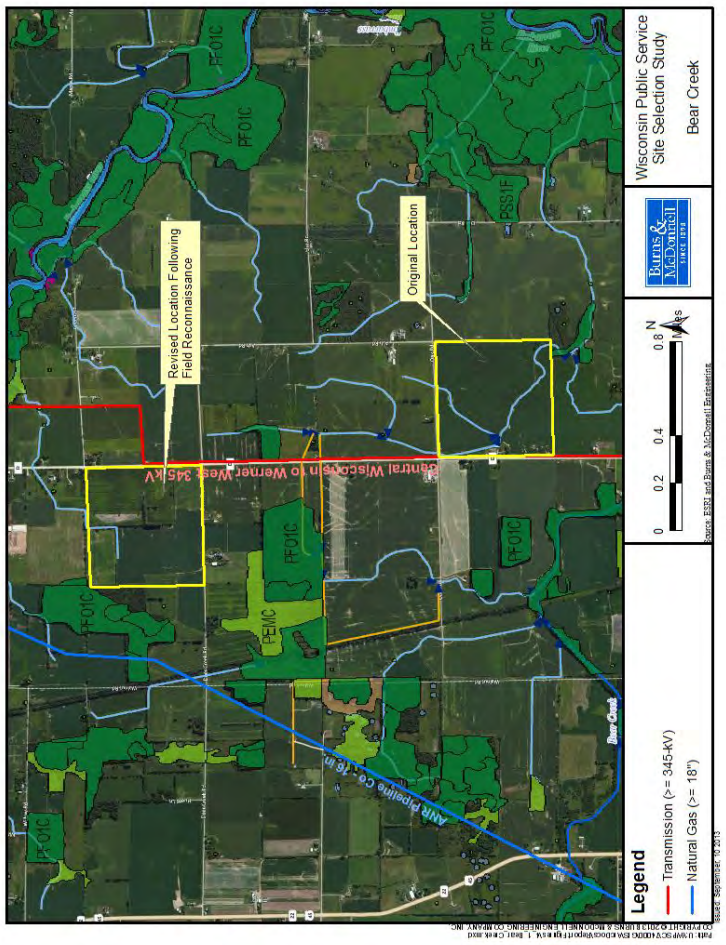


Figure 4-1: Bear Creek Site Area

4.2 Fox Energy Center Site Area

The Fox Energy Center site area is an Existing Generation Site located in the southeastern portion of Outagamie County, within the municipal limits of the town of Kaukauna and village of Wrightstown. A map of this site area is included as Figure 4-2.

4.2.1 Current Site Conditions and Land Use

As designated, the site area comprises approximately 80 acres of industrial and agricultural land. The topography of the site is relatively flat with a small, unnamed tributary to the Fox River that drains north, away from the site and the site is not located within a designated floodplain. The site area is currently cropland and is primarily zoned for industrial use with a small area in the northwestern portion zoned rural residential. The site does not appear to contain unique or high value habitat for plant or wildlife species. A database search of records maintained by the WDNR indicates that no known T&E species exist within the search criteria buffer of the site.

Road access to the site is provided by East Frontage Road, which parallels U.S. Highway 41, and is adjacent to the west of the site area. Wrightstown Road is located near the northern border of the site and State Highway 96 is located near the southern border.

Based on available WWI maps, there are no wetlands on this site; however, there are some forested wetland areas that are present bordering the site to the east. A database search for cultural resource sites showed none have been recorded at this site.

There were 133 sensitive noise receptors identified within a one-half mile of the site.

4.2.2 Air Impacts

Outagamie County is classified as attainment for all criteria pollutants. The nearest Class I area is Seney National Wildlife Refuge, which is located approximately 162 miles (262 km) northeast of the site. At this distance, adverse impacts to this Class I area are not expected to occur. There are 85 facilities within 12.4 miles (20 km) that emit pollutants that are regulated under NAAQS. A pulp and paper facility located approximately 3.4 miles (5.5 km) from the site is considered a major source for emissions of NO_x or $PM_{2.5}$ and therefore may be a limiting factor for obtaining an air permit at this location.

The nearest public-use airport is Austin Straubel International Airport, which is located approximately 11.5 miles north of the site and the nearest private-use airport is Antique Aerodome, which is located approximately 3.5 miles northeast of the site. Because of the distances to these airports, there is little potential for adverse airspace impact from plant construction and operation at this site.

4.2.3 Fuel Supply

Natural gas fuel for a new gas turbine facility could be supplied by a new lateral from either an existing ANR 30-inch pipeline located approximately 0.4 miles east of the site or an existing Guardian 20-inch pipeline located approximately 3.8 miles east of the site. The ANR pipeline system would likely require significant upgrades; however, Guardian Pipeline indicated that they could supply ample fuel capacity and pressure to support the Project.

4.2.4 Electric Transmission

Generating units at this site would be connected to the electric transmission system at the existing Fox Energy Center 345-kV switchyard located on-site. A preliminary thermal load analysis was performed at the proposed interconnection point to give an indication of required transmission system improvements. This analysis showed that the transmission system in this area appeared to be capable of supporting the Project without requiring significant upgrades.

4.2.5 Water Supply and Discharge

The existing Fox Energy Center receives its water from the Heart of the Valley wastewater treatment plant (WWTP). Additional capacity is likely available from this source; however, upgrades to the existing water supply line would most likely be necessary to utilize the additional capacity.

A surface water supply for this site could be obtained from alluvial wells or a new intake at the Fox River, which is located approximately 0.5 miles south of the site. BMcD performed a 7Q10 analysis on this river using data from the nearest upstream USGS stream gauge. The 7Q10 flow, or the lowest average consecutive seven-day flow rate over a 10-year period, was determined to be 451 MGD. Thus, assuming regulatory approval and/or permits could be obtained from the WDNR, this water source is likely adequate to supply the Project without adverse impact to other water users.

The primary groundwater aquifer near the site area is limestone/dolomite with a moderate potential for available groundwater.

Wastewater from this site would most likely be discharged into the Fox River. It is not anticipated that additional wastewater flow into the Fox River from a new unit would result in adverse water quality impacts.

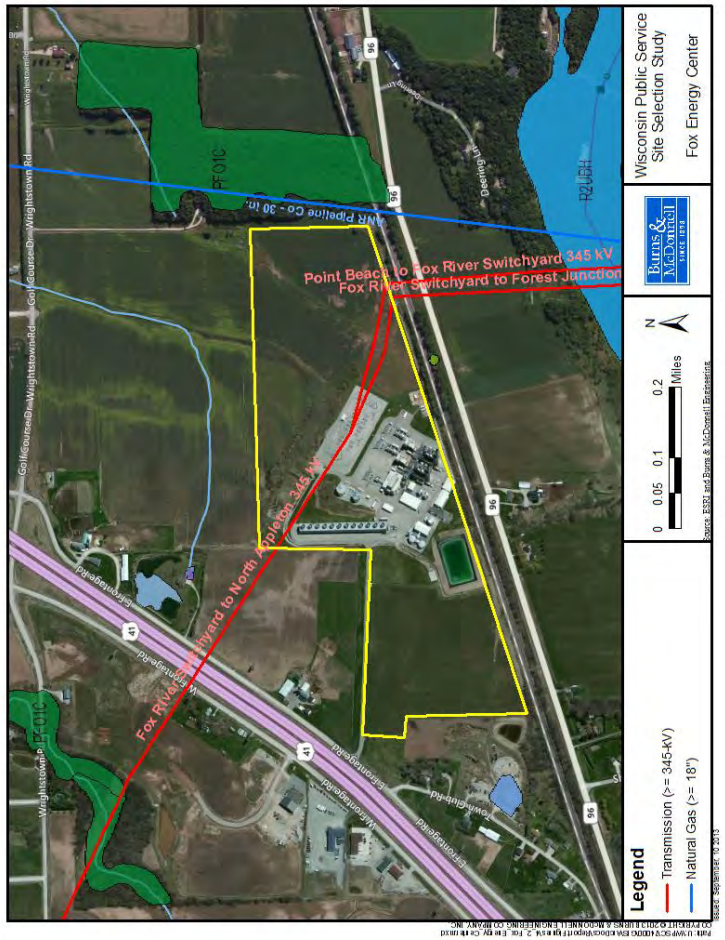


Figure 4-2: Fox Energy Center Site Area

4.3 Green Valley Site Area

The Green Valley site area is located in the northeastern portion of Shawano County within the municipal limits of Green Valley, Wisconsin, approximately one mile west of the town center. This site area is an undeveloped, or greenfield, site location. A map of this site area is included as Figure 4-3.

4.3.1 Current Site Conditions and Land Use

As designated, the site area comprises approximately 160 acres of agricultural land. The topography of the site is relatively flat with a small unnamed stream that drains southwest and away from the site. The site is not located within a designated floodplain. The site area is currently cropland and pasture and is zoned for open lands, agriculture and residential. The site does not appear to contain unique or high value habitat for plant or wildlife species. A database search of records maintained by the WDNR indicates that no known T&E species exist within the search criteria buffer of the site.

Road access to the site is provided by County Road E and County Road BB/Hintz Road, which bound the site area on the north and east, respectively. State Highway 32 is located approximately two miles east and U.S. Highway 141 is located approximately 12 miles to the east of the site.

Based on available WWI maps, there are two small areas of forested wetlands on this site; however, these areas could likely be avoided during construction if needed. A database search for cultural resource sites showed none have been recorded at this site.

There were 14 sensitive noise receptors identified within a one-half mile of the site.

4.3.2 Air Impacts

Shawano County is classified as attainment for all criteria pollutants. The nearest Class I area is Seney National Wildlife Refuge, which is located approximately 142 miles (226 km) northeast of the site. At this distance, adverse impacts to this Class I area are not expected to occur. There are 20 facilities within 12.4 miles (20 km) that emit pollutants that are regulated under NAAQS. None of these facilities are considered major sources for emissions of NO_x or $PM_{2.5}$ and therefore would not be a limiting factor for obtaining an air permit at this location.

The nearest public-use airport is Shawano Municipal Airport, which is located approximately 13 miles west of the site and the nearest private-use airport is Deer Haven Ranch, which is located approximately 8.4 miles northwest of the site. Because of the distances to these airports, there is little potential for adverse airspace impact from plant construction and operation at this site.

4.3.3 Fuel Supply

Natural gas fuel for a new gas turbine facility could be supplied by a new lateral from an existing ANR 30-inch pipeline located approximately 0.7 miles west of the site. The existing ANR gas pipeline system is likely insufficient to support a new gas turbine facility without significant upgrades.

4.3.4 Electric Transmission

Generating units at this site would be connected to the electric transmission system by building a 345-kV generator output line by tapping the Morgan to Central Wisconsin 345-kV transmission line located approximately 0.9 miles north of the site area. A preliminary thermal load analysis was performed at the proposed interconnection point to give an indication of required transmission system improvements. This analysis showed that the transmission system in this area appeared to be capable of supporting the Project without requiring significant upgrades.

4.3.5 Water Supply and Discharge

A surface water supply for this site could be obtained from alluvial wells or a new intake from Green Bay located approximately 16.2 miles east of the site. An alternative surface water supply could be the Wolf River located approximately 15.8 miles west of the site. Assuming regulatory approval and/or permits could be obtained from the WDNR, Green Bay would be the preferred water source to adequately supply the plant without adverse impact to other water users.

The primary groundwater aquifer near the site area is limestone/dolomite with a moderate to high potential for available groundwater. Research into potential public water sources, either potable water or treated wastewater effluent, did not identify any nearby sources within 15 miles of the site.

Wastewater from this site would most likely be discharged back into the surface water supply of Green Bay or the Wolf. It is not anticipated that additional wastewater flow from a new unit would result in adverse water quality impacts.

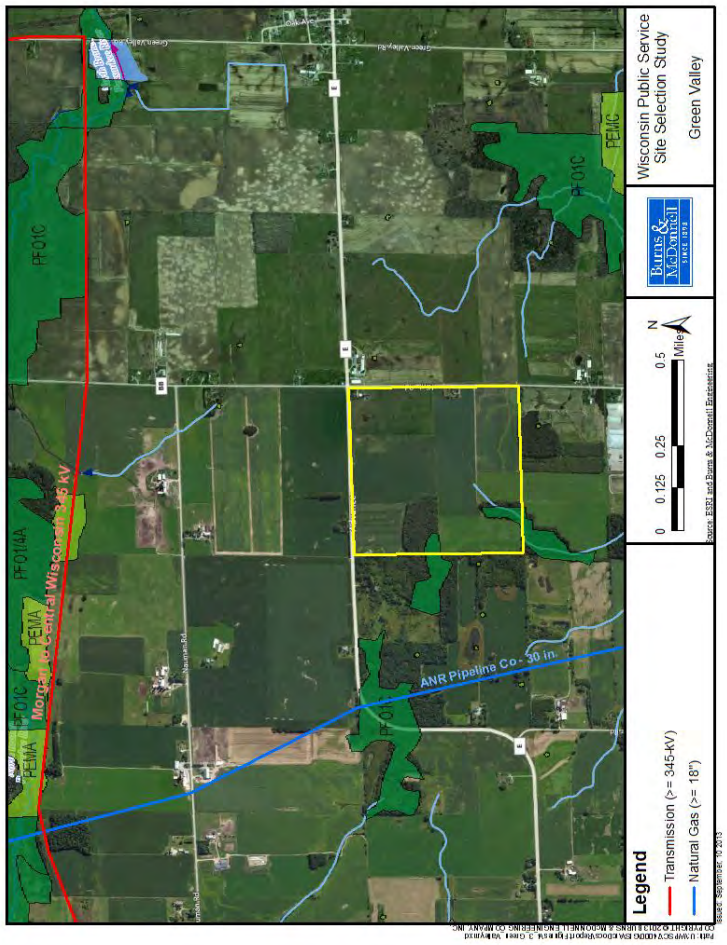


Figure 4-3: Green Valley Site Area

4.4 Pulliam Site Area

The Pulliam site area is located in Brown County within the city limits of Green Bay. The existing Pulliam Generating Station is located adjacent to this site area, so this site area is considered to be an Existing Generation Site. A map of this site area is included as Figure 4-4.

4.4.1 Current Site Conditions and Land Use

An additional generation facility at this site would be located northwest of the existing station. This area consists of a low-lying marshy area adjacent to the Bay of Green Bay that was filled over past decades. The site was a WDNR-licensed landfill from 1971 to 1986. The site area is relatively flat and located partially within a 100-year floodplain. Industrial facilities located to the southeast of the site have been looked at as potential steam hosts for a cogeneration facility in the past and have not been feasible. Available geologic information for the site vicinity indicates a high probability that extensive foundation structures would be required.

Road access to the site is provided by Bylsby Avenue, which passes through the site area. Interstate 43 is located immediately south of the site. Rail access is also available equipment delivery at this site.

The site area is currently zoned for industrial use and does not contain unique or high value habitat for plant or wildlife species that would be impacted by new development. A database search of records maintained by WDNR indicates that T&E species are known to exist within the search criteria buffer area of the site and the area is near a migratory bird concentration site. Based on available WWI maps, this site contains three acres of emergent wetlands. A database search for cultural resource sites indicated there are no known sites at this site.

No sensitive noise receptors were identified within a one-half mile of the site.

4.4.2 Air Impacts

Brown County is classified as an attainment area for all criteria pollutants. Brown County is near the threshold for the 24-hour NAAQS for $PM_{2.5}$ and could be classified as nonattainment for this pollutant in the near future. The nearest Class I area is Seney National Wildlife Refuge, which is located approximately 145 miles (232 km) north of the site. At this distance, adverse impacts to this Class I area would likely be low. The site area is located approximately 45 miles from the Michigan border. Air emissions permitting at this site could be complicated with the potential involvement of the regulatory agencies from both Wisconsin and Michigan. There are 100 facilities within 12.4 miles (20 km) that emit pollutants that are regulated under NAAQS. Including Pulliam Generating Station, there are a total of six facilities within approximately 3.7 miles (5.9 km) of the site that are considered major sources for

emissions of NO_x or $PM_{2.5}$. Therefore, this may be a limiting factor for obtaining an air permit at this location.

The nearest operational public-use airport is Austin Straubel International (Green Bay), approximately 5 miles southwest of the site. The site is in the glide path for the airport but existing stacks at the site are around 377 feet above ground level and new structures associated with the new generating unit should not cause airspace impacts. Another public-use airport, John Antonneau Memorial, which is located approximately two miles northwest of the site, is not operational.

4.4.3 Fuel Supply

Natural gas fuel for a new gas turbine facility could be supplied by a new lateral from an existing ANR 30-inch pipeline located approximately 9.8 miles west of the site or an existing Guardian 20-inch pipeline located approximately 11.1 miles southeast of the site. Both of these pipelines are likely insufficient to support a new gas turbine facility without significant upgrades. As noted earlier, Guardian indicated sufficient capacity and pressure were likely available near the Fox Energy Center. However, the portion of the pipeline system that extends north of the Fox Energy Center and west of the Pulliam site would require significant upgrades to support the Project.

4.4.4 Electric Transmission

New generating units located at this site would be interconnected to the electric transmission system at the existing Pulliam 138-kV substation at the site location. The nearest 345-kV transmission line is located 10 miles southwest of the site but it is assumed that interconnection to the on-site substation is preferred. A preliminary thermal load analysis was performed at the proposed interconnection point to give an indication of required transmission system improvements. This analysis showed that the transmission system in this area appeared to be capable of supporting the Project without requiring significant upgrades.

4.4.5 Water Supply and Discharge

The existing Pulliam generating station obtains its water supply from an intake on the Fox River. There is also a second intake on Green Bay that is rarely used due to low water levels in Green Bay and sedimentation in the Green Bay intake bay. The existing units use once-through cooling. The existing water supply system would have to be modified to service an additional generating unit at this site. Due to the large size of Green Bay, there is little potential for adverse impacts to other water users from additional water withdrawals.

The primary groundwater aquifer near the site area is limestone/dolomite with a high potential for available groundwater. The city of Green Bay can potentially provide treated wastewater effluent to this generating station; however, with Green Bay located adjacent to the site, investment in the required delivery pipelines could be cost prohibitive.

Wastewater from generating units at this site is discharged to the Fox River. The additional discharge from a new unit is not expected to impact the water quality of the receiving water body.

Figure 4-4: Pulliam Site Area

4.5 Ridge Road Site Area

The Ridge Road site area is located in the northwestern portion of Portage County, within the municipal limits for the town of Eau Pleine. This site area is an undeveloped, or greenfield, site location. A map of this site area is included as Figure 4-5.

4.5.1 Current Site Conditions and Land Use

As designated, the site area comprises approximately 160 acres of agricultural land. The topography of the site is relatively flat and is not located within a designated floodplain. The site area is currently cropland and pasture and is zoned as General Agricultural District. The town hall for the town of Eau Pleine is located in the northwest corner of the site area. The site does not appear to contain unique or high value habitat for plant or wildlife species. A database search of records maintained by the WDNR indicates that no known T&E species exist within the search criteria buffer of the site.

Road access to the site is provided by County Road H and State Highway 34, which bound the site area on the north and west, respectively. U.S. Highway 10 is located approximately 1.5 miles to the south of the site and I-39 is located approximately four miles east of the site.

Based on available WWI maps, there are two small areas of emergent wetlands on this site; however, these areas could likely be avoided during construction. A database search for cultural resource sites showed none have been recorded at this site.

There were 19 sensitive noise receptors identified within a one-half mile of the site.

4.5.2 Air Impacts

Portage County is classified as attainment for all criteria pollutants. The nearest Class I area is Rainbow Lake Wilderness Area, which is located approximately 143 miles (230 km) northwest of the site. At this distance, adverse impacts to this Class I area are not expected to occur. There are 20 facilities within 12.4 miles (20 km) that emit pollutants that are regulated under NAAQS.

Two pulp and paper facilities located approximately 11.4 miles (18.4 km) from the site are considered major sources for emissions of NO_x or $PM_{2.5}$ and therefore may be a limiting factor for obtaining an air permit at this location.

The nearest public-use airport is Stevens Point Municipal Airport, which is located approximately 10 miles southeast of the site and the nearest private-use airport is Jaks Field, which is located approximately

11.6 miles northeast of the site. Because of the distances to these airports, there is little potential for adverse airspace impact from plant construction and operation at this site.

4.5.3 Fuel Supply

Natural gas fuel for a new gas turbine facility could be supplied by a new lateral from an existing ANR 24-inch pipeline located approximately 0.3 miles south of the site. The existing ANR gas pipeline system is likely insufficient to support a new gas turbine facility without significant upgrades.

4.5.4 Electric Transmission

Generating units at this site would be connected to the electric transmission system by building a 345-kV generator output line and tapping the Rocky Run to Gardener Park 345-kV transmission line that bisects the site area. A preliminary thermal load analysis was performed at the proposed interconnection point to give an indication of required transmission system improvements. This analysis showed that the transmission system in this area appeared to be capable of supporting the Project without requiring significant upgrades.

4.5.5 Water Supply and Discharge

A surface water supply for this site could be obtained from alluvial wells or a new intake on the Wisconsin River located approximately 3.2 miles east of the site. BMcD performed a 7Q10 analysis on this river using data from the nearest upstream USGS stream gauge. The 7Q10 flow, or the lowest average consecutive seven-day flow rate over a 10-year period, was determined to be 617 MGD. Thus, assuming regulatory approval and/or permits could be obtained from the WDNR, this water source is likely adequate to supply the Project without adverse impact to other water users.

The primary groundwater aquifer near the site area is sand and gravel with a low to moderate potential for available groundwater. Research into potential public water sources, either potable water or treated wastewater effluent, did not identify any nearby sources within 15 miles of the site.

Wastewater from this site would most likely be discharged into the Wisconsin River. These discharges are not expected to significantly impact the quality of the receiving water body.

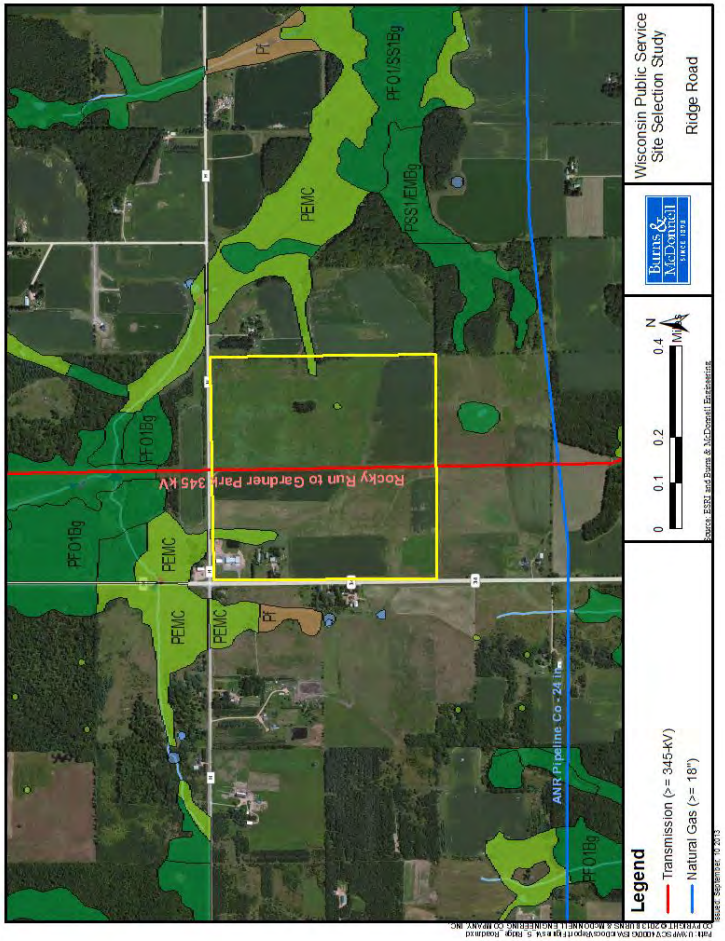


Figure 4-5: Ridge Road Site Area

4.6 Rocky Run Site Area

The Rocky Run site area is located in Portage County, approximately 7.5 miles east of Wisconsin Rapids in the town of Grant. This site area is an undeveloped, or greenfield, location. A map of this site area is included as Figure 4-6.

4.6.1 Current Site Conditions and Land Use

As designated, the site area comprises approximately 320 acres of agricultural land. The topography of the site is relatively flat and is not located within a designated floodplain. There is a potato processing facility adjacent to the site that could serve as a steam host for a potential cogeneration facility. The site area is currently irrigated cropland. The site does not appear to contain unique or high value habitat for plant or wildlife species. A database search of records maintained by the WDNR indicates that no known T&E species exist within the search criteria buffer of the site.

Road access to the site is provided by 110th St North and Birch Street, which bound the site area on the west and south, respectively. U.S. Highway 54 is located approximately one mile north of the site and an existing food manufacturing facility borders the site to the northwest.

Based on available WWI maps, there are two small areas of emergent wetlands on this site; however, these areas could likely be avoided during construction. A database search for cultural resource sites showed none have been recorded at this site.

There were nine sensitive noise receptors identified within a one-half mile of the site.

4.6.2 Air Impacts

Portage County is classified as attainment for all criteria pollutants. The nearest Class I area is Rainbow Lake Wilderness Area, which is located approximately 156 miles (251 km) northwest of the site. At this distance, adverse impacts to this Class I area are not expected to occur. There are 37 facilities within 12.4 miles (20 km) that emit pollutants that are regulated under NAAQS.

Two pulp and paper facilities, located approximately 5.9 miles (9.5 km) and 8.1 miles (13.0 km) from the site, respectively, are considered major sources for emissions of NO_x or $PM_{2.5}$ and therefore may be a limiting factor for obtaining an air permit at this location.

The nearest public-use airport is Alexander Field (South Wood County) Airport, which is located approximately nine miles southwest of the site and the nearest private-use airport is Runway Leasing Inc. NR 2, which is located approximately five miles east of the site. Because of the distances to these

airports, there is little potential for adverse airspace impact from plant construction and operation at this site.

4.6.3 Fuel Supply

Natural gas fuel for a new gas turbine facility could be supplied by a new lateral from an existing ANR 24-inch pipeline located approximately 11.9 miles northeast of the site. The existing ANR gas pipeline system is likely insufficient to support the Project without significant upgrades.

4.6.4 Electric Transmission

Generating units at this site would be connected to the electric transmission system by building a 345-kV generator output line and tapping the Werner West to Rocky Run 345-kV transmission line that is located approximately 4.8 miles northeast of the site area. A preliminary thermal load analysis was performed at the proposed interconnection point to give an indication of required transmission system improvements. This analysis showed that the transmission system in this area appeared to be capable of supporting the Project without requiring significant upgrades.

4.6.5 Water Supply and Discharge

A surface water supply for this site could be obtained from alluvial wells or a new intake on the Biron Flowage (Wisconsin River), which is located approximately two miles north of the site. BMcD performed a 7Q10 analysis on this river using data from the nearest upstream USGS stream gauge. The 7Q10 flow, or the lowest average consecutive seven-day flow rate over a 10-year period, was determined to be 617 MGD. Thus, assuming regulatory approval and/or permits could be obtained from the WDNR, this water source is likely adequate to supply the Project without adverse impact to other water users.

The primary groundwater aquifer near the site area is sand and gravel with a high potential for available groundwater. Research into potential public water sources, either potable water or treated wastewater effluent, did not identify any nearby sources within 15 miles of the site.

Wastewater from this site would most likely be discharged into the Wisconsin River. These discharges are not expected to significantly impact the quality of the receiving water body.

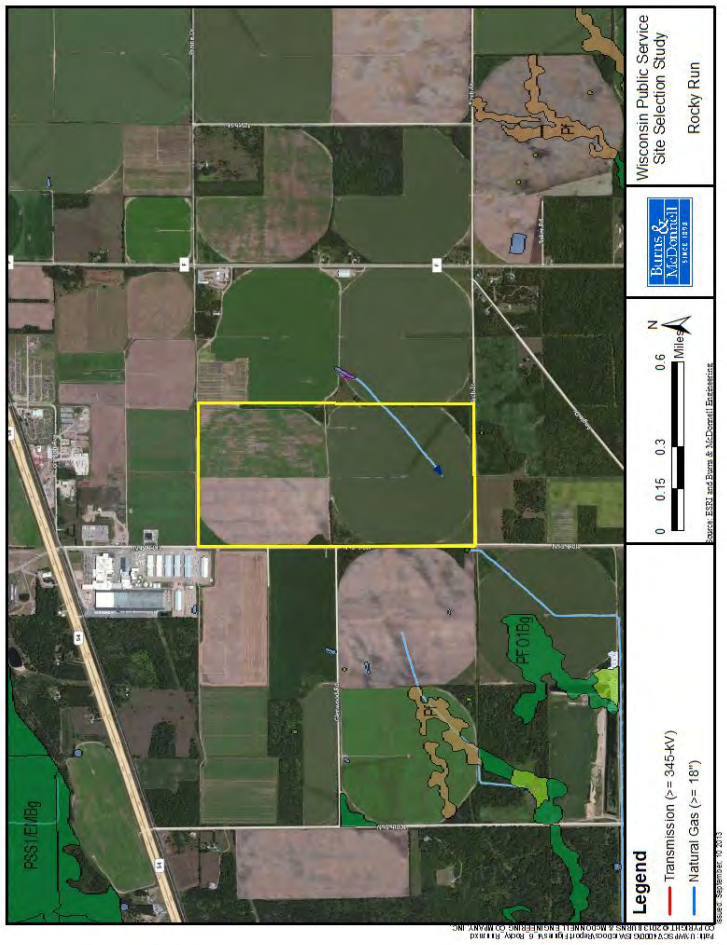


Figure 4-6: Rocky Run Site Area

4.7 Weston Site Area

The Weston site area is located in Marathon County, approximately six miles south of Wausau. The existing WPS Weston Generating Station is located within this site area so this site area is considered to be an Existing Generation Site. A map of this site area is included as Figure 4-7.

4.7.1 Current Site Conditions and Land Use

An additional generation facility at this site would be located in an undeveloped area within the existing plant site boundaries. This area consists of a relatively flat area that was previously used for construction laydown at the station and not located within a floodplain. Available geologic information for the site vicinity indicates a high probability that extensive foundation structures would be required.

Road access to the site is provided by Old Highway 51, which forms the eastern site border. I-39 is located within one mile northeast of the site. Much of the site area is occupied by the existing Weston generating units and ancillary facilities but the site is not zoned. The site proper does not contain unique or high value habitat for plant or wildlife species that would be impacted by new development but there are forested areas along the Wisconsin River that do provide habitat for wildlife. A database search of records maintained by the WDNR indicates that T&E aquatic species are known to exist within the search criteria buffer of the site.

Based on available WWI maps, this site contains less than one acre of emergent wetlands. A database search for cultural resource sites showed that one has been recorded at this site. This cultural resource site is located in a protected area and would not be disturbed by construction and operation of new generation at this site.

There were 77 sensitive noise receptors identified within a one-half mile of the site.

4.7.2 Air Impacts

Marathon County is classified as attainment for all criteria pollutants. The nearest Class I area is Rainbow Lake Wilderness Area, which is located approximately 130 miles (208 km) north of the site. At this distance, adverse impacts to this Class I area are not expected to occur. There are 50 facilities within 12.4 miles (20 km) that emit pollutants that are regulated under NAAQS. Including Weston Generating Station, there are a total of three facilities located approximately 2.9 miles (4.6 km) and 5.0 miles (8.0 km) from the site that are considered a major sources for emissions of NO_x or $PM_{2.5}$. Therefore, this may be a limiting factor for obtaining an air permit at this location.

The nearest public-use airport is Central Wisconsin Airport, which is located approximately five miles south of the site and the nearest private-use airport is Bender's, which is located approximately 2.6 miles east of the site. Given the existing generating units and associated tall structures at this site, no adverse airspace impacts are anticipated from construction of a new generating unit.

4.7.3 Fuel Supply

Natural gas fuel for a new gas turbine facility could be supplied by a new lateral from an existing ANR 24-inch pipeline located approximately 16.4 miles south of the site. The existing ANR gas pipeline system is likely insufficient to support the Project without significant upgrades.

4.7.4 Electric Transmission

A new generating unit located at this site would be interconnected to the electric transmission system at the Gardner Park 345-kV substation, located adjacent to and south of the site area. A preliminary thermal load analysis was performed at the proposed interconnection point to give an indication of required transmission system improvements. This analysis showed that the transmission system in this area appeared to be capable of supporting the Project without requiring significant upgrades.

4.7.5 Water Supply and Discharge

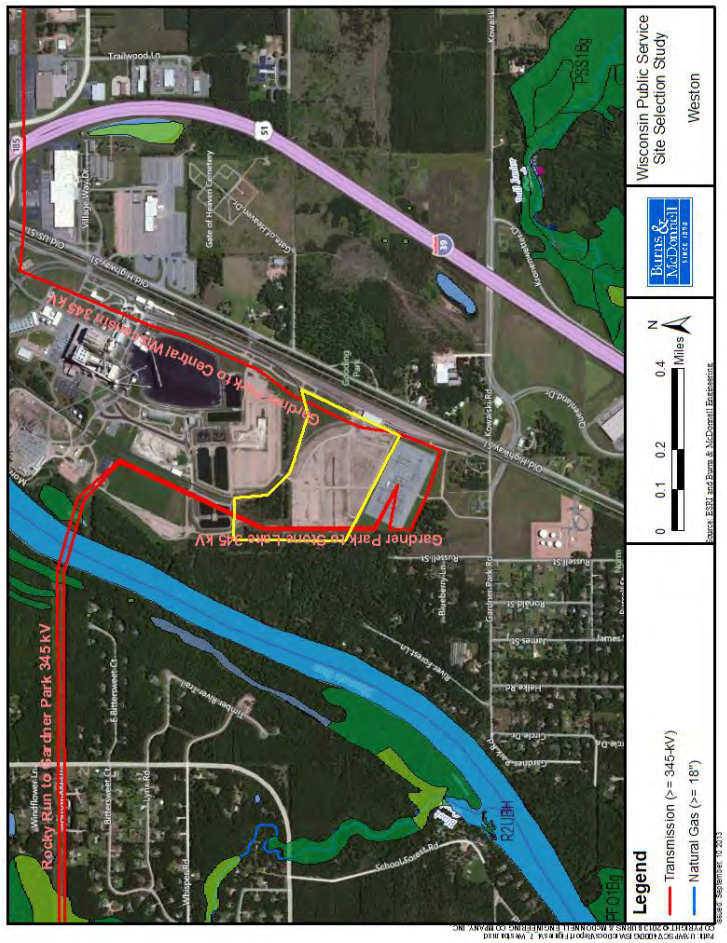
The existing Weston generating station obtains its water supply from adjacent intakes on the Wisconsin River. Weston Units 1 and 2 use once-through cooling while Weston 3 and 4 have cooling tower systems for condenser cooling. The existing water supply system would have to be expanded to service an additional generating unit at this site. Because of the large flow in the Wisconsin River, there is little potential for adverse impacts to other water users from additional water withdrawals.

From review of the WDNR well inventory, it appears that several high producing wells are located in the vicinity of the site and thus there is a high probability that groundwater would be available at this site. Research into potential public water sources, either potable water or treated wastewater effluent, did not identify any nearby sources within 15 miles of the site.

Like the existing and planned units, wastewater from a new generating unit at this site would be discharged to the Wisconsin River. It is not anticipated that additional wastewater flow from a new unit would result in adverse water quality impacts.

* * * * *

Figure 4-7: Weston Site Area



5.0 CANDIDATE SITE AREA EVALUATION

A numerical decision analysis process was used to rank the candidate site areas. The first step in using such a process is to identify the objectives or criteria to be used in evaluating the alternatives. The process used to select the candidate areas (Chapter 3) was based on consideration of each of the major characteristics required for an acceptable site such as fuel supply, water availability, and electric transmission. Therefore, the site areas that have the necessary infrastructure and became candidate site areas are assumed to meet minimum site requirements. For this reason, the focus of the candidate site evaluation, and of the criteria discussed in this section, was to assess the relative advantages and disadvantages of each candidate power plant site area.

The evaluation criteria used to judge the relative suitability of the candidate site areas to support a gas turbine facility cover a number of specific attributes. Each of these attributes represents a characteristic that is important in the evaluation of prospective sites and also serves to differentiate the candidate site areas from one another. These evaluation criteria are not equivalent in their importance to the decision-making process. Therefore, each criterion was also assigned a weight indicative of its relative importance to the decision process. Criteria with the highest weights are considered the most critical for site development. The assignment of weights to the evaluation criteria was a subjective process based on the collective professional judgment of WPS and the BMcD staff who participated in this Study.

In total, 22 different criteria were used to evaluate the candidate site areas. These criteria were first organized into six major categories, and these major categories were allocated weights that totaled 100 percent. For example, the Site Environmental category was assigned a weight of 10 percent; therefore, 10 percent of the overall evaluation scores were based on environmental impacts criteria. Within each major category, the criteria were assigned sub-weights indicative of each criterion's relative importance. The composite weight for each individual criterion is then calculated as an aggregate of all sub-weighted criteria within a major category. The evaluation categories, category weights, criteria, criteria sub-weights, and composite weights are summarized in Table 5-1. A detailed discussion of each of these criteria, which includes the rationale used to assign the rating for each criterion and the resulting score for each of the seven candidate site areas, follows the table.

Table 5-1: Candidate Site Evaluation Criteria

Major Category	Category Weight	Criterion	Scoring	Criterion Weight	Equivalent Pts (100 Pt Scale)
Electric Transmission	25%	*Transmission Ranking from Load Flow Analysis*		50%	12.5
		Top 20th Percentile	50		
		21st to 40th Percentile	40		
		41st to 60th Percentile	30		
		61st to 80th Percentile	20		
		Bottom 20th Percentile	10		
		Interconnection Cost		50%	12.5
		138-kV Substation	50		
		230-kV Substation	40		
		345-kV Substation	30		
		230-kV Line Tap	20		
		345-kV Line Tap	10		
Fuel Supply & Delivery	25%	*Distance*		30%	7.5
		Less than 2 miles to site	50		
		2 to 5 miles to site	30		
		Greater than 5 miles to site	10		
		Capacity and Pressure		30%	7.5
		Capacity Available To Meet 100% of Requirements	50		
		At Least 75% Available and Expansion Required	40		
		At Least 50% Available and Expansion Required	30		
		At Least 25% Available and Expansion Required	20		
		No Capacity Available and Expansion Required	10		
		Competitive Supply		20%	5.0
		2 or more fuel suppliers within 5 miles of site	50		
		Only one fuel supplier within 5 miles of site	10		
		Balancing		20%	5.0
		Monthly Balanced	50		
		Daily Balanced	10		
Water Supply & Delivery	20%	*Surface Water Availability*		40%	8.0
		Surface Water Available Within 5 miles	50		
		Surface Water Available Between 5 and 10 miles	40		
		Surface Water Available Between 10 and 15 miles	30		
		Surface Water Available Between 15 and 25 miles	20		
		Surface Water Greater than 25 miles	10		
		Groundwater Availability		30%	6.0
		High Probability of Water Availability	50		
		Moderate Probability of Water Availability	30		
		Low Probability of Water Availability	10		
		Municipal Reclaim Water Availability		30%	6.0
		Large WWTP within 15 miles	50		
		No Large WWTP within 15 miles	10		

Table 5-1: Candidate Site Evaluation Criteria (cont.)

Major Category	Category Weight	Criterion	Scoring	Criterion Weight	Equivalent Pts (100 Pt Scale)
Site Environmental	10%	*Wetlands*		30%	3.0
		High Probability of Avoiding Wetlands	50		
		Moderate Probability of Avoiding Wetlands	30		
		Low Probability of Avoiding Wetlands	10		
		Floodplain		30%	3.0
		Site Outside of Floodplain	50		
		Part of Site within Floodplain, Potential Developable Area	30		
		Extensive Floodplain, Limited Developable Area	10		
		Cultural Resources		20%	2.0
		Limited Potential for Cultural Resources to be Present	50		
		Moderate Potential for Cultural Resources to be Present	30		
		Significant Potential for Cultural Resources to be Present	10		
		Threatened and Endangered Species		20%	2.0
		3 Threatened & Endangered Species or Less Within County	50		
		4 to 7 Threatened & Endangered Species Within County	30		
		8 Threatened & Endangered Species or More Within County	10		
Air Quality Impacts	10%	*Class I Areas*		30%	3.0
		Greater than 75 Kilometers from Class I Area	50		
		50 to 75 Kilometers from Class I Area	30		
		Class I Area within 50 Kilometers	10		
		Air Permit Feasibility		40%	4.0
		Low relative probability of having NAAQS exceedances	50		
		Moderate relative probability of having NAAQS exceedances	30		
		High relative probability of having NAAQS exceedances	10		
		Nonattainment Status		30%	3.0
		Site is not in a nonattainment county	50		
		Site is in an area with high probability of going nonattainment	30		
		Site is in a nonattainment county	10		
Site Development	10%	*Existing Use*		25%	2.5
		Existing Generation Site / Brownfield Site	50		
		Agricultural Site Area	30		
		Forested / Natural / Undisturbed Site Area	10		
		Site Access		15%	1.5
		Less than 0.5 Mile to Paved Road	50		
		0.5 to 1.5 Miles to Paved Road	30		
		Limited Site Access or Greater than 1.5 Miles to Paved Road	10		
		Equipment Delivery		10%	1.0
		Class I Rail Line Within 1 Mile of Site	50		
		Class I Rail Line Within 1 to 5 Miles of Site	30		
		Class I Rail Line Greater than 5 Miles from Site	10		
		Site Preparation Work		15%	1.5
		Minimal Site Prep Work Expected	50		
		Moderate Site Prep Work Expected	30		
		Significant Site Prep Work Expected	10		
		Noise / Visual Receptors		25%	2.5
		Less than 10 Receptors Within 0.5 Mile of Site	50		
		11 to 25 Receptors Within 0.5 Mile of Site	30		
		Greater than 25 Receptors Within 0.5 Mile of Site	10		
		Proximity to FAA		10%	1.0
		No FAA facilities within 5 miles of site	50		
		FAA facility within 1 to 5 miles of site	30		
		FAA facility within 1 mile of site	10		

5.1 Electric Transmission Criteria

The Electric Transmission category, which was assigned a total weight of 25 percent, is comprised of two evaluation criteria. These criteria are described in the following paragraphs.

5.1.1 Transmission Ranking from Load Flow Analysis

The transmission load flow analysis was performed using Power Technologies, Inc. (PTI) and Management and Utilizing System Transmission (MUST) software to identify the quantity of megawatts that could be injected into the existing transmission system at each site before an overload would occur. For the purposes of this Study, the Pulliam 5, Pulliam 6, Weston 1, and Weston 2 generator units were switched offline to model future retirements. The reduced capacity was restored by the generating units in Area 696 WPS. The proposed generation at each site was dispatched to the control areas within 10 buses of the project site, not including the control area the project site was located in. Contingencies included all single element outages for the control area where the site was located as well as other appropriate surrounding control areas. A three percent distribution factor was used for the analysis. The model analyzed for the study was the MTEP11 2016 summer peak scenario. Existing system issues that were reported as constraints were not included in the results.

The output from the analysis represented the amount of power that could be injected into the system at a particular site before the surrounding transmission system would experience an overload. Sites scores were determined based on percentiles with a low score of 10 for those sites with the greatest impact and a high score of 50 for those sites having the least amount of impact. Sites that could accommodate 800 MW or more of new generation without experiencing an overload were assigned the highest score of 50 because these sites could likely support future expansion from a transmission perspective. The transmission rankings based on the load flow analysis can be seen in Table 5-2.

Table 5-2: Transmission Overload Evaluation Scores

Site Name	MW at First Constraint	Score
Bear Creek	1,500 MW	50
Fox Energy Center	1,115 MW	50
Green Valley	993 MW	50
Pulliam	1,070 MW	50
Ridge Road	1,184 MW	50
Rocky Run	1,139 MW	50
Weston	1,603 MW	50

As shown in the table, all of the sites received the top score for having adequate transmission capacity to support the Project.

5.1.2 Interconnection Cost

The choices for electric transmission interconnection include connecting to an existing substation or tapping directly into a transmission line. Sites within reasonable proximity of a substation were assigned a higher score than those requiring a line tap, as expansion of an existing substation is usually a more economical option. In addition, the lower the voltage of the existing infrastructure, the lower the upgrade or expansion cost will likely be. Thus, a site with an existing 138-kV substation would receive a higher score than a site with an existing 345-kV substation. Those sites within proximity of a 345-kV line tap were given a low score of 10. A 230-kV line tap received a score of 20, a 345-kV substation a score of 30, a 230-kV substation a score of 40, and sites with a 138-kV substation received a high score of 50. The results of the interconnection cost analysis can be seen in Table 5-3.

Table 5-3: Interconnection Cost Evaluation Scores

Site Name	Infrastructure Type	Score
Bear Creek	345-kV Line Tap	10
Fox Energy Center	345-kV Substation	30
Green Valley	345-kV Line Tap	10
Pulliam	138-kV Substation	50
Ridge Road	345-kV Line Tap	10
Rocky Run	345-kV Line Tap	10
Weston	345-kV Substation	30

It can be seen from the table that the Bear Creek, Green Valley, Ridge Road, and Rocky Run sites scored the lowest for electric transmission interconnection as they are 345-kV line tap sites. Fox Energy Center and the Weston site received the next highest score of 30 as there is an existing 345-kV substation on-site. The Pulliam site received the highest score of 50 as there is an existing 138-kV substation on-site.

5.2 Fuel Supply and Delivery Criteria

The Fuel Supply and Delivery category, which was assigned a total weight of 25 percent, is comprised of four evaluation criteria. These criteria are described in the following paragraphs.

5.2.1 Distance from Existing Fuel Infrastructure

A gas-fired generating plant needs access to a high pressure natural gas transmission pipeline. The distance to the nearest pipeline at least 16 inches in diameter was used to assign scores for this criterion.

Sites less than two miles from a pipeline were scored 50, sites between two and five miles were scored 30, and sites greater than five miles away from a natural gas pipeline were assigned the lowest score of 10. The distances to the nearest gas pipeline at least 16 inches in diameter and the corresponding criterion scores are listed in Table 5-4.

Table 5-4: Distance from Existing Fuel Infrastructure Evaluation Scores

Site Name	Distance [miles]	Score
Bear Creek	1.2	50
Fox Energy Center	0.4	50
Green Valley	0.7	50
Pulliam	9.8	10
Ridge Road	0.1	50
Rocky Run	11.9	10
Weston	16.4	10

As shown in the table, the Bear Creek, Fox Energy Center, Green Valley, and Ridge Road sites received the highest score of 50, as they are all less than two miles from existing natural gas pipeline infrastructure. The Pulliam, Rocky Run, and Weston sites received a low score of 10, as they are all located greater than five miles from existing natural gas pipeline infrastructure.

5.2.2 Capacity and Pressure

Pipelines with available capacity which were operating at higher average pressures received the highest scores. Sites with nearby pipelines with equal to or more than 100 percent of the required capacity without requiring expansion received a score of 50, sites with nearby pipelines with availability between 75 percent and 100 percent of the required capacity and which would require expansion received a score of 40, sites with nearby pipelines with availability between 50 percent and 75 percent of the required capacity and which would require expansion received a score of 30, sites with nearby pipelines with availability between 25 percent and 50 percent of the required capacity and which would require expansion received a score of 20, and sites with nearby pipelines with availability less than 25 percent and which would require expansion received a score of 10. Results of the pipeline delivery pressure analysis are presented in Table 5-5.

Table 5-5: Capacity and Pressure Evaluation Scores

Site Name	Available Capacity	Score
Bear Creek	No Capacity Available and Expansion Required	10
Fox Energy Center	Capacity Available to Meet 100% of Requirements	50
Green Valley	No Capacity Available and Expansion Required	10
Pulliam	No Capacity Available and Expansion Required	10
Ridge Road	No Capacity Available and Expansion Required	10
Rocky Run	No Capacity Available and Expansion Required	10
Weston	No Capacity Available and Expansion Required	10

As can be seen in the table, the Fox Energy Center received a high score of 50 as the nearby Guardian Pipeline has enough available capacity to meet 100 percent of the Project's natural gas requirement. The rest of the candidate site areas received a low score of 10 as the likely fuel supplier to those sites would be ANR and the ANR system does not have sufficient capacity or pressure to support the Project.

5.2.3 Competitive Supply

In order to secure the most competitive delivery rates for natural gas, it is advantageous to locate a generating station where it can be served by at least two different natural gas suppliers. The scores for this criterion were assigned accordingly. Sites for which two or more fuel suppliers were located within five miles were given a score of 50, and sites having only one supplier within that radius were given the lowest score of 10. The resulting criterion scores are listed in Table 5-6.

Table 5-6: Competitive Supply Evaluation Scores

Site Name	Number of Fuel Suppliers within 5 Miles	Score
Bear Creek	1	10
Fox Energy Center	2	50
Green Valley	1	10
Pulliam	1	10
Ridge Road	1	10
Rocky Run	1	10
Weston	1	10

It can be seen from the table that the only site to receive the highest score of 50 for the competitive supply criterion was the Fox Energy Center as it can potentially obtain fuel from both ANR and/or Guardian Pipeline. All other sites received a low score of 10 for only having access to the ANR pipeline within a five mile radius.

5.2.4 Balancing

A system balanced on a monthly basis allows for flexible dispatch of a gas turbine facility and mitigates the risk of incurring potentially significant spot-market fuel charges. Sites with a fuel supply option that offered monthly balancing received a score of 50. Sites with a fuel supply option that only offered daily balancing received the lowest score of 10. Results for the balancing evaluation can be seen in Table 5-7.

Table 5-7: Balancing Evaluation Scores

Site Name	Balancing Frequency	Score
Bear Creek	Daily	10
Fox Energy Center	Daily	10
Green Valley	Daily	10
Pulliam	Daily	10
Ridge Road	Daily	10
Rocky Run	Daily	10
Weston	Daily	10

As shown in the table, all sites received a low score of 10 as they would all require daily balancing.

5.3 Water Supply and Delivery Criteria

The Water Supply and Delivery category, which was assigned a total weight of 20 percent, is comprised of three evaluation criteria. These criteria are described in the following paragraphs.

5.3.1 Surface Water Availability

Natural gas-fueled generating facilities typically require a reliable and abundant supply of water to operate the combustion turbines. The quantity of water required depends greatly on the technology deployed by the Project, which has not yet been determined or specified by WPS. Combined cycle gas turbine (CCGT) facilities require significant quantities of water to operate the associated steam turbines and cooling towers; reciprocating engines typically do not. In the instance of a 400-MW CCGT facility, should WPS choose to deploy that technology, a significant and reliable water source would be required. Sites were scored based on distance to a significant source of surface water. Sites located greater than 25 miles to a surface water source received a low score of 10, sites located between 15 and 25 miles received a score of 20, a distance of 10 to 15 miles received a 30, five to 10 miles received a 40 and all sites located within five miles of a surface water source received a high score of 50. Results of the surface water availability evaluation can be seen in Table 5-8.

Table 5-8: Surface Water Availability Evaluation Scores

Site Name	Distance to Surface Water [miles]	Score
Bear Creek	7.9	40
Fox Energy Center	0.5	50
Green Valley	16.2	20
Pulliam	0.1	50
Ridge Road	3.2	50
Rocky Run	1.8	50
Weston	0.4	50

It can be seen from the table that the Fox Energy Center, Pulliam, Ridge Road, Rocky Run, and Weston sites all received a high score of 50 as they are located within five miles of a sufficient surface water source. The Bear Creek site received a score of 40 as it is greater than five but less than 10 miles from a surface water source. The Green Valley site received a score of 20 as it is greater than 15 miles from a surface water source.

5.3.2 Groundwater Availability

The ability to secure groundwater at a candidate site area was evaluated by examining nearby aquifers and yields from existing wells near the site. Based on how many aquifers were available near a site area and the typical yield from established regional wells, each candidate site area was estimated as either having a low, low to moderate, moderate, moderate to high, or high probability of having sufficient groundwater at or near the candidate site area. Scores of 10, 20, 30, 40 or 50, respectively, were assigned. Results of the groundwater availability evaluation can be seen in Table 5-9.

Table 5-9: Groundwater Availability Evaluation Scores

Site Name	Probability of Groundwater Availability	Score
Bear Creek	Low to Moderate	20
Fox Energy Center	Moderate	30
Green Valley	Moderate to High	40
Pulliam	High	50
Ridge Road	Low to Moderate	20
Rocky Run	High	50
Weston	High	50

It can be seen from the table that the Pulliam, Rocky Run, and Weston sites received the highest score of 50 for having a high probability of groundwater availability whereas the Bear Creek site received the lowest score of 20 for only having a low to moderate probability of groundwater.

5.3.3 Municipal Reclaim Water Availability

The ability to secure a significant amount of water through a municipal reclaim water supply was evaluated as an additional potential source of water for the Project. To obtain a significant amount of treated wastewater effluent, the site would need to be located near a large municipality with an available supply of municipal reclaim water. For purposes of this evaluation, wastewater treatment plants permitted to treat at least 9 MGD of wastewater, approximately three times the amount of water required by the Project, were considered as a potential municipal reclaim water source. This flow rate was selected to be conservative as wastewater treatment plants typically permit for their maximum flow, which includes storm water intrusion and other high flow events. In addition, a drought in the area could greatly reduce the water flow from a wastewater treatment plant. They are also constructed and permitted to allow for future growth in their system. Thus, on a consistent basis, a wastewater treatment plant is likely not operating at or near its permitted level. Sites within 15 miles of a municipal reclaim water resource that met the permitting requirements received a score of 50, while all other sites received a score of 10. Results of the municipal reclaim water availability evaluation can be seen in Table 5-10.

Table 5-10: Municipal Reclaim Water Evaluation Scores

Site Name	Significant WWTP within 15 Miles	Score
Bear Creek	No	10
Fox Energy Center	Heart of the Valley De Pere City Village of Wrightstown	50
Green Valley	No	10
Pulliam	Green Bay Metro Sewerage Dist	50
Ridge Road	No	10
Rocky Run	No	10
Weston	No	10

As shown in the table, the two sites within 15 miles of a significant wastewater treatment facility were the Fox Energy Center and Pulliam.

5.4 Site Environmental Criteria

The Site Environmental category, which was assigned a total weight of 10 percent, is comprised of four evaluation criteria. These criteria are described in the following paragraphs.

5.4.1 Wetlands

In Wisconsin, wetlands are a federally and state-regulated resource. The regulatory programs ensure that wetland impacts are avoided or minimized to the extent practical and mitigated if necessary. To determine the likelihood of impacting wetlands/streams during the development of a given power plant and associated facilities, USGS topographic maps, aerial photography, and WWI maps were reviewed. The density of wetlands, streams, ponds, floodplains, and appearance of low lying areas were used to determine potential wetland impacts. The scoring for each site area was based on a 10 to 50 scale where the highest potential for avoiding wetland impact received a score of 50, and the lowest potential for avoiding impacts received a score of 10. Results of the wetlands review are included in Table 5-11.

Table 5-11: Wetlands Evaluation Scores

Site Name	Probability of Avoiding Wetlands	Score
Bear Creek	High	50
Fox Energy Center	High	50
Green Valley	High	50
Pulliam	High	50
Ridge Road	High	50
Rocky Run	High	50
Weston	High	50

As shown in the table, all of the sites were assessed as having a high probability of avoiding wetlands.

5.4.2 Floodplain

A power plant is a critical resource that must remain operational even during a significant flood event. Therefore, the major facilities at a power plant must either be located outside of the floodplain, or otherwise protected from flooding by raising the site above floodwater levels or constructing levees. Any construction within a floodplain that could have the unintended effect of increasing floodwater levels upstream should be avoided.

Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs) were reviewed to determine floodplain locations relative to potential site locations. The maps were downloaded from

readily available internet resources. In cases where flood data was not available, topographic maps and aerial images were reviewed in parallel to assist in determining potential floodplain concerns. The scoring was on a 10 to 50 scale where those sites located outside of the 500-year and 100-year floodplain in the area received the highest score of 50, those located partially within a floodplain but with potential developable area received a 30, and those located largely inside a floodplain with limited developable area received the lowest score of 10. Results of the floodplain review are included in Table 5-12.

Table 5-12: Floodplain Evaluation Scores

Site Name	Amount of Area Available for Development	Score
Bear Creek	Full	50
Fox Energy Center	Full	50
Green Valley	Full	50
Pulliam	Partial	30
Ridge Road	Full	50
Rocky Run	Full	50
Weston	Full	50

It can be seen in the table that all sites received a high score of 50 for being located completely outside of a floodplain, except for the Pulliam site which received a lower score of 30 for being located partially within a floodplain.

5.4.3 Cultural Resources

Historic, cultural, or traditional properties were specifically evaluated in accordance with Chapter 44.40 of the Wisconsin State Statues by reviewing the Wisconsin Historic Preservation Database (WHPD). The potential for adverse impacts to cultural, historic or traditional property resources at all of the candidate sites was considered to be low because the review of the WHPD indicated ground-disturbing activities would not occur within the footprint of existing or known historic, cultural, or traditional properties. In addition, the proposed footprints are located in areas that have been previously disturbed.

The scoring for each site area was based on a 10 to 50 scale where the highest potential for cultural impacts received a score of 10 and the lowest potential for impacts received a score of 50. Results of the cultural resources review are included in Table 5-13.

Table 5-13: Cultural Resources Evaluation Scores

Site Name	Potential for Cultural Resources to be Present	Score
Bear Creek	Low	50
Fox Energy Center	Low	50
Green Valley	Low	50
Pulliam	Low	50
Ridge Road	Low	50
Rocky Run	Low	50
Weston	Low	50

As shown in the table, all of the sites received the top score for having a limited potential for cultural resources to be present.

5.4.4 Threatened & Endangered Species

WPS maintains licenses with the WDNR to access the WDNR's Natural Heritage Inventory (NHI) database. The NHI database contains information and the locations of state and federally protected species. The extent of the evaluated area is drawn on an electronic figure within the NHI database and submitted. An automatic buffer is placed around the evaluated area for federal and state protected species information (one mile for rare terrestrial and wetland species and two miles for aquatic species).

WPS completed a review of the NHI database for state and federal T&E species and bald eagles for each candidate site. The number of T&E species was totaled for each candidate site; this total was then used in a 10 to 50 scoring system that was relative to the number of species for each candidate site. If the total number of species ranged from zero to three, it was scored a 50 (potential for impacts would likely be minimal). If the number of species ranged from four to seven, it was scored a 30. If the number of species was eight or more, it was scored a 10 (relative to other sites, impacts would likely be significant). Results of the T&E species review are included in Table 5-14.

Table 5-14: Threatened & Endangered Species Evaluation Scores

Site Name	Number of T&E Species in the County	Score
Bear Creek	0	50
Fox Energy Center	0	50
Green Valley	0	50
Pulliam	9	10
Ridge Road	3	50
Rocky Run	0	50
Weston	3	50

It can be seen in the table that all sites received the highest score of 50 for having three or fewer T&E species listed for the county with the exception of Pulliam which received a low score of a10 for having in excess of eight T&E species listed for the county.

5.5 Air Quality Impacts

The Air Quality Impacts category, which was assigned a total weight of 10 percent, is comprised of three evaluation criteria. These criteria are described in the following paragraphs.

5.5.1 Class I Areas

The Clean Air Act (CAA) Amendments of 1977 resulted in establishment of the Prevention of Significant Deterioration (PSD) regulations. Under these regulations, maximum increases (increments) were established for each criteria pollutant. These allowable increments are smallest for Class I areas. The presence of a Class I area near a proposed emission source (project site) can cause additional permitting or other issues or constraints. To reduce the possibility of adverse visibility or other impacts at a Class I area, sites that were located further away from the nearest Class I area were preferred. For this criterion, candidate sites were scored based on their distances to Class I areas. Sites greater than 75 km from a Class I area received a score of 50, sites within 50 to 75 km received a score of 30, and sites less than 50 km from a Class I area received a score of 10. The score assigned to each candidate site for this criterion, along with the distance to the nearest Class I land area, is listed in Table 5-15.

Table 5-15: Class I Areas Evaluation Scores

Site Name	Distance to Class I Area [km]	Score
Bear Creek	> 75	50
Fox Energy Center	> 75	50
Green Valley	> 75	50
Pulliam	> 75	50
Ridge Road	> 75	50
Rocky Run	> 75	50
Weston	> 75	50

As shown in the table, all of the sites received the top score for being located greater than 75 kilometers from a Class I area.

5.5.2 Air Permit Feasibility

Sites were scored for proximity to major sources for emissions of NO_x and $PM_{2.5}$. NO_x and $PM_{2.5}$ are the primary pollutants associated with NAAQS exceedances. The closer the sites are to existing, major sources for emissions of NO_x and $PM_{2.5}$, the more likely the potential for NAAQS exceedances. If there are NAAQS exceedances, there is an increased likelihood that the project would have operational restrictions and in some instances, it may serve as a fatal flaw.

For the air permit feasibility analysis, all the sources for emissions of NO_x and $PM_{2.5}$ located within 21 km of each site were identified. The emissions from each individual source were divided by that source's distance to the candidate site and then these values were summed. If the addition of the relative emissions for all of the sources within 21 km was less than 10 tons of each pollutant (NO_x and $PM_{2.5}$), the candidate site received the top score of 50 for air permitting feasibility. If the pollutant sum was between 10 tons and 150 tons, the site received a score of 30, and sites with pollutant amounts exceeding 150 tons received a low score of 10. The score assigned to each candidate site for this criterion, along with the relative probability of having NAAQS exceedances, is listed in Table 5-16.

Table 5-16: Air Permit Feasibility Evaluation Scores

Site Name	Relative Probability of Having NAAQS Exceedances	Score
Bear Creek	Low	50
Fox Energy Center	High	10
Green Valley	Low	50
Pulliam	High	10
Ridge Road	Moderate	30
Rocky Run	High	10
Weston	High	10

As shown in the table, the Bear Creek and Green Valley sites received the highest score of 50 for having a low relative probability of having NAAQS exceedances. The Fox Energy Center, Pulliam, Rocky Run, and Weston sites received the lowest score of 10 for having a relatively high probability of NAAQS exceedances.

5.5.3 Nonattainment Status

Nonattainment areas are regions where ambient ground-level concentrations of one or more criteria pollutants are higher than the NAAQS as established by the Environmental Protection Agency (EPA). Thus depending upon the anticipated emissions from a fossil-fuel power generation facility, air permitting could be more challenging and offsets could be required for certain pollutants. Sites located in a nonattainment county received a low score of 10, those located in counties with a high probability of being classified nonattainment received a score of 30, and those sites located in counties that are classified as in attainment for all criteria pollutants received a high score of 50. The score assigned to each candidate site for this criterion, along with the county nonattainment status, is listed in Table 5-17.

Table 5-17: Nonattainment Status Evaluation Scores

Site Name	County Nonattainment Status	Score
Bear Creek	Attainment for all Pollutants	50
Fox Energy Center	Attainment for all Pollutants	50
Green Valley	Attainment for all Pollutants	50
Pulliam	High Probability of Going Nonattainment	30
Ridge Road	Attainment for all Pollutants	50
Rocky Run	Attainment for all Pollutants	50
Weston	Attainment for all Pollutants	50

It can be seen from the table that all sites received a high score of 50 for being located in an attainment county, except for the Pulliam site which received a moderate score of 30 for being located in an area perceived to have a relatively high probability of becoming a nonattainment area in the future.

5.6 Site Development Criteria

The Site Development category, which was assigned a total weight of 10 percent, is comprised of six evaluation criteria. These criteria are described in the following paragraphs.

5.6.1 Existing Use

Existing land use may affect the ability to develop the Project. Generally, Existing Generation Sites are considered to be preferred areas for development because they are typically in an industrial area that has already been disturbed. If an Existing Generation Site is not available, an area of cultivated land would be the next most preferred site, as they tend to allow for fewer environmental impacts relative to areas that contain more native or natural areas such as prairie or forest areas. While forested areas can potentially serve as a means to screen the Project to reduce the potential for visual impacts, forested areas may need to be cleared for development which may increase the risk of potential environmental impacts. Using this guidance, Existing Generation Sites were given the priority score of 50, sites currently used for agricultural purposes received a score of 30, and sites comprised of undisturbed terrain, forested or otherwise, received a low score of 10. Results of the existing land use evaluation are detailed in Table 5-18.

Table 5-18: Existing Use Evaluation Scores

Site Name	Existing Use	Score
Bear Creek	Agricultural	30
Fox Energy Center	Existing Generation Site	50
Green Valley	Agricultural	30
Pulliam	Existing Generation Site	50
Ridge Road	Agricultural	30
Rocky Run	Agricultural	30
Weston	Existing Generation Site	50

As shown in the table, the Fox Energy Center, Pulliam and Weston sites received high scores of 50 for being used as Existing Generation Sites. All other sites received scores of 30 as they are currently used for agricultural purposes.

5.6.2 Site Access

Road access was scored based on the proximity of the nearest paved road to the candidate site. Sites with a paved road within 0.5 miles received the highest rating of 50. Those with a road located between 0.5 and 1.5 miles received a lower rating of 30. Candidate sites having limited access or being situated over 1.5 miles from the nearest paved road were assigned the lowest score of 10. Results of the road access evaluation can be seen in Table 5-19.

Table 5-19: Site Access Evaluation Scores

Site Name	Distance to Paved Road [miles]	Score
Bear Creek	< 0.5	50
Fox Energy Center	< 0.5	50
Green Valley	< 0.5	50
Pulliam	< 0.5	50
Ridge Road	< 0.5	50
Rocky Run	< 0.5	50
Weston	< 0.5	50

It can be seen in the table that all sites received high scores of 50 for being located less than one half mile from a paved road.

5.6.3 Equipment Delivery

In addition to road access, sites that were located near an existing railroad were also scored more favorably. Site areas within one mile of a Class I rail line received a high score of 50, those within one to five miles received a score of 30, and all site areas greater than five miles from a Class I rail line received a low score of 10. Results of the road access evaluation can be seen in Table 5-20.

Table 5-20: Equipment Delivery Evaluation Scores

Site Name	Distance to Class I Rail Line [miles]	Score
Bear Creek	11.7	10
Fox Energy Center	0.1	50
Green Valley	11.7	10
Pulliam	0.1	50
Ridge Road	1.5	30
Rocky Run	0.9	50
Weston	0.1	50

As shown in the table, the Fox Energy Center, Pulliam, Rocky Run, and Weston sites all received a high score of 50 for being located within one mile of a Class I rail line.

5.6.4 Site Preparation Work

The ideal power plant site is generally a flat site composed of native soils with a slight grade to accommodate site drainage. The topographical variation of a site was used as a measure of potential earthwork and site development costs and impacts. Sites with relatively minimal variations in elevation and native soils received a high score of 50, sites containing moderate changes in elevation or soils that have a potential to require removal received a score of 30, and those sites with significant changes in elevation and soils that have a high potential to require removal received a low score of 10. Results of the topography evaluation can be seen in Table 5-21.

Table 5-21: Topography Evaluation Scores

Site Name	Anticipated Site Preparation Work	Score
Bear Creek	Minimal	50
Fox Energy Center	Minimal	50
Green Valley	Minimal	50
Pulliam	Moderate	30
Ridge Road	Minimal	50
Rocky Run	Minimal	50
Weston	Minimal	50

As shown in the table, with the exception of the Pulliam site, all sites received a high score of 50 for having relatively minimal site preparation work. The Pulliam received a moderate score of 30 because of the former licensed landfill and the potential for soil removal to be required to prepare the site for development of the Project.

5.6.5 Noise / Visual Receptors

There are a number of factors that will determine whether the by-products, be it noise, visual, dust, EMF or odors, from construction or operation of the proposed generating station will significantly impact any sensitive receptors in the vicinity. The number of such receptors in proximity of a given site is one variable that can be measured.

To determine potential impacts created by developing a power plant and associated facilities for each site, a desktop review of noise receptors (i.e. residences, places of worship, hospitals, care homes, schools,

etc.) was performed. Aerial photography and USGS topographic maps were reviewed to identify possible noise receptors. Depending on the number of receptors within an approximate one-half mile radius, the site was given a score ranging from 10 to 50. A high score of 50 was given when there were fewer than 10 sensitive receptors within a one-half mile radius of the site, 11 to 25 receptors received a score of 30, and any number of receptors in excess of 25 received the lowest score of 10. The estimated density of sensitive receptors and resulting scores for each candidate site area are listed in Table 5-22.

Table 5-22: Noise / Visual Receptors Evaluation Scores

Site Name	Number of Receptors within 0.5 Miles	Score
Bear Creek	15	30
Fox Energy Center	133	10
Green Valley	14	30
Pulliam	0	50
Ridge Road	19	30
Rocky Run	9	50
Weston	77	10

As shown in the table, the only site to receive the highest score of 50 was the Pulliam site as there were zero receptors identified within a one-half mile radius of the site. The Bear Creek, Green Valley, and Ridge Road sites all received a moderate score of 30, and the Fox Energy Center and Weston sites received low scores of 10 for having in excess of 25 receptors within a one-half mile radius.

5.6.6 Proximity to FAA Facilities

The Federal Aviation Administration (FAA) regulates airspace related facilities (i.e. airports, helipads, etc.) that could affect power plant siting beyond the boundaries of their facilities. Each potential power plant site must be evaluated on an individual basis for the potential effects upon facilities of this nature. Potential impacts to site development from FAA facilities were considered by identifying the locations of these facilities and their relative proximity to each candidate site area. Sites with an FAA facility within one mile received the lowest rating of 10. Those with a facility located between one and five miles received a score of 30. Candidate sites without any FAA facilities located within a five mile radius received the highest score of 50. Results of the FAA facility evaluation are available in Table 5-23.

Table 5-23: Proximity to FAA Facilities Evaluation Scores

Site Name	Distance to Nearest FAA Facility [miles]	Score
Bear Creek	4.9	30
Fox Energy Center	4.7	30
Green Valley	> 5	50
Pulliam	2.6	30
Ridge Road	> 5	50
Rocky Run	> 5	50
Weston	2.6	30

It can be seen form the table that the Green Valley, Ridge Road, and Rocky Run sites received the highest score of 50 as there are zero FAA facilities located within five miles of the sites. All other sites received a moderate score of 30 for having an FAA facility located within one to five miles of the site.

5.7 Evaluation Summary

The individual scores for each candidate site and criterion were used along with the corresponding weights to calculate a weighted composite score for each site. These composite scores are calculated as the sum of the products of each individual score and criterion weight. Composite scores were developed for a base case and for several sensitivity analyses.

5.7.1 Base Case

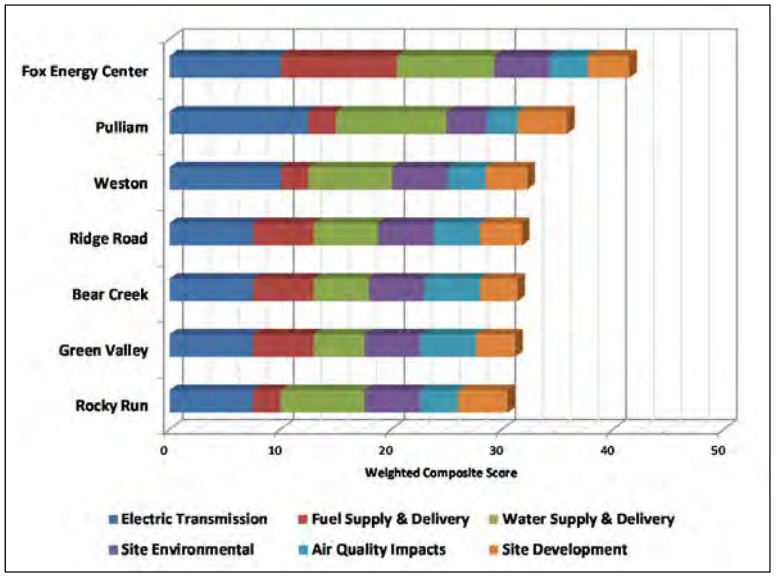
For the base case, the weighted composite scores for each site were calculated using the base weights for each major evaluation category (Table 5-1). In the collective judgment of the project team, these base category weights represent an appropriate balance between all factors. All of the individual criterion scores and composite weights for the base case are summarized in Table 5-24.

Table 5-24: Candidate Site Area Evaluation Summary

Major Category/ Criterion	Category/Criterion Weight	Bear Creek	Fox Energy Center	Green Valley	Pulliam	Ridge Road	Rocky Run	Weston
Electric Transmission	**25%**							
Transmission Ranking from Load Flow Analysis	50%	50	50	50	50	50	50	50
Interconnection Cost	50%	10	30	10	50	10	10	30
Fuel Supply & Delivery	**25%**							
Distance	30%	50	50	50	10	50	10	10
Capacity and Pressure	30%	10	50	10	10	10	10	10
Competitive Supply	20%	10	50	10	10	10	10	10
Balancing	20%	10	10	10	10	10	10	10
Water Supply & Delivery	**20%**							
Surface Water Availability	40%	40	50	20	50	50	50	50
Groundwater Availability	30%	20	30	40	50	20	50	50
Municipal Reclaim Water Availability	30%	10	50	10	50	10	10	10
Site Environmental	**10%**							
Wetlands	30%	50	50	50	50	50	50	50
Floodplain	30%	50	50	50	30	50	50	50
Cultural Resources	20%	50	50	50	50	50	50	50
Threatened and Endangered Species	20%	50	50	50	10	50	50	50
Air Quality Impacts	**10%**							
Class I Areas	30%	50	50	50	50	50	50	50
Air Permit Feasibility	40%	50	10	50	10	30	10	10
Nonattainment Status	30%	50	50	50	30	50	50	50
Site Development	**10%**							
Existing Use	25%	30	50	30	50	30	30	50
Site Access	15%	50	50	50	50	50	50	50
Equipment Delivery	10%	10	50	10	50	30	50	50
Site Preparation Work	15%	50	50	50	30	50	50	50
Noise / Visual Receptors	25%	30	10	30	50	30	50	10
Proximity to FAA	10%	30	30	50	30	50	50	30
Total Composite Score	**100%**	**31.40**	**41.50**	**31.20**	**35.90**	**31.80**	**30.50**	**32.30**

Figure 5-1 is a graphical representation of the composite scores for the base case.

Figure 5-1: Candidate Site Evaluation Scores for Base Case



Review of Table 5-24 and Figure 5-1 shows that the base composite evaluation scores range from a low of 30.50 for the Rocky Run site to a high of 41.50 for the Fox Energy Center site. The average and median scores are 33.51 and 31.80, respectively. These composite evaluation scores should not be used as an absolute measure of each site's suitability for the proposed generating station but can be used as an effective screening tool.

5.7.2 Sensitivity Analyses

Once the base evaluation was completed, a number of sensitivity analyses were performed to test the sensitivity of the composite evaluation scores to changes in criteria weighting. For these sensitivity analyses, only the weights assigned to the six major evaluation categories were adjusted. The sub-weights for the criteria within their respective categories and the individual scores assigned to the sites for each criterion were not changed. Six different sensitivity cases were executed: one for transmission, fuel, water, environmental, air quality and site development, respectively. The weight for the category that was emphasized was increased 10 percent, and then the other five categories were all assigned the same weighted percentages, equal to 2 percent less than the original value for the category

being emphasized. The composite weights for each category and weighted composite scores for each site were then recalculated. Table 5-25 contains a schedule of the category weights used in the sensitivity analyses.

Table 5-25: Category Weights for Sensitivity Analyses

Category	Base Weighted (%)	Transmission Weighted (%)	Fuel Weighted Weighted (%)	Water Weighted (%)	Environmental Weighted (%)	Air Quality Weighted (%)	Site Dev Weighted (%)
Transmission	25%	35%	23%	23%	23%	23%	23%
Fuel Supply	25%	23%	35%	23%	23%	23%	23%
Water Supply	20%	18%	18%	30%	18%	18%	18%
Site Environmental	10%	8%	8%	8%	20%	8%	8%
Air Quality	10%	8%	8%	8%	8%	20%	8%
Site Development	10%	8%	8%	8%	8%	8%	20%
TOTAL	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

The results of the sensitivity analyses were summarized by comparing each site's ranking under the various cases. A site's rank is determined by sorting the sites based on their composite evaluation scores and then numbering them sequentially, with a rank of one assigned to the site with the highest score. These ranks are summarized in Table 5-26. In this table, the sites are listed in order of their ranking under the base case, with the Fox Energy Center site first and the Rocky Run site last. The shaded cells in this table indicate the sensitivity cases where the ranking changed by moving a site into or out of the top three positions.

Table 5-26: Candidate Site Rankings for Sensitivity Analyses

Site Name	Base Weighted Rank	Transmission Weighted Rank	Fuel Weighted Rank	Water Weighted Rank	Environmental Weighted Rank	Air Quality Weighted Rank	Site Dev Weighted Rank
Fox Energy Center	1	1	1	1	1	1	1
Pulliam	2	2	2	2	2	2	2
Weston	3	3	6	3	3	6	3
Ridge Road	4	4	3	4	4	5	4
Bear Creek	5	5	4	6	5	3	7
Green Valley	6	6	5	7	6	4	6
Rocky Run	7	7	7	5	7	7	5

= Denotes rank moved out of the top 3 positions
= Denotes rank moved in to the top 3 positions

Review of Table5-26 shows that under most scenarios, the site rankings remain robust even when the weighting factors are adjusted. The top-ranked sites remain at or near the top under most scenarios. Likewise, the lowest-ranked sites do not significantly improve when the weighting factor are varied. However, the Weston site does decrease to the sixth ranked site under the fuel-weighted and air quality weighted scenarios.

5.8 Selection of Sites for Field Reconnaissance

The next step in the siting process was to select the sites to be visited for field reconnaissance to confirm and update the information collected during the desktop evaluation and quantitative scoring process.

As discussed above, the sites' evaluation scores and associated rankings should not be used alone as an absolute measure of each site's suitability for development of the Project. It is more appropriate to use these scores as a screening tool. Upon review of the scoring results and information collected during the desktop evaluation, it was decided by the collective project team that all seven candidate sites should be carried forward for the field reconnaissance phase of the Study.

* * * * *

6.0 SELECTION OF PREFERRED SITE AREAS

This report chapter documents the investigations and evaluations performed to identify preferred sites for the proposed gas turbine facility. Included are discussions of the field reconnaissance, enhanced or revised descriptions for the preferred site areas, and a discussion of the evaluations conducted to identify the final, preferred sites.

6.1 Field Reconnaissance

Field reconnaissance of the seven candidate site areas was performed in August 2013 by a multi-disciplinary project team consisting of members from WPS and BMcD. The field reconnaissance consisted of an automobile survey along public roads in the vicinity of each potential site area.

The purpose of the field reconnaissance was to obtain first-hand information about each potential site area and surrounding areas to confirm, or update as necessary, the information collected during prior desktop studies. To the extent possible, each potential site area was assessed for its suitability for development of a new gas turbine generating facility. Information on the following factors was collected:

- Amount and orientation of available, undeveloped land areas
- Number and relative location of nearby residences, businesses, and public facilities (parks, schools, churches, etc.)
- Suitability of terrain
- Existing land use of site area and adjoining areas
- Locations of potential wetlands or other environmentally sensitive areas
- Potential for adverse visual and noise impacts
- Condition of transportation systems serving site area
- Confirmation of existing infrastructure
- Existing land use within potential linear corridors for transmission lines, gas pipelines and rail lines

6.2 Field Reconnaissance Observations

In general, no significant surprises were discovered during the candidate site visits. Most of the information collected during the desktop analysis was confirmed in the field. Notable observations made at each site visited are listed in the following sections.

6.2.1 Bear Creek

The Bear Creek site was observed to have the expected site characteristics according to the data collected during the desktop analysis with respect to land use, nearby residences, and transmission infrastructure.

The ANR pipeline was confirmed to be in the expected location a few miles north of the site. However, a few parcels of land were observed to be similar in nature and closer in proximity to both the pipeline and transmission line; thus, the site boundary for Bear Creek was moved approximately one mile north of the original site location (Figure 4-1).

6.2.2 Fox Energy Center

The Fox Energy Center site was observed to have the expected site characteristics according to the data collected during the desktop analysis with respect to land use, nearby residences, and transmission infrastructure. A relatively new residential development and associated golf course was observed just north of Wrightstown Road which borders the north side of the site area.

The ANR and Guardian pipelines were both confirmed in the field in their expected locations.

6.2.3 Green Valley

The Green Valley site was observed to have the expected site characteristics according to the data collected during the desktop analysis with respect to land use, nearby residences, and transmission infrastructure. However, one of the homes located on the northwestern portion of the site appeared to have been built in the last few years as it did not show up on some of our aerial maps.

Green Valley Dairy was observed approximately one mile south of the proposed site.

The ANR pipeline was confirmed in the field in its expected location at the bend in County Road E.

6.2.4 Pulliam

The Pulliam site was observed to have the expected site characteristics according to the data collected during the desktop analysis with respect to land use, nearby residences, and transmission infrastructure. Significant vegetation has grown on many areas of this site. However, due a known soil composition comprised largely of ash from the existing generating facility, the site has a low potential for wetlands to be present on-site.

The ANR pipeline was confirmed to be in its expected location several miles west of the site. The pipeline was confirmed near the intersection of Old Highway 29 and County Road Y.

6.2.5 Ridge Road

The Ridge Road site was observed to have the expected site characteristics according to the data collected during the desktop analysis with respect to land use, nearby residences, and transmission infrastructure. The building on the northwest section of the site area was observed to be the Eau Pleine Town Hall and Rudolph Fire Department Station 3.

The ANR pipeline was confirmed in the field in its expected location where it crossed Highway 34 just south of the site.

6.2.6 Rocky Run

The Rocky Run site was observed to have the expected site characteristics according to the data collected during the desktop analysis with respect to land use, nearby residences, and transmission infrastructure. Access to the site was via Birch Street which was a gravel road accessible from County Road F. A food manufacturing facility was identified just north and west of the site area.

The ANR pipeline was confirmed in the field in its expected location several miles east of the site.

6.2.7 Weston

The Weston site was observed to have the expected site characteristics according to the data collected during the desktop analysis with respect to land use, nearby residences, and transmission infrastructure.

The ANR pipeline was confirmed in the field in its expected location several miles south of the existing plant.

6.3 Preferred Site Evaluation

Following the field reconnaissance of the seven preferred site areas and subsequent analyses, the project team evaluated the relative strengths and weaknesses of each site. Of the seven candidate sites, comparative analyses lead to the recommendation of three preferred sites for WPS to carry forward with advanced development activities. However, no fatal flaws were identified at any of the candidate sites and the other four candidate sites should be considered viable alternate sites should WPS not move forward with development of the Project at one of the three recommended sites.

The three sites recommended for advanced development activities were:

- Fox Energy Center
- Pulliam Generating Station

- Ridge Road

A brief summary of the relative advantages and disadvantages for each of the preferred sites and the primary rationale upon which BMcD based its recommendations is provided in the following sections.

6.3.1 Fox Energy Center

The Fox Energy Center site is the only candidate site where a nearby fuel supply option appeared to available without incurring significant pipeline system upgrade costs. In addition, labor resources from the existing generating facility could likely be shared between the existing facility and the proposed Project.

The primary challenge at this site location will be the need to most likely upgrade the existing water supply line from the Heart of the Valley WWTP or construct a new intake at the Fox River in order to obtain the water required to support the Project.

6.3.2 Pulliam

The Pulliam site is on land already owned by WPS in a heavy industrial area. Existing 345-kV transmission infrastructure does not currently exist at this site; however, the load flow analysis indicated the existing 138-kV transmission infrastructure in this area would be capable of supporting the Project without significant upgrades (assuming the retirements referenced in Section 5.1.1). Another advantage of the Pulliam site is that it is located directly adjacent to Green Bay and the Fox River. Thus, pending approval by the WDNR, an ample supply of surface water is likely available to the Project. However, upgrades to the existing water supply infrastructure would likely be required.

One of the primary challenges at the Pulliam site is obtaining an adequate and robust supply of natural gas fuel. Both the ANR and Guardian pipelines are located more than 10 miles west of the site and new lateral construction to the site would require traversing some densely populated areas. In addition, both ANR and Guardian indicated that pipeline system upgrades would be required to support the Project, the costs of which would likely be passed along to WPS in some form. Lastly, the site was previously used for ash placement and WDNR approval will be required to build on a former landfill site.

6.3.3 Ridge Road

The Weston site scored slightly higher than the remaining greenfield sites; however, due to the 16 mile distance to gas and the fact that the Fox Energy Center and Pulliam sites outperformed the Weston site, the Ridge Road site was recommended as the third and final preferred site. Bear Creek and Green Valley would be viable alternate sites should the Ridge Road site not ultimately be developed. The Rocky Run

site is a viable site; however, it is the lowest ranking site due to its significant distance to high voltage transmission and gas transmission lines.

The Ridge Road site is directly adjacent to the ANR pipeline and an ample water supply would be available via the Wisconsin River located approximately three miles east of the site, assuming regulatory approval could be obtained from the WDNR.

Figure 6-1 is a map showing the locations of the three preferred site areas and a summary of the major features of the preferred sites is included in Table 6-1.

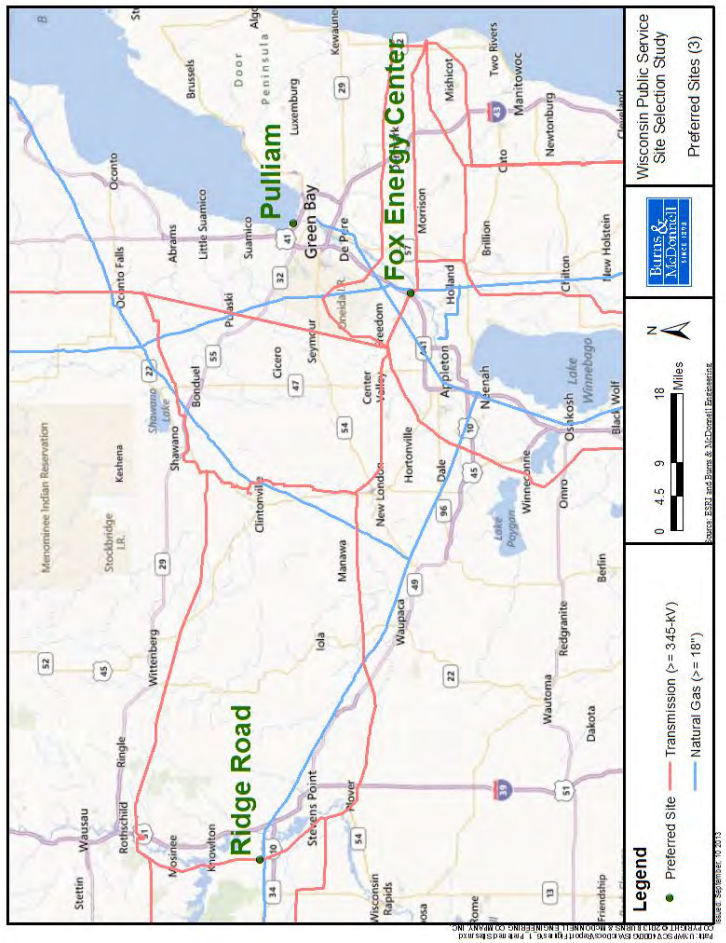
Table 6-1: Summary of Preferred Site Areas

	Name	Fox Energy Center	Pulliam	Ridge Road
Site	County	Outgamie	Brown	Portgage
Fuel	Primary Fuel Supply	Guardian[5]	ANR	ANR
	Primary Pipeline (miles)	3.8	9.8	0.1
	Capacity/Pressure Avail.	Yes	No	No
Transmission	Interconnection (miles)	At Site	At Site	At Site
	Interconnection Point	Fox Energy Center Switchyard	New Substation	New Substation
	Capacity Available	Yes	Yes	Yes
Development	Land use	Existing Generation Site, agricultural	Existing Generation Site	Agricultural, undisturbed
	Distance to Rail (miles)	At existing site	At existing site	1.5
Water	Primary Water Supply Options	Heart of the Valley WWTP, Fox River	Green Bay, Fox River	Wisconsin River
	Groundwater Probability	Moderate	High	Low to Moderate

* * * * *

[5] The Fox Energy Center is currently supplied with fuel from ANR. However, ANR indicated that capacity was not available to the Project without incurring significant upgrades. Guardian indicated capacity was available.

Figure 6-1: Preferred Site Areas



7.0 CONCLUSIONS

The chapter presents the conclusions reached as a result of the investigations and evaluations conducted during this Study.

7.1 Siting Study Conclusions

The conclusions reached from this study are presented below. For convenience, these conclusions are organized by their primary subject matter.

7.1.1 General

- Subject to the limitations that may be imposed by regulatory and permitting agencies, there are sites available within the project study area that can accommodate the development of the Project.
- Within the project study area, the search for viable power plant sites yielded seven site areas with reasonable potential for development.
- No fatal flaws were identified at any of the seven candidate site areas and each site appeared to be suitable for development of the Project. Should one of the three preferred sites not be developed in the future, the other potential sites are considered to be viable alternatives.
- The following sites are recommended as the preferred sites to proceed with advanced development activities (listed in alphabetical order):
  - Fox Energy Center (Existing Generation Site)
  - Pulliam (Existing Generation Site)
  - Ridge Road (greenfield site)
- The Fox Energy Center is the only site with a nearby fuel supply option that has capacity to support the Project without requiring significant system upgrades.
- Compatible Existing Generation Sites may allow the existing facilities to share staff with the Project thereby reducing on-going operation and maintenance (O&M) costs. Should CCGT technology be selected for the Project, the Fox Energy Center would have relative advantages as the existing units at the Fox Energy Center are CCGT units. The Weston and Pulliam sites were not considered to be compatible with a new gas turbine facility for sharing staff as those sites have coal-fired units and a small simple cycle gas turbine (SCGT) unit.
- The Fox Energy Center and Pulliam sites have existing water supply infrastructure in place, unlike the greenfield sites. However, water supply infrastructure upgrades would likely be required at both locations.

7.1.2 Environmental

The following is a summary of conclusions reached as part of the environmental portion of this Study:

- All of the seven candidate site areas are located in counties that are in attainment with National Ambient Air Quality Standards (NAAQS) for all criteria pollutants. Therefore, it should be practicable to obtain a permit for the air emissions from the Project at any of these sites; however, additional review and refined modeling will be required to verify this statement.
- Although there are reported occurrences of state or federal T&E species in the vicinity of many of the candidate site areas, actual impacts to any of these species from plant development are unlikely given the type of habitat available at these sites. Consultation with the U.S. Fish and Wildlife Service (USFWS) and/or WDNR would need to be initiated to determine possible impacts to these species and/or their habitats.
- A wetland delineation would need to be conducted to verify the presence of any possible jurisdictional wetlands; however, it is believed that potential wetland impacts, which could result from plant development, can be avoided or minimized at all three of the preferred sites. However, any wetland impact that cannot be avoided or minimized can usually be successfully mitigated.
- Cultural resources have been evaluated in accordance with Chapter 44.40 of the Wisconsin State Statutes. The potential for adverse impacts to cultural resources at all of the candidate site areas is considered low due to the lack of known cultural sites located within the proposed footprints of the candidate sites and because the sites have been previously disturbed by development or agricultural practices.
- Dependent on site layout and land availability, it is believed that all of the sites will allow for plant development outside of a flood zone.

7.1.3 Electric Transmission

The following is a summary of conclusions reached as part of the electric transmission and system impact portion of this Study:

- All of the candidate site areas are located in relative close proximity to existing high-voltage transmission facilities that, according to the preliminary load flow analysis, should not require significant upgrades to support the Project.

7.1.4 Fuel Delivery

The following is a summary of conclusions reached as part of the fuel delivery portion of this Study:

- Each of the candidate site areas is located near an existing large diameter natural gas pipeline. However, there will likely be a need for off-site pipeline improvements in order to handle high capacity and/or pressure requirements for the Project at all sites that would utilize the ANR pipeline as the primary fuel supplier.
- The Fox Energy Center is the only site with nearby access to the Guardian pipeline which, according to company representatives, is expected to have sufficient capacity and pressure available near this site area without significant upgrades. Guardian indicated that upgrades would be required on their pipeline in the areas north of the Fox Energy Center, such as the near the Pulliam site, because the pipeline reduces to smaller diameters in those areas.

7.1.5 Water Supply

The following is a summary of conclusions reached as part of the water supply portion of this Study:

- Within the project study area, potential water sources for a combustion turbine facility could include surface water (lakes and rivers), groundwater, or municipal reclaim water.
- The existing water supply pipeline from the Heart of the Valley WWTP to the Fox Energy Center would likely require upgrades to support the Project at this site. As an alternate supply option, it may be possible to obtain water from the nearby Fox River.
- The existing water supply infrastructure at Pulliam would likely require upgrades to support the Project at the Pulliam site.

* * * * *

APPENDIX A - FIELD RECONNAISSANCE PHOTOGRAPHS

Bear Creek

Bear Creek

Fox Energy Center

Fox Energy Center

Green Valley

Green Valley

Pulliam

Pulliam

Ridge Road

Ridge Road

Rocky Run

Rocky Run

Weston

Weston

APPENDIX B - SITE LAYOUTS

Burns & McDonnell
SINCE 1898

date JULY 22, 2013
designed R. SEDLACEK

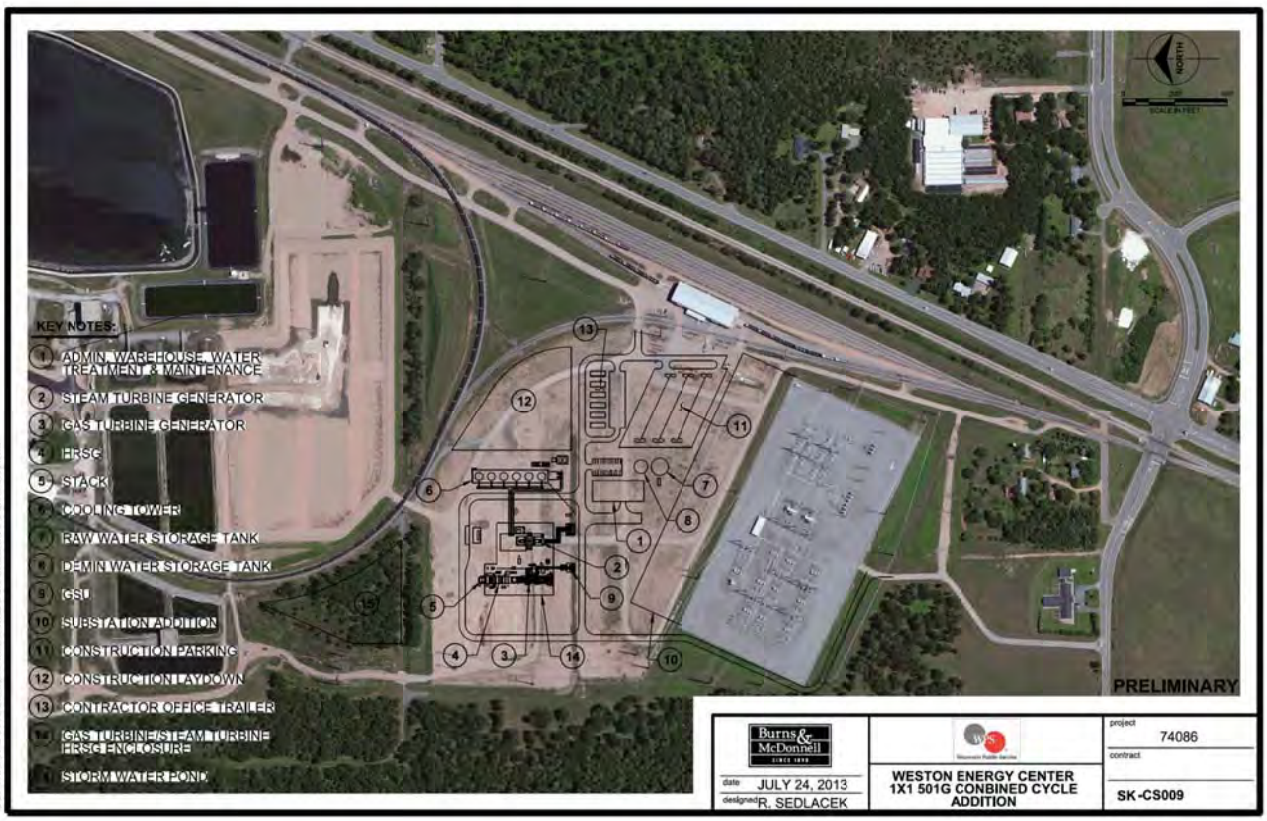
Wisconsin Public Service

PULLIAM ENERGY CENTER
1X1 7GA COMBINED CYCLE
ADDITION

project 74086
contract

SK-CS008 REV 1

9/24/2013 U:\PWRCIVIL\1111\CADD\CIVIL\wisconsin public service\pulliom\new\SK-CS008.dgn



Burns & McDonnell
SINCE 1898

date JULY 24, 2013
designed R. SEDLACEK

Wisconsin Public Service

WESTON ENERGY CENTER
1X1 501G CONBINED CYCLE
ADDITION

project 74086
contract

SK-CS009

Burns & McDonnell World Headquarters
9400 Ward Parkway
Kansas City, MO 64114
Phone: 816-333-9400
Fax: 816-333-3690
www.burnsmcd.com

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APPENDIX B AGENCY CORRESPONDENCE

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
FAX 608-267-3579
TTY Access via relay - 711

WISCONSIN
DEPT. OF NATURAL RESOURCES

March 14, 2011

TODD BORKOWSKI
FOX ENERGY
N2310 E FRONTAGE ROAD
KAUKAUNA WI 54130

Subject: Water Withdrawal Requirements

Dear Mr. Borkowski:

This letter is a follow-up to our discussions concerning the state water withdrawal requirements for Fox Energy Company LLC. As discussed, Fox Energy currently has three water sources consisting of two wells that each pump twenty-five gallons a minute and Heart of the Valley (HOV) wastewater treatment plant. The water that is received from HOV is **not** considered a "withdrawal" for purposes of the new water use program and Great Lakes Compact (s. 281.346, Wis. Stats.). Water from this source is not included in determining the total withdrawal capacity for your property.

Based on the two existing wells, Fox Energy has a total withdrawal capacity of 50 gallons per minute or 72,000 gallons per day. This level of withdrawal capacity does not require registration with the Department or a water use permit pursuant to s. 281.346(4m), Stats. Please be aware that if in the future you increase your total withdrawal capacity to an average of 100,000 gallons per day or more in any 30-day period, the new water withdrawal requirements will apply.

If you have any questions, please call me at (608) 266-9254.

Sincerely,

Kristy Rogers
Water Supply Specialist

cc: Tom McElligot, Quarles & Brady, 411 E. Wisconsin Avenue, Milwaukee, WI 53202

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
Oshkosh Service Center
625 East County Road Y, STE 700
Oshkosh, WI 54901-9731

Scott Walker, Governor
Cathy Stepp, Secretary

State Customer Service # 888-936-7463
Oshkosh FAX# 920-424-4404

October 24, 2014

Mr. George Fickau
W. 239 Deering Lane
Kaukauna, WI 54130

Hello George:

I received your July, 2014 email and your recent email photos related to surface water foam on the Lower Fox River adjacent to your home. Below are joint, DNR and Wisc.PublicService-Fox Energy Center(WPS-FE) responses to your email bullet-points:

1) WPS-FE adds only the necessary chemicals and dosages to their water treatment system and cooling water system to maintain optimum operational control.
2) Because of the surface water foam, you maintain that the WPS-FE discharge is not in compliance with their WPDES wastewater permit or NR 103. However daily discharge data submitted by WPS-FE to DNR is in compliance with WPS-FE permit limitations and conditions. Note; NR 103 relates to Wetland discharges and not surface water discharges.
3) WPS-FE wastewater permit limitations were established by DNR as a function of the 10 feet per second(fps) minimum effluent diffuser discharge velocity. The minimum velocity is a DNR mandate to protect the water resource.
4) A mechanical redesign of the WPS-FE outfall outfall diffuser is not warranted since the facility is compliance with their WPDES permit. WPS-FE is evaluating installation of another combustion turbine at the site. If an outfall diffuser modifications is warranted, it will be submitted to DNR for review.

Be assured, WPS-FE operates and maintains their entire power plant complex to achieve continual compliance with all limitations and conditions in their wastewater discharge permit.

In response to a variety of surface water "foam" complaints statewide over the years, DNR staff has assembled valued research information on the topic. Please contact me at; (personal cell)920-410-9211 or (work)920-424-4403 if you'd like to meet and review this information.

Sincerely,

Mark K. Corbett, P.E.
Engineer

Cc: Randy Oswald, Integrys LLC
Mark Metcalf, Integrys LLC
Scott Cherveny, WPS-FE Center
Kelley O'Connor, Wastewater Supr-Green Bay DNR

Puzen, Shawn C

From: Heston, Shelly R
Sent: Tuesday, December 23, 2014 3:00 PM
To: Puzen, Shawn C
Subject: FW: Water Use Permit/Approval Needs for Fox Energy Center

This correspondence should be included in that appendix.

From: Metcalf, Mark W
Sent: Tuesday, December 23, 2014 2:58 PM
To: Heston, Shelly R
Subject: FW: Water Use Permit/Approval Needs for Fox Energy Center

From: Clayton, Nicole L - DNR [mailto:Nicole.Clayton@wisconsin.gov]
Sent: Wednesday, May 07, 2014 1:15 PM
To: ghowick@burnsmcd.com
Cc: Metcalf, Mark W; Ohm, Judith M - DNR; Corbett, Mark K - DNR
Subject: Water Use Permit/Approval Needs for Fox Energy Center

Greg,

This is a follow-up from our conversation on the phone this morning. The following information may be needed depending on the increase in potable water use and water loss associated with the proposed expansion of the Fox Energy Center:

1. An estimate of water use needed from the 2 low capacity potable wells on site for the construction period.
    - If the combined pump capacity for these two potable wells increases to be greater than 70 gpm (100,000 gallons per day), you will need to submit a high capacity well application to the Department for approval.
    - If the capacity will not increase over 70 gpm (100,000 gpd) let me know. It is our understanding this is a short-term water use need, during construction of Unit 3. The Department can send a letter amending the language in the current water loss approval, as the language currently states that the maximum withdrawal for these two wells is 2,500 gallons per day based on the water balance as part of the original application.

2. Water Loss Approval
    - If the new water loss is *less than* 2 MGD over the authorized base level of water loss (4.28 MGD), the current water loss approval may be amended to reflect the increase.
    - If the new water loss *is greater than* 2 MGD over the authorized base level of water loss (4.28 MGD), the applicant must submit a new water loss application to the Department.

3. Water Use Permits
    - Since Fox Energy Center is proposing to use treated effluent/wastewater from another facility, and is not the withdrawer of the water, no water use permit is needed for Fox Energy Center.
    - The facility or property associated with the withdrawal, needs a water use permit. If the facility or property already has an individual water use permit and an authorized withdrawal amount that will not be exceeded due to this water use, no water use permit amendment or Great Lakes consultation is needed at this time.

Let me know if you have additional questions!

Nicki

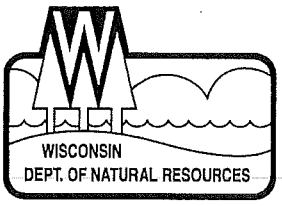
Nicki Clayton
Water Use Section – Drinking and Groundwater
Wisconsin Department of Natural Resources
608.266.9254
nicole.clayton@wisconsin.gov

dnr.wi.gov

Fill out this survey to help us improve customer service: https://www.surveymonkey.com/s/WDNRWater

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
FAX 608-267-5231
TTY Access via relay - 711



December 19, 2014

Paul J. Spicer
Wisconsin Public Service Corporation
700 N. Adams Street
Green Bay, WI 54307-9001

Dear Mr. Spicer:

Pursuant to ss. 196.491 (3)(a) 3. a., Wis. Stats., DNR staff have reviewed the Engineering Plan submitted for the proposed Fox Energy Center 3 project. Based on the information provided in your submittal dated on November 24, 2014, we have determined that this facility may require certain DNR permits and/or approvals prior to construction or operation of certain components of the facility.

At this point in the project development and review process, the DNR concurs with the Preliminary Permit List found in Table 1-1 of the Engineering Plan. Please note that this determination is based on information provided in your submittal, and is subject to change based on project updates. Additionally, Wisconsin Public Service Corporation must obtain any permits necessary for this project, regardless of whether or not they have been identified by this letter.

If you have any questions about this letter, or other issues of concern to the Department, I would encourage you to call Ben Callan at 608.266.3524, or email him at benjamin.callan@wisconsin.gov.

Sincerely,

David R. Siebert, Director
Office of Energy

cc: Shawn Puzen, WPS
Steve Dunn, WDNR (AM/7)
Jean Romback-Bartels, WDNR (NER – Green Bay)
Dan Sage, PSC

Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

December 22, 2014

Mr. Steve Dunn
Bureau of Air Management
Wisconsin Department of Natural Resources
101 South Webster Street
P.O. Box 7921
Madison, WI 53702

Dear Mr. Dunn:

Facility ID # 445156110
Fox Energy Center 3 Prevention of Significant Deterioration Air Construction Permit Application

Reference: 1) Letter from Mr. Paul Spicer to Mr. Dave Siebert Dated November 24, 2014
2) Letter from Mr. Dave Siebert to Mr. Paul Spicer to Dated December 19, 2014

In reference 1, Wisconsin Public Service (WPS) announced our intent to add a new electric generating unit having a capacity of approximately 400 megawatts (MW) at the Fox Energy Center. WPS is submitting an application to the Public Service Commission of Wisconsin (PSCW) for a Certificate of Public Convenience and Necessity (CPCN) for the construction of an additional generating unit at the site (Public Service Commission Docket Number: 6690-CE-202). PSCW approval for this project is required under Wisconsin Statutes (Wis. Stat.) § 196.491(3) and Wisconsin Administrative (Wis. Admin.) Code Chapter PSC 112.

Per reference 2, a Prevention of Significant Deterioration Air Construction Permit has been identified as a required permit for the project. In accordance with s. NR 405, Wis. Adm. Code, WPS is submitting the enclosed applications for the construction and operation of Fox 3 at the Fox Energy Center.

- Prevention of Significant Deterioration Air Construction Permit Application
- EPA Acid Rain NO_x Compliance Application
- EPA Acid Rain Permit Application

Upon regulatory approval from the PSCW for the project, permits will be required for the construction and operation of the facility.

As was discussed at the pre-application meeting held at the DNR offices on May 12, 2014, the construction permit application includes information for two possible equipment vendors to provide equipement for the project as well as two site layouts within the Fox Energy Center. Only one new turbine project will ultimately be built.

Should you have any questions about this request, please contact Ms. Cindy Brandt at (920) 433-1830.

Sincerely,

Paul J. Spicer
Vice President – Energy Supply

Wisconsin Public Service Corporation
Weston Power Plant
2501 Morrison Avenue
P.O. Box 38
Rothschild, WI 54474-0038

December 22, 2014

Mr. Jeff Brauer
Wisconsin Department of Natural Resources
101 South Webster Street
P.O. Box 7921
Madison, WI 53707

Dear Mr. Brauer:

Fox Energy Center WPDES Permit Renewal Application and Proposed Unit 3 Project Description

Reference: 1) WPDES Permit No. WI-0061891-02-0

In accordance with reference 1, Wisconsin Public Service Corporation (WPS) is submitting the attached application for the renewal of the WPDES permit for Fox Energy Center (FEC). This letter is also providing a project description and associated documentation for the proposed FEC Unit 3. This additional information is being provided as part of the permit renewal per your request made at the April 2014 meeting that was held between our staffs to discuss the new unit.

WPDES Permit Renewal Application

The current FEC WPDES Permit requires specific information to be submitted with the renewal application. Attached please find the following information for Department review:

- A Site Map identifying the locations of intake structures and outfalls
- A Water Flow Diagram
- A Description and Schematic diagram of the facility water treatment system
- A Chloride Variance Application Form
- A Mercury Variance Application Form
- A list of Water Quality Additives Used at the Facility
- Material Safety Data Sheets for Water Quality Additives

In accordance with NR 200.06(2) and NR 205.07(1)(n), Wisconsin Administrative Code, an electronic copy of the permit application has also been submitted.

Proposed FEC Unit 3 Project Description

WPSC is proposing to expand operations of the facility within the next five years. In early 2015, WPSC will be submitting an application to the Public Service Commission of Wisconsin (PSCW) for a Certificate of Public Convenience and Necessity (CPCN) under Wisconsin Statutes § 196.491(3) and Wisconsin Administrative Code Chapter PSC 112. This submittal will request approval to build an additional electric generating unit at the facility which will have a nominal net capacity of approximately 400 megawatts (MW).

If regulatory approval is received for the construction of a new generating unit at the facility, WPSC will be submitting detailed information to support a modification of the WPDES permit. At that time we will also be requesting approval to construct and install a new wastewater treatment system pursuant to NR 108, along with a request for approval to construct a new water storage structure pursuant to NR 213. Attached please find the following information for Department review concerning the new unit:

- Conceptual Design Report for Wastewater Collection and Treatment System Modifications FEC 3
- Preliminary Engineering Report on the New 10 MG Water Storage Pond

If you have any questions about the information contained in this submittal, please contact Mr. Mark Metcalf at (920) 433-1833 or by e-mail at MWMetcalf@integrysgroup.com.

Sincerely,

Scott L. Cherveny
Facility Manager – Fox Energy Center

Cc: Mr. Mark Corbett – WDNR
Mr. Steve Schaefer - WPS

Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

December 29, 2014

Ms. C. Kimberly Gonzalez
Wisconsin Dept. of Natural Resources
101 S. Webster Street
Madison, WI 53703

Dear Ms. Gonzalez:

Wisconsin Public Service Notice of Intent Application

Wisconsin Public Service (WPS) submits the attached Notice of Intent application for the Fox Energy Center 3 for your review. WPS announced our intent to add a new electric generating unit having a capacity of approximately 400 megawatts (MW) at the Fox Energy Center. WPS is submitting an application to the Public Service Commission of Wisconsin (PSCW) for a Certificate of Public Convenience and Necessity (CPCN) for the construction of the additional generating unit at the site (Public Service Commission Docket Number: 6690-CE-202). PSCW approval for this project is required under Wisconsin Statutes (Wis. Stat.) § 196.491(3) and Wisconsin Administrative (Wis. Admin.) Code Chapter PSC 112.

A WPDES Construction Site Stormwater Discharge permit for the land disturbing construction activities has been identified as a required permit for the project. In accordance with §196.491(3)(a)3.b., Wis. Stat., WPS is submitting the enclosed application for construction disturbance at the Fox Energy Center. Upon regulatory approval from the PSCW for the project, the permit will be required for the construction of the facility.

If you have any questions, please feel free to contact me at (920)433-2295 or JMSosnosky@integrysgroup.com.

Sincerely,

Janet Sosnosky

Janet Sosnosky
Environmental Consultant

Enc.

Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

December 29, 2014

Mr. Ben Callan
Wisconsin Department of Natural Resources
Office of Energry- Water Regulations and Zoning Specialist
101 S. Webster Street
Madison, WI 53703

Re: Wetland and Water Permit Applicaiton, WPS Fox Energy Center

Dear Mr. Callan,

Wisconsin Public Service (WPS) announced our intent to add a new electric generating unit having a capacity of approximately 400 megawatts (MW) at the Fox Energy Center. WPS is submitting an application to the Public Service Commission of Wisconsin (PSCW) for a Certificate of Public Convenience and Necessity (CPCN) for the construction of an additional generating unit at the site (Public Service Commission Docket Number: 6690-CE-202). PSCW approval for this project is required under Wisconsin Statutes (Wis. Stat.) § 196.491(3) and Wisconsin Administrative (Wis. Admin.) Code Chapter PSC 112.

WPS is submitting this individual permit application to the Wisconsin Department of Natural Resources (WDNR) Office of Energy (O of E) for construction of the additional unit, including the excavation and placement of temporary and permanent fill in wetlands and waters of the U.S.; the placement of temporary and permanent culverts in waterways and wetlands and the modification of an existing outfall structure within the Fox River.

In accordance with §196.491(3)(a)3.b., Wis. Stat., WPS is submitting the enclosed application for wetland and waterway temporary and permanent disturbance at the Fox Energy Center. Upon regulatory approval from the PSCW for the project, the permit will be required for the construction and operation of the facility.

Should you have any questions concerning this permit application, please contact me at (920) 433-1460.

Sincerely,

James Nuthals
Environmental Services
Natural Resource Management

Wisconsin Public Service Corporation
700 North Adams Street
P.O. Box 19001
Green Bay, WI 54307-9001
www.wisconsinpublicservice.com

December 29, 2014

Mr. Nick Dormer
U.S. Army Corps of Engineers
211 North Broadway, Suite 221
Green Bay, WI 54303

Re: Wetland and Water Permit Applicaiton, WPS Fox Energy Center

Dear Mr. Dormer,

Wisconsin Public Service (WPS) announced our intent to add a new electric generating unit having a capacity of approximately 400 megawatts (MW) at the Fox Energy Center. WPS is submitting an application to the Public Service Commission of Wisconsin (PSCW) for a Certificate of Public Convenience and Necessity (CPCN) for the construction of an additional generating unit at the site (Public Service Commission Docket Number: 6690-CE-202). PSCW approval for this project is required under Wisconsin Statutes (Wis. Stat.) § 196.491(3) and Wisconsin Administrative (Wis. Admin.) Code Chapter PSC 112.

WPS is submitting this individual permit application to the Army Corps of Engineers (ACOE) for construction of the additional unit, including the excavation and placement of temporary and permanent fill in wetlands and waters of the U.S. and the placement of temporary and permanent culverts in waterways and wetlands.

In accordance with §196.491(3)(a)3.b., Wis. Stat., WPS is submitting the enclosed application for wetland and waterway temporary and permanent disturbance at the Fox Energy Center. Upon regulatory approval from the PSCW for the project, the permit will be required for the construction and operation of the facility.

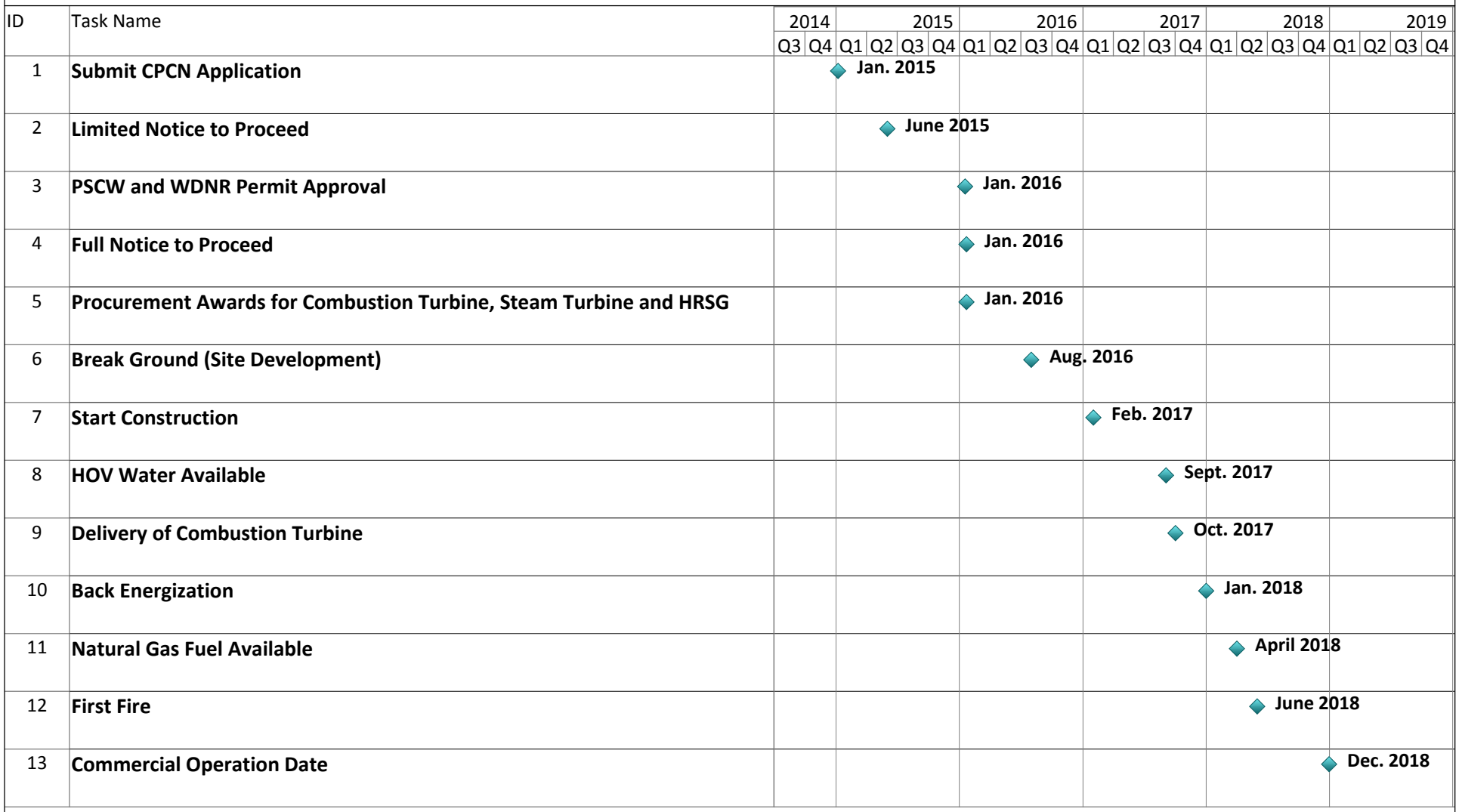
Should you have any questions concerning this permit application, please contact me at (920) 433-1460.

Sincerely,

James Nuthals
Environmental Services
Natural Resource Management

APPENDIX C CONSTRUCTION SCHEDULE

Figure 4-1
Wisconsin Public Service
Fox Energy Center 3
Milestone Schedule



APPENDIX D MAILING LISTS

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X		ARLIE D ALLEN & JENNIFER M VANDENELZEN	272 PETERLYNN DR		WRIGHTSTOWN	WI	54180	ALLEN		X
X		JAMES R & SHEILA K ANIOL	9851 HIGHWAY 50		BATTLEVIEW	ND	58773-9222	ANIOL		X
X		RILEY L & JODY A ASHER	2503 N SKYVIEW LA		OZARK	MO	65721-5952	ASHER		X
X		DANNY L & MERICI A AWE	W669 RIVERVIEW CT		KAUKAUNA	WI	54130	AWE		X
X		JOHN L & MARY BARANOWSKI	445 GORDON WAY		WRIGHTSTOWN	WI	54180	BARANOWSKI		X
X		THOMAS J & DONNA BARTELT	150 LOCK RD		KAUKAUNA	WI	54130-9026	BARTELT		X
X		BEASTER INVESTMENTS LLC	N2277 WEST FRONTAGE RD		KAUKAUNA	WI	54130	BEASTER INVESTMENTS LLC		X
X		GARY G BEINING	1005 PARK ST		WRIGHTSTOWN	WI	54180	BEINING		X
X		VINCE R SR & LINDA BELLANTONIA	293 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	BELLANTONIA		X
X		VINCENT JR & CHRIS BELLANTONIA	257 THEUNIS DR		WRIGHTSTOWN	WI	54180	BELLANTONIA		X
X		NORMAN R BENEDICT	W565 STATE RD 96		KAUKAUNA	WI	54130	BENEDICT		X
X		WALTER & KAREN BENTLEY RV LV TR	3296 SQUAW ISLAND RD		STURGEON BAY	WI	54235	BENTLEY		X
X		JASON W BETTER & NICOLE M GEREND	W376 COUNTY RD ZZ		KAUKAUNA	WI	54130	BETTER		X
X		BRUCE P & SUSAN P BISHOP	254 PETERLYNN DR		WRIGHTSTOWN	WI	54180	BISHOP		X
X		WAYNE G & JUDY A BODDE	N2398 BODDE RD		KAUKAUNA	WI	54130	BODDE		X
X		JOSEPH BOS	N2424 EAST FRONTAGE RD		KAUKAUNA	WI	54130	BOS		X
X		ANN K BOWERS	W215 DEERING LA		KAUKAUNA	WI	54130	BOWERS		X
X		MARY JANE BOWERS IRRV RE TRST	960 BROADWAY		WRIGHTSTOWN	WI	54180	BOWERS		X
X		BERNARD & ELEANOR BOWERS	336 MAIN ST		WRIGHTSTOWN	WI	54180	BOWERS		X
X		MICHAEL B & LAURIE M BOWERS	N2134 SHAWN CT		KAUKAUNA	WI	54130	BOWERS		X
X		PETER L & BARBARA E BOWERS	496 EAST FRONTAGE RD		KAUKAUNA	WI	54130	BOWERS		X
X		ROY & SANDRA BROWN	W483 STATE RD 96		KAUKAUNA	WI	54130	BROWN		X
X		JAMES B & LYNN M BROWN	180 GOLF COURSE DR		WRIGHTSTOWN	WI	54180-9606	BROWN		X
X		BUD'S FARM LLC	336 MAIN ST		WRIGHTSTOWN	WI	54180	BUD'S FARM LLC		X
X		JEFFREY E & JUDY J BURR, EARL & CAROLYN KOSTER (LE)	W468 CINDY ANN LA		KAUKAUNA	WI	54130	BURR & KOSTER		X
X		DUSTIN T & TABITHA L BURTON	W124 STATE RD 96		KAUKAUNA	WI	54130-2008	BURTON		X
X		DOUGLAS L & ANN M BUSHMAN	176 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	BUSHMAN		X
X		TODD M CALMES	N2233 BODDE RD		KAUKAUNA	WI	54130	CALMES		X
X		JAMES J CALMES	1150 LAUGHTON CI		FT MEYERS	FL	33913	CALMES		X
X		CALMES CONSTRUCTION PROPERTIES	N2193 BODDE RD		KAUKAUNA	WI	54130	CALMES CONSTRUCTION PROPERTIES		X
X		CALMES FAMILY PROPERTIES LLC	N2241 BODDE RD		KAUKAUNA	WI	54130	CALMES FAMILY PROPERTIES LLC		X
X		DANIEL L & LINDA M CAMPBELL	245 THEUNIS DR		WRIGHTSTOWN	WI	54180	CAMPBELL		X
X		CASK HOLDING LLC	N2570 MCCABE RD		KAUKAUNA	WI	54130	CASK HOLDING LLC		X
X		CC WRIGHTSTOWN WI LLC	PO BOX 1734		ATLANTA	GA	30301	CC WRIGHTSTOWN WI LLC		X
X		CEI LAND DEVELOPMENT LLC	PO BOX 12057		GREEN BAY	WI	54307-2057	CEI LAND DEVELOPMENT LLC		X
X		CITY OF KAUKAUNA	201 W SECOND ST		KAUKAUNA	WI	54130	CITY OF KAUKAUNA		X
X		MICHAEL J JR & CONNIE CLANCY	N2102 SHAWN CT		KAUKAUNA	WI	54130	CLANCY		X
X		JUSTIN & AMY COLLINS	W755 STATE RD 96		KAUKAUNA	WI	54130	COLLINS		X
X		WILL JR & CHRIS COUSINEAU RV TR	N2090 SHAWN CT		KAUKAUNA	WI	54130	COUSINEAU		X
X		RAY E & KAREN A CURRY	296 PETERLYNN DR		WRIGHTSTOWN	WI	54180-1089	CURRY		X
X		MILTON J & AUDREY DAANEN	540 TACOMA BEACH RD #25		STURGEON BAY	WI	54235	DAANEN		X
X		BRIAN J & SARAH C DAY	549 E PECKHAM ST		NEENAH	WI	54956	DAY		X
X		DENNIS A DEERING	W247 DEERING LA		KAUKAUNA	WI	54130	DEERING		X
X		MICHAEL C & KIMBERLY DENKINS	384 LONGWOOD LA		WRIGHTSTOWN	WI	54180	DENKINS		X
X		GLEN A & HELENE DERKS	W180 STATE RD 96		KAUKAUNA	WI	54130	DERKS		X
X		MICHAEL B & MARY K DIEDERICH	N2118 SHAWN CT		KAUKAUNA	WI	54130	DIEDERICH		X
X		DJR ENTERPRISES LLC	1704 SAVANNAH WAY		WAUNAKEE	WI	53597	DJR ENTERPRISES LLC		X
X		DOMASZEK, GERALD R	520 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	DOMASZEK		X
X		DPFF PROPERTY LLC	W509 COUNTY RD ZZ		KAUKAUNA	WI	54130	DPFF PROPERTY LLC		X
X		DOUGLAS J & ROSEMARY F DUDEK	277 PADDY CT		WRIGHTSTOWN	WI	54180-1087	DUDEK		X
X		LEON M & SHARON J EBBEN	N2220 TOWN CLUB RD		KAUKAUNA	WI	54130	EBBEN		X
X		GERALD & CAROL EDERER IRR RE TR	W593 STATE RD 96		KAUKAUNA	WI	54130	EDERER		X
X		KELLI G EFFA ET AL	W1631 BOYER DR		KAUKAUNA	WI	54130	EFFA		X
X		TOM G & MICHELLE M EITING	W672 RIVERVIEW CT		KAUKAUNA	WI	54130	EITING		X
X		THOMAS H & JEANNE EMMER	W104 STATE RD 96		KAUKAUNA	WI	54130	EMMER		X
X		LAURA J BODDE EVERS LLC	N2398 BODDE RD		KAUKAUNA	WI	54130	EVERS		X
X		JONATHAN B & AMY M FEHLAUER	W702 RIVER BEND DR		KAUKAUNA	WI	54130	FEHLAUER		X
X		WILLIAM G & PATRICE FELDKAMP	W404 COUNTY RD ZZ		KAUKAUNA	WI	54130	FELDKAMP		X
X		GEORGE & LINDA FICKAU	N239 DEERING LA		KAUKAUNA	WI	54130	FICKAU		X
X		ROBERT & JAIME L FILTZKOWSKI	245 PETERLYNN DR		WRIGHTSTOWN	WI	54180	FILTZKOWSKI		X
X		MICHAEL L FISCHER	1704 YORKSHIRE AV		KAUKAUNA	WI	54130	FISCHER		X
X		RICHARD J & BARBARA A FISHER	215 PETER LYNN DR		WRIGHTSTOWN	WI	54180	FISHER		X
X		SCOTT A & SANDY J FRAGALE	260 THEUNIS DR		WRIGHTSTOWN	WI	54180	FRAGALE		X
X		MICHAEL L & NANCY A FRANCIS	W447 STATE RD 96		KAUKAUNA	WI	54130	FRANCIS		X
X		ALAN D & TERESA M FRANCIS	W710 RIVER BEND DR		KAUKAUNA	WI	54130	FRANCIS		X
X		MICHAEL & ANN FRANZ	W696 RIVER BEND DR		KAUKAUNA	WI	54130	FRANZ		X
X		GEERTS REVOCABLE TRUST	235 W WISCONSIN AV		KAUKAUNA	WI	54130	GEERTS REVOCABLE TRUST		X
X		JAMIE L & KARIN A GILSON	624 LINKSVIEW CT		WRIGHTSTOWN	WI	54180	GILSON		X
X		TERRANCE L & EVELYN J GIRTS	W489 CINDY ANN LA		KAUKAUNA	WI	54130	GIRTS		X
X		THOMAS A & CATHY M GLASER	293 PETERLYNN DR		WRIGHTSTOWN	WI	54180-1090	GLASER		X
X		DENNIS H GLOUDEMANS	W621 DELLA MARCUS CT		KAUKAUNA	WI	54130	GLOUDEMANS		X
X		STEVE GOGA & ERIN L CHANEY	1710 PATRIOT DR		WAUSAU	WI	54403-5184	GOGA		X
X		LISA GRASSMAN	2718 DON GERARD WAY		GREEN BAY	WI	54311	GRASSMAN		X
X		GREATER WISCONSIN CARPENTERS	N2216 BODDE RD		KAUKAUNA	WI	54130	GREATER WISCONSIN CARPENTERS		X
X		LORETTA M GREEN IRRV TRUST	N2702 MCCABE RD		KAUKAUNA	WI	54130	GREEN		X
X		AHMAN R SCOTT & EDWARD K GREEN	1750 LIMESTONE TR		DEPERE	WI	54115	GREEN		X
X		GREGORY J GREINER	N4325 COUNTY RD E		FREEDOM	WI	54130-7109	GREINER		X
X		TED G GRODE	W203 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	GRODE		X
X		BONI L GRODE	W896 RIVER FOREST DR		KAUKAUNA	WI	54130	GRODE		X
X		BRIAN E GRODE	121 GOLF COURSE RD		WRIGHTSTOWN	WI	54180	GRODE		X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X		EDWARD C & CATHERINE GROH	W688 RIVER BEND DR		KAUKAUNA	WI	54130	GROH		X
X		LARRY & VICKI GROSHENS	N2015 FARM VIEW RD		KAUKAUNA	WI	54130	GROSHENS		X
X		KARL G & LINDA M GRUB	196 GOLF COURSE DR UNIT 2		WRIGHTSTOWN	WI	54180	GRUB		X
X		JEFFREY A & RENEE A GYRION	W642 RIVER BEND DR		KAUKAUNA	WI	54130	GYRION		X
X		CLIFF D & KRISTINA HAVERKORN	612 LINKSVIEW CT		WRIGHTSTOWN	WI	54115	HAVERKORN		X
X		HEART OF VALLEY METROPOLITAN SEWERAGE DISTRICT	801 THILMANY RD		KAUKAUNA	WI	54130	HEART OF VALLEY METROPOLITAN SEWERAGE DISTRICT		X
X		MARK R & MARY K HEINDEL	N2213 LOCK RD		KAUKAUNA	WI	54130	HEINDEL		X
X		PATRICK F & GWYN M HERMSEN	575 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	HERMSEN		X
X		ERIC T & JEAN A HILL	W224 DEERING LA		KAUKAUNA	WI	54130	HILL		X
X		HILLCREST LUMBER INC	2986 COUNTY RD PP		DEPERE	WI	54115-9645	HILLCREST LUMBER INC		X
X		CINDY J HILLESHEIM & MARK T LASHOCK	436 PETER LYNN DR		WRIGHTSTOWN	WI	54180	HILLESHEIM & LASHOCK		X
X		PAUL J & MARY KAY HINKSON	239 THEUNIS DR		WRIGHTSTOWN	WI	54180	HINKSON		X
X		RICHARD & SALLY HOPFENSPERGER	194 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	HOPFENSPERGER		X
X		STEVEN J & JULIE A HOUDEK	W494 CINDY ANN LA		KAUKAUNA	WI	54130	HOUDEK		X
X		DANIEL F & SUE A HURLEY	230 THEUNIS DR		WRIGHTSTOWN	WI	54180	HURLEY		X
X		JON HUSS	N2335 WEST FRONTAGE RD		KAUKAUNA	WI	54130	HUSS		X
X		GLENN & ANN IMMEL	W203 DEERING LA		KAUKAUNA	WI	54130	IMMEL		X
X		TYLER L & BEVERLY A JAHN	280 PADDY CT		WRIGHTSTOWN	WI	54180	JAHN		X
X		MICHAEL S & MARGARET JELENIC	444 EDGEWOOD DR		GREEN BAY	WI	54302	JELENIC		X
X		JAMES W & MARIANN H KASPER	W480 CINDY ANN LA		KAUKAUNA	WI	54130	KASPER		X
X		KASSNER, JAMES	2339 CEDAR RIDGE		GREEN BAY	WI	54313	KASSNER		X
X		DANIEL E KEEN & TAMMY N STEIDL	212 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	KEEN & STEIDL		X
X		BLANCHE A MARITAL KERRIGAN TR	312 E FOURTEENTH ST APT 322		KAUKAUNA	WI	54130	KERRIGAN		X
X		DANIEL J & EMILY KETTENHOFEN	568 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	KETTENHOFEN		X
X		CHRISTOPHER L KILGAS	633 BOWERS LA		KAUKAUNA	WI	54130	KILGAS		X
X		CHRIS G & JULIE A KILSDONK	271 PADDY CT		WRIGHTSTOWN	WI	54180	KILSDONK		X
X		TRENT C KING-NELSON & KRISTI M NELSON	215 THEUNIS DR		WRIGHTSTOWN	WI	54180	KING-NELSON		X
X		JEREMY M & MICHELLE L KITTOE	469 GORDON WAY		WRIGHTSTOWN	WI	54180	KITTOE		X
X		FRED F KREKOWSKI	N2358 EAST FRONTAGE RD		KAUKAUNA	WI	54130	KREKOWSKI		X
X		DENIS J LAMERS	W229 COUNTY RD ZZ		KAUKAUNA	WI	54130	LAMERS		X
X		PETER G & LYNN R LAMERS	W750 RIVER BEND DR		KAUKAUNA	WI	54130	LAMERS		X
X		ROBERT P & MELINDA A LAMERS	278 PETERLYNN DR		WRIGHTSTOWN	WI	54180	LAMERS		X
X		TROY R & CAROLEE M LASECKI	233 PETERLYNN DR		WRIGHTSTOWN	WI	54180	LASECKI		X
X		JUDITH A LASKOWSKI	1975 RIDGEWAY DR APT 34		DEPERE	WI	54115	LASKOWSKI		X
X		DAVID & DIANE LECAPITIANE	N2183 TOWN CLUB RD		KAUKAUNA	WI	54130	LECAPITIANE		X
X		PETER T LEITERMAN & KELLY L LEITERMAN	154 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	LEITERMAN		X
X		HELEN M LENZ	705 W NINTH ST		KAUKAUNA	WI	54130	LENZ		X
X		M&H REALTY LLP	N2570 MCCABE RD		KAUKAUNA	WI	54130	M&H REALTY LLP		X
X		ERIK M & ELIZABETH M MALUEG	4545 MILL RD		DENMARK	WI	54208	MALUEG		X
X		LEANGLINN K MAM	1125 ROELAND AV		APPLETON	WI	54915	MAM		X
X		LELAND M & PAMELA J MARTIN	232 ALISON CT		WRIGHTSTOWN	WI	54180	MARTIN		X
X		JOHN G & ELIZABETH L MARTIN	156 LOCK RD		KAUKAUNA	WI	54130-9026	MARTIN		X
X		TIMOTHY B & MELISSA A MATTSON	436 GORDON WAY		WRIGHTSTOWN	WI	54180	MATTSON		X
X		MARY J MEHLIN	152 GOLF COURSE DR		WRIGHTSTOWN	WI	54180-9645	MEHLIN		X
X		JEFFREY T & CAROL J MEULEMANS	W733 RIVER BEND DR		KAUKAUNA	WI	54130	MEULEMANS		X
X		RICHARD G & DEBRA L MEULEMANS	W470 GOLDEN GLOW RD		KAUKAUNA	WI	54130	MEULEMANS		X
X		WILLIAM J MICHIELS & DONNA A MARKOWSKI	N2263 TOWN CLUB RD		KAUKAUNA	WI	54130	MICHIELS & MARKOWSKI		X
X		ROBERT D & CAROLINE MIHALSKI	W612 DELLA MARCUS CT		KAUKAUNA	WI	54130	MIHALSKI		X
X		JAMES MILLER	W728 RIVER BEND DR		KAUKAUNA	WI	54130	MILLER		X
X		SCOTT T & JULIE A MITCHLER	486 CINDY ANN LA		KAUKAUNA	WI	54130	MITCHLER		X
X		JEFF & KRISTA MOLITOR	1526 ELK TRAIL CT		NEENAH	WI	54956	MOLITOR		X
X		WILLIAM M & PAULA E MORRIS	W444 CINDY ANN DR		KAUKAUNA	WI	54130	MORRIS		X
X		MS REAL ESTATE HOLDINGS LLC	N3569 VANDEN BOSCH RD		KAUKAUNA	WI	54130	MS REAL ESTATE HOLDINGS LLC		X
X		DAVID J & DONNA M MURPHY	N1777 IVY LAND		GREENVILLE	WI	54942	MURPHY		X
X		DAVID J & DONNA M NENNIG	N2575 MCCABE RD		KAUKAUNA	WI	54130	NENNIG		X
X		MICHAEL E & JONI M NINEDORF	630 ALYSSA ST		KAUKAUNA	WI	54130-1082	NINEDORF		X
X		JEROME E & ROXANN ONEILL	W766 RIVER BEND DR		KAUKAUNA	WI	54130	ONEILL		X
X		OOTC PROPERTIES LLC	N2161 TOWN CLUB RD		KAUKAUNA	WI	54130	OOTC PROPERTIES LLC		X
X		CORBIN M OTTO	W493 CINDY ANN LA		KAUKAUNA	WI	54130	OTTO		X
X		PAGE GOLF PROPERTIES LLC	201 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	PAGE GOLF PROPERTIES LLC		X
X		DAVID H & HOLLY L PAUTZ	1395 JANET ST		KAUKAUNA	WI	54130	PAUTZ		X
X		JONATHAN M & DESIREE PETERSON	469 PETERLYNN DR		WRIGHTSTOWN	WI	54180	PETERSON		X
X		ERIK J & BETH PLESS	1351 FINCH LA		GREEN BAY	WI	54313	PLESS		X
X		JOHN A & VICKI L POWERS	514 ROYAL SAINT PATS DR		WRIGHTSTOWN	WI	54180	POWERS		X
X		PENNY J PRICE	N2230 TOWN CLUB RD		KAUKAUNA	WI	54130	PRICE		X
X		DAVID S & KAY M QUELLA	W134 STATE RD 96		KAUKAUNA	WI	54130	QUELLA		X
X		RYAN R QUELLA	N9665 STATE PARK RD #102		APPLETON	WI	54915	QUELLA		X
X		TIMOTHY M RAUPP	172 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	RAUPP		X
X		HAROLD A & CARLA A REICHWALD	2609-1 BAY HARBOR CI		GREEN BAY	WI	54304	REICHWALD		X
X		EMILY M REYNOLDS & SHARON K MULROY (LE)	N2617 MCCABE RD		KAUKAUNA	WI	54130	REYNOLDS & MULROY		X
X		RUS & MARG. R ROBLEY LIV TRST	N2595 MCCABE RD		KAUKAUNA	WI	54130	ROBLEY		X
X		LILAS ROEHRBORN	2401 COUNTY RD U		WRIGHTSTOWN	WI	54180	ROEHRBORN		X
X		KENNETH S & MARY ANN T ROHAN	W10148 STATE RD 76		BEAR CREEK	WI	54922	ROHAN		X
X		ROYAL ST PATRICKS DEVELOPMENT	2986 COUNTY RD PP		DEPERE	WI	54115-9645	ROYAL ST PATRICKS DEVELOPMENT		X
X		RICHARD C & KAY D SAVELA	239 PETERLYNN DR		WRIGHTSTOWN	WI	54180	SAVELA		X
X	DENNIS F & LINDA L SCHMIDT (LC)	LYNN MARIE LEASING LLC	17118 COUNTY RD JJ		REEDSVILLE	WI	54230	SCHMIDT		X
X		THOMAS R & SUSAN J SCHREURS	N2335 COUNTY RD U		WRIGHTSTOWN	WI	54180	SCHREURS		X
X		JOHN SCHREURS & THOMAS SCHREURS	6570 ELMRO RD		GREENLEAF	WI	54126	SCHREURS		X
X		DARRYL G SCHROEDER	174 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	SCHROEDER		X
X		BENJAMIN M & KRISTA A SCHROTH	460 GORDON WAY		WRIGHTSTOWN	WI	54180	SCHROTH		X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X		CASEY D SCHWANDT	509 ROYAL ST PAT'S DR		WRIGHTSTOWN	WI	54180	SCHWANDT		X
X		RICHARD & PATTI SECOOLISH	1505 HEATHER GLEN RD		KANNAPOLIS	NC	28081	SECOOLISH		X
X		SEVEN OAKS DAIRY LLC	W229 COUNTY RD ZZ		KAUKAUNA	WI	54130	SEVEN OAKS DAIRY LLC		X
X		JOE W & KELLI A SIMS	290 PETERLYNN DR		WRIGHTSTOWN	WI	54180	SIMS		X
X		DANIEL R SPRANGERS	W441 CINDY ANN LA		KAUKAUNA	WI	54130	SPRANGERS		X
X	CEMETERY	ST PAULS CONG	2720-336 US HIGHWAY 41		KAUKAUNA	WI	54130	ST PAULS CONG		X
X		STATE OF WISC DEPT NATL RESC	2984 SHAWANO AV		GREEN BAY	WI	54313-6727	STATE OF WISC DEPT NATL RESC		X
X		ROBERT L & CONSTAN STEPHENSON	W211 DEERING LA		KAUKAUNA	WI	54130	STEPHENSON		X
X		AMBROSE M & LOIS A STERR RV TRT	182 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	STERR		X
X		GERALD G & PHYLLIS J STORDAHL	N2117 SHAWN CT		KAUKAUNA	WI	54130	STORDAHL		X
X		JOSEPH B STORINO	W788 WRIGHTSTOWN RD		KAUKAUNA	WI	54130	STORINO		X
X		MICHAEL R STRAINIS	2870 CROSSHAVEN AV		GREEN BAY	WI	54313	STRAINIS		X
X		ROBERT F SWENSON	844 RENEE CT		KAUKAUNA	WI	54130	SWENSON		X
X		MARK J & TRISHA S TETZLAFF	W668 RIVERVIEW CT		KAUKAUNA	WI	54130	TETZLAFF		X
X		WILLIAM & RUTH THEUNIS JT RV TR	276 VANDYKE ST		WRIGHTSTOWN	WI	54180	THEUNIS		X
X		MICHAEL J THEUNIS	265 PADDY CT		WRIGHTSTOWN	WI	54180	THEUNIS		X
X		JEFFREY G THEUNIS	200 LOCK RD		KAUKAUNA	WI	54130-9028	THEUNIS		X
X		WILLIAM G & RUTH A THEUNIS JOINT REVOCABLE TRUST	276 VAN DYKE ST		WRIGHTSTOWN	WI	54180-9018	THEUNIS		X
X		TODD L & STEPHANIE L THOMAS	W685 RIVERVIEW CT		KAUKAUNA	WI	54130	THOMAS		X
X		KENT R & KAREN J TURKOW RV TR	1080 CORONADO CT		ONEIDA	WI	54155	TURKOW		X
X		US GOVERNMENT	N2205 LOCK RD		KAUKAUNA	WI	54130	US GOVERNMENT		X
X		RICHARD J VALENTINE & CAROLE B OVANS	W233 DEERING LA		KAUKAUNA	WI	54130	VALENTINE & OVANS		X
X		RONALD E & ELIZABETH VANASTEN	W457 CINDY ANN LA		KAUKAUNA	WI	54130	VANASTEN		X
X		JANICE M VANDEHEY	W451 STATE RD 96		KAUKAUNA	WI	54130	VANDEHEY		X
X		JAMES M VANDEHEY & DONNA M DOLAN	N2223 TOWN CLUB RD		KAUKAUNA	WI	54130	VANDEHEY		X
X		ROBERT J & LISA M VANDELOO	N2437 BODDE RD		KAUKAUNA	WI	54130	VANDELOO		X
X		KIMM VANDENHEUVEL	W290 COUNTY RD ZZ		KAUKAUNA	WI	54130	VANDENHEUVEL		X
X		MARY S VANDERHEIDEN	N2685 MCCABE RD		KAUKAUNA	WI	54130	VANDERHEIDEN		X
X		RICHARD J &NANETTE VANDERLOOP	W597 STATE RD 96		KAUKAUNA	WI	54130	VANDERLOOP		X
X		JOHN W & KAREN A VANDERWALL	263 PETERLYNN DR		WRIGHTSTOWN	WI	54180	VANDERWALL		X
X		WAYNE R & CINDY S VANDEVOORT	W144 STATE RD 96		KAUKAUNA	WI	54130	VANDEVOORT		X
X		RODNEY J & ANN M VANDYK	281 PETERLYNN DR		WRIGHTSTOWN	WI	54180	VANDYK		X
X		PAUL & DENISE VANLAANEN RV TRT	178 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	VANLAANEN		X
X		DAVID J & ANNE M VANLIESHOUT	221 PETERLYNN DR		WRIGHTSTOWN	WI	54180	VANLIESHOUT		X
X		MICHAEL D & TIFFANY VANVREEDE	1784 PARTRIDGE RD		DEPERE	WI	54115	VANVREEDE		X
X		DALE & MURIEL VANZEELAND JT RV	W653 RIVER BEND DR		KAUKAUNA	WI	54130	VANZEELAND		X
X		SUSAN L MART VANZEELAND TRST	W727 RIVER BEND DR		KAUKAUNA	WI	54130	VANZEELAND		X
X		DONALD M & MARY N VANZEELAND	N2099 SHAWN CT		KAUKAUNA	WI	54130	VANZEELAND		X
X		TOM & MAUREEN VANZEELAND JT RV	257 PETERLYNN DR		WRIGHTSTOWN	WI	54180	VANZEELAND	tmvz@earthlink.net	X
X		MICHAEL D & STEPH VANZEELAND	284 PETERLYNN DR		WRIGHTSTOWN	WI	54180	VANZEELAND		X
X		NORBERT A & MARY C VERBOOMEN	N2247 BODDE RD		KAUKAUNA	WI	54130	VERBOOMEN		X
X		VERHAGEN CONSTRUCTION LLC	W2244 SECLUDED CT		KAUKAUNA	WI	54130	VERHAGEN CONSTRUCTION LLC		X
X		VERKUILEN BUILDERS LLP	N2844 SLEEPY CREEK DR		KAUKAUNA	WI	54130	VERKUILEN BUILDERS LLP		X
X		VILLAGE OF WRIGHTSTOWN	352 HIGH ST		WRIGHTSTOWN	WI	54180	VILLAGE OF WRIGHTSTOWN		X
X		TIMOTHY T VILS SURVIVORS TRT	W370 COUNTY RD ZZ		KAUKAUNA	WI	54130	VILS		X
X		BRITTANY VILS	W370 COUNTY RD ZZ		KAUKAUNA	WI	54130	VILS	turtlenest@earthlink.net	X
X		WAYNE A & SUE A VORPAHL	184 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	VORPAHL		X
X		DANIELLE R LAUTENSCHLAGER & DONALD W WALKER	344 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	WALKER		X
X		ROBERT J & CAROL M WALL	N1305 OUTAGAMIE RD		KAUKAUNA	WI	54130	WALL		X
X		ALAN R & BARBARA JO WEISINGER	188 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	WEISINGER		X
X		JAMES N VIETH & DEBRA L WELTER	190 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	WELTER		X
X		WESLEY K & LINDSAY WENDLANDT	469 ROYAL ST PAT'S DR		WRIGHTSTOWN	WI	54180	WENDLANDT		X
X		KEITH M & SANDRA K WENDLANDT	562 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	WENDLANDT	KeithandSandra@new.rr.com	X
X		ROCK WERY	630 LINKSVIEW CT		WRIGHTSTOWN	WI	54180	WERY		X
X		JOHN W & SHARON K WESTPHAL	274 PADDY CT		WRIGHTSTOWN	WI	54180	WESTPHAL		X
X		CARL M WHITT & EDWINA M LEUMAN-CARROLL PATRICIA L TRT	186 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	WHITT		X
X		JONATHAN D WIESE	221 THEUNIS DR		WRIGHTSTOWN	WI	54180	WIESE		X
X		WISCONSIN BELL INC	125 N EXECUTIVE DR		BROOKFIELD	WI	53005	WISCONSIN BELL INC		X
X		WISCONSIN CENTRAL LTD	PO BOX 8103		MONTREAL	QC	H3	WISCONSIN CENTRAL LTD		X
X		WISCONSIN PUBLIC SERVICE CORP	PO BOX 19002	700 N ADAMS ST	GREEN BAY	WI	54307-9002	WISCONSIN PUBLIC SERVICE CORP		X
X	WILLIAM W & MELODY BODDE	WJR LLC (LC)	N2380 BODDE RD		KAUKAUNA	WI	54130	WJR LLC (LC)		X
X		JOHN M & MARTHA A WOLLNER	569 ROYAL ST PATS DR		WRIGHTSTOWN	WI	54180	WOLLNER	jwollner@new.rr.com	X
X		RONALD L & LINDA J WRUCK	W716 RIVER BEND DR		KAUKAUNA	WI	54130	WRUCK		X
X		CYNTHIA J WYNGAARD	198 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	WYNGAARD		X
X		ZIMA PROPERTIES LLC	N286 HILLSIDE DR		APPLETON	WI	54915	ZIMA PROPERTIES LLC		X
X		DANIEL L & DENISE A ZWICK	W303 GOLF COURSE DR		WRIGHTSTOWN	WI	54180	ZWICK		X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X		CITY OF KAUKAUNA	201 W SECOND ST		KAUKAUNA	WI	54130	CITY OF KAUKAUNA		X
X	LAURA CORNETTE	HARVEST MOON ESTATE PARK ASSN	15 GOLDEN WHEAT LANE		WRIGHTSTOWN	WI	54180-1237	HARVEST MOON ESTATE PARK ASSN		X
X		HEART OF VALLEY METRO. SEWER DISTRICT	801 THILMANY RD		KAUKAUNA	WI	54130	HEART OF VALLEY		X
X		ST JOHN LUTHERN	GENERAL DELIVERY		WRIGHTSTOWN	WI	54180-9999	ST JOHN LUTHERN		X
X		ST JOHN EVAN LUTHERAN CONGR WRIGHTSTOWN WI INC	433 TURNER ST		WRIGHTSTOWN	WI	54180	ST JOHN LUTHERN		X
X		STATE OF WISC DEPT NATL RESC	2984 SHAWANO AV		GREEN BAY	WI	54616-6727	STATE OF WISC		X
X		STATE OF WI DOA DIV OF STATE FACILITIES	PO BOX 7866		MADISON	WI	53707-7864	STATE OF WISC		X
X		US GOVERNMENT	N2205 LOCK RD		KAUKAUNA	WI	54130	US GOVERNMENT		X
X		VILLLAGE OF WRIGHTSTOWN	352 HIGH STREET		WRIGHTSTOWN	WI	54180	VILLLAGE OF WRIGHTSTOWN		X
X		WRIGHTSTOWN COMMUNITY SCHOOL DISTRICT	PO BOX 128		WRIGHTSTOWN	WI	54180-0128	WRIGHTSTOWN COMMUNITY SCHOOL DISTRICT		X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X	JEAN BRANDT	VILLAGE OF WRIGHTSTOWN	WRIGHTSTOWN VILLAGE HALL	352 HIGH STREET	WRIGHTSTOWN	WI	54180	BRANDT	jbrandt@wrightstwon,us	X
X	JOEL GREGOZESKI	TOWN OF BUCHANAN	N178 COUNTY ROAD N		APPLETON	WI	54915	GREGOZESKI	joelg@townofbuchanan.org	X
X	DEBBIE VANDER HEIDEN	TOWN OF KAUKAUNA	W780 GREINER ROAD		KAUKAUNA	WI	54130	HEIDEN		X
X	SANDY JUNO	BROWN COUNTY	P.O. BOX 23600		GREEN BAY	WI	54305-3600	JUNO		X
X	DONNA MARTZAHL	TOWN OF WRIGHTSTOWN	P.O. BOX 175		GREENLEAF	WI	54126	MARTZAHL	tcmartzahl@centurytel.net	X
X	LORI J O'BRIGHT	OUTAGAMIE COUNTY	410 S. WALNUT STREET		APPLETON	WI	54911	O'BRIGHT	Lori.O'Bright@outagamie.org	X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X	JOHN ALFERI	TOWN OF KAUKAUNA	W780 GREINER ROAD		KAUKAUNA	WI	54130	ALFERI		X
X	TAMMY BALDWIN	SENATOR	14 WEST MIFFLIN STREET SUITE 207		MADISON	WI	53703	BALDWIN		X
X	GAREY BIES	REPRESENTATIVE	POBOX 8952	ROOM 216 NORTHSTAT	MADISON	WI	53708	BIES	rep.bies@legis.wisconsin.gov	X
X	PAUL BREWER	VILLAGE OF WRIGHTSTOWN						BREWER		X
X	CARLA BUBLOTZ	WRIGHTSTOWN SCHOOL DISTRICT						BUBLOTZ		X
X	ROB COWLES	SENATOR	POBOX 7882	ROOM 118 SOUTHSTAT	MADISON	WI	53707-7882	COWLES	sen.cowles@legis.wisconsin.gov	X
X	KAREN CURRY	VILLAGE OF WRIGHTSTOWN						CURRY	kcurry@wrightstown.us	X
X	SEAN DUFFY	CONGRESSMAN	208 GRAND AVENUE		WAUSAU	WI	54403	DUFFY	david.anderson@mail.house.gov	X
X	DEAN ERICKSON	VILLAGE OF WRIGHTSTOWN	352 HIGH STREET		WRIGHTSTOWN	WI	54180	ERICKSON	derickson@wrightstown.us	X
X	PAUL FARROW	SENATOR	POBOX 7882	ROOM 323 SOUTHSTAT	MADISON	WI	53707-7882	FARROW	sen.farrow@legis.wisconsin.gov	X
X	SCOTT FITZGERALD	SENATOR	POBOX 7882	ROOM 211 SOUTHSTAT	MADISON	WI	53707-7882	FITZGERALD	sen.fitzgerald@legis.wisconsin.gov	X
X	MARY FRITSCH	WRIGHTSTOWN AREA BUSINESS & COMMUNITY ALLIANCE						FRITSCH		X
X	ERIC GENRICH	REPRESENTATIVE	POBOX 8952	ROOM 304 WESTSTATE	MADISON	WI	53708	GENRICH	rep.genrich@legis.wisconsin.gov	X
X	TOM GERRITS	WRIGHTSTOWN SCHOOL DISTRICT						GERRITS		X
X	DAVE HANSEN	SENATOR	POBOX 7882	ROOM 106 SOUTHSTAT	MADISON	WI	53707-7882	HANSEN	sen.hansen@legis.wisconsin.gov	X
X	ANDRE JACQUE	REPRESENTATIVE	POBOX 8952	ROOM 123 WESTSTATE	MADISON	WI	53709	JACQUE	rep.jacque@legis.wisconsin.gov	X
X	STEVE JOHNSON	VILLAGE OF WRIGHTSTOWN						JOHNSON	sjohnson@wrightstown.us	X
X	RON JOHNSON	SENATOR	219 WASHINGTON AVE SUITE 100		OSHKOSH	WI	54903-1159	JOHNSON		X
X	JOHN KLENKE	REPRESENTATIVE	POBOX 8952	ROOM 306 EASTSTATE	MADISON	WI	5378	KLENKE	rep.klenke@legis.wisconsin.gov	X
X	MIKE KUGLITSCH	REPRESENTATIVE	POBOX 8952	ROOM 129 WESTSTATE	MADISON	WI	53708	KUGLITSCH	rep.kuglitsch@legis.wisconsin.gov	X
X	FRANK LASEE	SENATOR	POBOX 7882	ROOM 316 SOUTHSTAT	MADISON	WI	53707-7882	LASEE	sen.lasee@legis.wisconsin.gov	X
X	MARK LEONARD	VILLAGE OF WRIGHTSTOWN						LEONARD	mleonard@wrightstown.us	X
X	ANDY LUNDT	VILLAGE OF WRIGHTSTOWN						LUNDT	alundt@wrightstown.us	X
X	MARK MCANDREWS	TOWN OF BUCHANAN	N178 COUNTY RD. N.		APPLETON	WI	54915	MCANDREWS	chairperson@townofbuchana.org	X
X	TOM NELSON	OUTAGAMIE COUNTY						NELSON	thomas.nelson@outagamie.org	X
X	JOHN NYGREN	REPRESENTATIVE	POBOX 8953	ROOM 309 EASTSTATE	MADISON	WI	53708	NYGREN	rep.nygren@legis.wisconsin.gov	X
X	AL OTT	REPRESENTATIVE	POBOX 8953	ROOM 323 NORTHSTAT	MADISON	WI	53708	OTT	rep.ott@legis.wisconsin.gov	X
X	TOM PETRI	CONGRESSMAN	POBOX 8952		OSHKOSH	WI	54904	PETRI	tonia.nebl@mail.house.gov	X
X	SCOTT REIGNIER	VILLAGE OF WRIGHTSTOWN						REIGNIER	sreignier@wrightstown.us	X
X	REID RIBBLE	CONGRESSMAN	333 WEST COLLEGE AVENUE		APPLETON	WI	54911	RIBBLE	carl.soderberg@mail.house.gov	X
X	JIM STEINEKE	REPRESENTATIVE	POBOX 8953	ROOM 204 NORTHSTAT	MADISON	WI	53708	STEINEKE	rep.steineke@legis.wisconsin.gov	X
X	TROY STRECKENBACH	BROWN COUNTY	305 EAST WALNUT STREET		GREEN BAY	WI	54301	STRECKENBACH		X
X	GARY TAUCHEN	REPRESENTATIVE	POBOX 8953	ROOM 13 WESTSTATE	MADISON	WI	53708	TAUCHEN	rep.tauchen@legis.wisconsin.gov	X
X	WILLIAM VERBETEN	TOWN OF WRIGHTSTOWN	POBOX 175		GREENLEAF	WI	54126	VERBETEN		X
X	ROBIN VOS	REPRESENTATIVE	POBOX 8953	ROOM 217 WESTSTATE	MADISON	WI	53708	VOS	rep.vos@legis.wisconsin.gov	X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X	ERIC FOWLE	EAST CENTRAL WISCONSIN REGIONAL PLANNING COMMISSION	400 AHNAIP ST		MENASHA	WI	54952	FOWLE	efowle@ecwrpc.org	X
X	RICHARD L. HEATH	BAY LAKE REGIONAL PLANNING COMMISSION	441 S JACKSON ST		GREEN BAY	WI	54301	HEATH	rheath@baylakerpc.org	X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X	NICK DOMER	US ARMY CORPS OF ENGINEERING	211 N. BROADWAY	SUITE 221	GREEN BAY	WI	54303	DOMER	nicholas.t.domer@mvp02.usace.army.mil	X
X	HEATHER CAMPBELL	FEDERAL ENERGY REGULATORY COMMISSION	888 FIRST ST. NE		WASHINGTON	DC	20426	CAMPBELL	HEATHER.CAMPBELL@FERC.GOV	X
X	VIVIAN VILARO	FEDERAL AVIATION ADMINISTRATION-AIRSPACE EVALUATION PROGRAM	2300 EAST DEVON AVENUE		DES PLAINES	IL	60018	VILARO	vivian.vilaro@faa.gov	X
X	JUSTIN HETLAND	WISCONSIN DEPARTMENT OF TRANSPORTATION-BUREAU OF AERONAUTICS	4802 SHEBOYGAN AVENUE	ROOM 701	MADISON	WI	53707	HETLAND	justin.hetland@dot.wi.gov	X
X	PETE FASBENDER	USFWS - WISCONSIN FIELD OFFICE	2661 SCOTT TOWER DRIVE		GREEN BAY	WI	54229-9565	FASBENDER	Peter_Fasbender@fws.gov	X
X	SUSAN HEDMAN	US ENVIRONMENTAL PROTECTION AGENGY-REGION 5	77 W JACKSON BLVD		CHICAGO	IL	60604	HEDMAN		X
X	JOHN M FOWLER	ADVISORY COUNCIL ON HISTORIC PRESERVATION	401 F STREET NW	SUITE 308	WASHINGTON	DC	20001-2637	FOWLER	jfowler@achp.gov	X
X		PUBLIC SERVICE COMMISSION OF WISCONSIN								X
X	BEN CALLAN	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	101 SOUTH WEBSTER		MADISON	WI	53703	CALLAN	benjamin.callan@wisconsin.gov	X
X	PAM SCHENSE	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	101 SOUTH WEBSTER		MADISON	WI	53703	SCHENSE	pamela.schense@wisconsin.gov	X
X	STEVE EASTERLY	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	101 SOUTH WEBSTER		MADISON	WI	53703	EASTERLY	stephen.easterly@wisconsin.gov	X
X	STACY ROWE	WISCONSIN DEPARTMENT OF NATURAL RESOURCES	101 SOUTH WEBSTER		MADISON	WI	53703	ROWE	stacy.rowe@wisconsin.gov	X
X		WISCONSIN DEPARTMENT OF SAFETY AND PROFESSIONAL SERVICES	P.O. BOX 7302		MADISON	WI	53707-7302			X
X	JIM DRAEGER	WISCONSIN HISTORICAL SOCIETY	816 STATE STREET		MADISON	WI	53706	DRAEGER	jim.draeger@wisconsinhistory.org	X
X	ALICE HALPIN	WISCONSIN DEPARTMENT OF AGRICULTURE	P.O. BOX 8911		MADISON	WI	53708	HALPIN	alice.halpin@wisconsin.gov	X

PSC Code	Business Contact (Name)	Name of Business or Private Citizen	Primary Mailing Address or PO Box	Secondary Address (Street Address)	City	State	Zip	Sort (Last name or Business Name)	Email	PSC Code
X		ASSOCIATED PRESS	111 E. WISCONSIN AVENUE		MILWAUKEE	WI	53202	ASSOCIATED PRESS	info@ap.org	X
X		GREEN BAY PRESS GAZETTE	P.O. BOX 23430		GREEN BAY	WI	54305-3430	GREEN BAY PRESS GAZETTE	localnews@greenbaypressgazette.com	X
X		MILWAUKEE JOURNAL-SENTINEL	P.O. BOX 371		MILWAUKEE	WI	53201	MILWAUKEE JOURNAL-SENTINEL	jsmetro@journalsentinel.com	X
X		BRILLION	425 W. RYAN STREET		BRILLION	WI	54110	BRILLION	edbyrne@thebrillionnews.com	X
X		APPLETON POST CRESCENT	306 WEST WASHINGTON STREET		APPLETON	WI	54911	APPLETON POST CRESCENT	pcnews@postcrescent.com	X
X		KAUKAUNA TIMES-VILLAGER/WRIGHTSTOWN SPIRIT	1900 CROOKS AVE		KAUKAUNA	WI	54130	KAUKAUNA TIMES-VILLAGER/WRIGHTSTOWN SPIRIT	editor@timesvillager.com	X
X		FREEDOM PURSUIT	P.O. BOX 1016		FREEDOM	WI	54131	FREEDOM PURSUIT		X
X		WDUX RADIO	200 TOWER ROAD		WAUPACA	WI	54981	WDUX RADIO	mail@wdux.net	X
X		WTAQ RADIO	1420 BELLEVUE STREET		GREEN BAY	WI	54311	WTAQ RADIO	wtaqnews@mwcradio.com	X
X		WPNE RADIO	2420 NICOLET DRIVE		GREEN BAY	WI	54311	WPNE RADIO	ellen.clark@wpr.org	X
X		WBAY TV	115 S. JEFFERSON ST.		GREEN BAY	WI	54301	WBAY TV	news@wbay.com	X
X		WFRV TV	PO BOX 19055		GREEN BAY	WI	54307-9055	WFRV TV	tips@wearegreenbay.com	X
X		WLUK TV	787 LOMBARDI AVE		GREEN BAY	WI	54304	WLUK TV	fox11news@wluk.com	X
X		WGBA TV	1391 NORTH ROAD		GREEN BAY	WI	54313	WGBA TV	youask@nbc26.com	X

APPENDIX E ESRI GIS DATA FILES

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Associated with Figures Presented in Volume I - Maps

Feature Dataset	Feature Class	Description	Data Source	Date Generated/Collected
_SharedBaseData	Buffer_HalfMile_Site	Half-Mile Buffer of Proposed Location Boundary	Burns & McDonnell Engineering	8/15/2014
	contours_2ft_ln_v1	LiDAR Derived 2ft Elevation Contours	Outagamie County	3/9/2006
	dtl_wat	Major lakes, rivers, estuaries, and other waterbodies	ESRI	11/1/2010
	Existing_NG_Pipeline	Existing ANR Natural Gas Pipeline digitized from review of aerial photography	Burns & McDonnell Engineering	4/23/2014
	Existing_Tlines	Existing Transmission Centerlines	Generated from American Transmission Company AutoCAD drawings	6/18/2014
	Fox_3_Options_v1	Fox 3 Site Proposed Location Option Points	Burns & McDonnell Engineering	12/1/2013
	Fox_Energy_Center_Location	Location of Existing Fox Energy Center	Wisconsin Public Service	12/1/2013
	Gas_NHD	Represents the drainage network with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and stream gages	National Hydrography Dataset (NHD)	4/2/2014
	Muni_Village_Wrightstown_NEW_poly_v1	Municipality of Wrightstown Boundary	Intergovernmental Agreement between the village of Wrightstown and the Town of Kaukauna Public Hearing: Combined polygons from Brown and Outagamie Counties.	1/1/2014
	Municipality	Municipalities located in Outagamie County	Outagamie County	8/18/2013
	MunicipalDistrict	Municipalities located in Brown County	Brown County	1/1/2014
	NHDFlowline_SEL_ln_v1	Selected from USGS NHDFlowline data (Represents the drainage network with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and stream gages) to show navigable waters	National Hydrography Dataset (NHD)	12/1/2013
	Site_Boundary_poly_v1	Fox 3 Site Proposed Location Boundary	Burns & McDonnell Engineering	12/1/2013
	street100k_l_wi009	100K Scale Transportation Centerlines	USDA TIGER Dataset	7/2/1905
	street100k_l_wi087	100K Scale Transportation Centerlines	USDA TIGER Dataset	7/2/1905
	Text_Labels_12K_v1	Annotation feature for major features used on several maps: County names and Fox River	Burns & McDonnell Engineering	12/1/2013
	Text_Labels_24K_v1	Annotation feature for major features used on several maps: County names and Fox River	Burns & McDonnell Engineering	12/1/2013
	Water_Pipeline_Discharge	Water discharge pipeline derived from proposed site location files	Generated from Black & Veatch AutoCAD drawings	10/20/2014
	Water_Pipeline_Supply	Water supply pipeline from Heart of the Valley, digitized from georectified PDF drawings	Burns & McDonnell Engineering	10/20/2014
	WI_County_Bnds	Outline of Wisconsin Counties	Wisconsin Department of Natural Resources	12/1/2011
	WI_County_Bnds_ln	Outline of Wisconsin Counties	Wisconsin Department of Natural Resources	12/1/2011
	Wisconsin_County_Borders	Boundaries of Wisconsin Counties	ESRI	11/1/2010
B_SiteArrange	Site_Layout_Opt1_G1014_12052014	Site Option 1 layout design	Generated from Black & Veatch AutoCAD drawings	12/5/2014
	Site_Layout_Opt2_G1015_12052014	Site Option 2 layout design	Generated from Black & Veatch AutoCAD drawings	12/5/2014
	TempConst_Opt1_12052014	Site Option 1 temporary construction areas	Generated from Black & Veatch AutoCAD drawings	12/5/2014
	TempConst_Opt2_12052014	Site Option 2 temporary construction areas	Generated from Black & Veatch AutoCAD drawings	12/5/2014
	Text_Site_Layout_Opt1_G1014_12K_v1	Annotation feature for major features within Site Option 1 layouts	Generated from Black & Veatch AutoCAD drawings	12/5/2014
	Text_Site_Layout_Opt2_G1015_12K_v1	Annotation feature for major features within Site Option 2 layouts	Generated from Black & Veatch AutoCAD drawings	12/5/2014

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Associated with Figures Presented in Volume I - Maps

Feature Dataset	Feature Class	Description	Data Source	Date Generated/Collected
C_Geology	AssumedUnDiffPleistoceneDep	Areas assumed to be undifferentiated Pleistocene deposits. Assumptions based on previously recorded findings during Fox Energy Center permitting.	Burns & McDonnell Engineering	10/20/2014
	Boring_Locations	Bedrock boring locations. Digitized from georectified engineering drawings. Borings completed in Nov/Dec of 2000 and July of 2003	STS Consultants Ltd	10/20/2014
	Contours_5ft_SurficialGeology	Bedrock surface elevation contours. Digitized from georectified engineering drawings and extrapolations based on those drawings.	STS Consultants Ltd and Burns & McDonnell Engineering (Extrapolations)	10/20/2014
	Depth_Restrct_Lyr_009	Depth to restrictive layer from SSURGO Soils data for Brown County	USDA NRCS	12/26/2013
	Depth_Restrct_Lyr_87	Depth to restrictive layer from SSURGO Soils data for Outagamie County	USDA NRCS	12/27/2013
	UndiffPleistoceneDeposits	Areas known to be undifferentiated Pleistocene deposits based on previously recorded findings during Fox Energy Center permitting	Burns & McDonnell Engineering	10/20/2014
CC_TerrInvasRegPlant	InvasiveSpecies	Areas of Terrestrial Invasive Species Regulated Plants	Burns & McDonnell Engineering	8/12/2014
DD_NearResBuild	Closest_Buildings	Field verified structures closest to project footprints	Burns & McDonnell Engineering	10/20/2014
E_LandUseCover	BrownLanduse	Land use of Brown County merged with Brown County Landuse Type Table	Brown County	1/1/2014
	OutagamieLU_2010	Land Use of Outagamie County	East Central Wisconsin Regional Planning Commission	7/31/2014
G_PlanConnectFac	Site_Layout_Opt1_G1014_11132014_Select	Selected features from Site Option 1 layout design (applicable to both designs)	Generated from Black & Veatch AutoCAD drawings	11/13/2014
H_RailLine	rail_lines	Rail lines of the US	USDOT NTAD	4/11/2014
I_AltSiteArrang	SiteOption3	Site layout information digitized from georectified PDF	Generated from Black & Veatch PDF drawing	10/20/2014
	SiteOption4_Mirror	Site layout information digitized from georectified PDF	Generated from Black & Veatch PDF drawing	10/20/2014
	SiteOption4_StreamReroute	Site layout information digitized from georectified PDF	Generated from Black & Veatch PDF drawing	10/20/2014
K_RiverLakeWater	NHDArea	Represents the drainage network with features such as major riverways	National Hydrography Dataset (NHD)	4/2/2014
	NHDWaterbody	Represents the drainage network with features such as lakes and ponds	National Hydrography Dataset (NHD)	4/2/2014

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Associated with Figures Presented in Volume I - Maps

Feature Dataset	Feature Class	Description	Data Source	Date Generated/Collected
L_Wetlands	brownpw9	DNR WWI program digital wetland inventory	Wisconsin Department of Natural Resources	7/15/2010
	brownxw9	DNR WWI program digital wetland inventory	Wisconsin Department of Natural Resources	7/15/2010
	culvert_points_Opt1	Proposed culvert location for initial design	Generated from Black & Veatch AutoCAD drawings	12/5/2014
	culvert_points_Opt2	Proposed culvert location for initial design	Generated from Black & Veatch AutoCAD drawings	12/5/2014
	Layout3	Site layout information digitized from georectified PDF	Generated from Black & Veatch PDF drawing	10/20/2014
	Layout4	Site layout information digitized from georectified PDF	Generated from Black & Veatch PDF drawing	10/20/2014
	Layout_Northeast_Corner	Site layout information digitized from georectified PDF	Generated from Black & Veatch PDF drawing	10/20/2014
	outagpw9	DNR WWI program digital wetland inventory	Wisconsin Department of Natural Resources	1/1/1993
	outagxw9	DNR WWI program digital wetland inventory	Wisconsin Department of Natural Resources	1/1/1993
	SiteOption1_April2014_REV	Site Option 1 initial design	Burns & McDonnell Engineering	4/23/2014
	SiteOption2_April2014_REV	Site Option 2 initial design	Burns & McDonnell Engineering	4/23/2014
	SL_Opt1_Wetland_Impacts_2B	Calculated wetland impacts for Site Option 1 initial design	Burns & McDonnell Engineering	4/23/2014
	SL_Opt1_Wetland_Impacts_v6B	Calculated wetland impacts for Site Option 1	Burns & McDonnell Engineering	12/5/2014
	SL_Opt2_Wetland_Impacts_v2B	Calculated wetland impacts for Site Option 2 initial design	Burns & McDonnell Engineering	4/23/2014
	SL_Opt2_Wetland_Impacts_v7B	Calculated wetland impacts for Site Option 2	Burns & McDonnell Engineering	12/5/2014
	StreamReroute	Site layout information digitized from georectified PDF	Generated from Black & Veatch AutoCAD drawings	4/23/2014
	TempConst_Opt1_April2014	Site Option 1 temporary construction areas, initial version	Generated from Black & Veatch AutoCAD drawings	4/23/2014
	TempConst_Opt2_April2014	Site Option 2 temporary construction areas, initial version	Generated from Black & Veatch AutoCAD drawings	4/23/2014
	W_Stream	Field collected stream features	Burns & McDonnell Engineering	4/20/2014
	W_Wetland_Polygon	Field collected wetland features	Burns & McDonnell Engineering	6/19/2014
M_SoilSurvey	OutagamieBrown_MU_Merge	This data set is a digital soil survey and generally is the most detailed level of soil geographic data developed by the National Cooperative Soil Survey.	U.S. Department of Agriculture: Soil Survey Geographic (SSURGO)	12/26/2013 & 12/27/2013
N_Floodplain	S_FLD_HAZ_AR_Brown	FIRM Floodplains	FEMA	2/5/2014
	S_FLD_HAZ_AR_Outagamie	FIRM Floodplains	FEMA	8/17/2013
O_Plat	BrownTaxParcels_HalfMile_Site	Annotation Feature used to label Brown County Tax Parcels within 1/2-Mile Project Boundary	Burns & McDonnell Engineering	8/15/2014
	FoxRiver_Parcel	Background feature created for cartographic purposes, representing the area of Fox River. Used county parcel data to create the feature.	Burns & McDonnell Engineering	8/15/2014
	Grid_Index_4800_Scale_HalfMile_Site	Grid Index outline for map book generation	Burns & McDonnell Engineering	8/15/2014
	OutagamieTaxParcels_HalfMile_Site	Annotation Feature used to label Outagamie County Tax Parcels within 1/2-Mile Project Boundary	Burns & McDonnell Engineering	8/15/2014
	Parcels_HalfMile_Site	County tax parcels within 1/2 mile of the proposed Project boundary	Burns & McDonnell Engineering	8/15/2014
	TaxParcels_BrownCnty	Tax parcel data in Brown County, WI	Brown County, WI	1/1/2014
	TaxParcels_OutagamieCnty	Tax parcel data in Outagamie County, WI	Outagamie, WI	8/18/2014
P_PublicLand	PublicParcels	Selection of Outagamie County, WI tax parcels	Outagamie County, WI	8/18/2014

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Associated with Figures Presented in Volume I - Maps

Feature Dataset	Feature Class	Description	Data Source	Date Generated/Collected
R_SecTownRng	lntppoly	This data set is a polygon shapefile representing Public Land Survey System (PLSS) quarter-quarter sections. The data are a subset of the Wisconsin DNR's 'Landnet' database, automated from 1:24,000-scale sources.	Wisconsin Department of Natural Resources	5/28/1998
	qscppoly	This data set is a polygon shapefile representing Public Land Survey System (PLSS) quarter-sections. The data are a subset of the Wisconsin DNR's 'Landnet' database, automated from 1:24,000-scale sources.	Wisconsin Department of Natural Resources	5/28/1998
	secrdtrs	This data set is a polygon shapefile representing Public Land Survey System (PLSS) sections. The data are a subset of the Wisconsin DNR's 'Landnet' database, automated from 1:24,000-scale sources	Wisconsin Department of Natural Resources	5/28/1998
	twpppoly	This data set is a polygon shapefile representing Public Land Survey System (PLSS) townships. The data are a subset of the Wisconsin DNR's 'Landnet' database, automated from 1:24,000-scale sources.	Wisconsin Department of Natural Resources	5/28/1998
S_Zoning	T_WrightstownZoning_Unofficial	Zoning boundaries for the Town of Wrightstown	Brown County	1/1/2014
	V_WrightstownZoning_Unofficial	Zoning boundaries for the Village of Wrightstown	Brown County	1/1/2014
	Zoning	Zoning Boundaries for the county of Outagamie (non-incorporated)	Outagamie County	2/28/2011
	Additional_Digitized_Zoning_Kaukauna	Zoning boundaries for the Town of Kaukauna; digitized from the town provided zoning map	Town of Kaukauna	12/15/2010
T_CommunTower	FCC_Comm_Towers	Land Mobile - Private - Communications Towers	Federal Communications Commission	6/14/2012
U_RecArea	ParksRecFac	Selection of Brown and Outagamie County, WI tax parcles	Outagamie County, WI	8/18/2014
X_ApplicInfraROW	ROW_ANR_ln_v1	Existing Pipeline Right-of-Way, assumed to be 100' wide and based on digitized centerline	Burns & McDonnell Engineering	6/18/2014
	ROW_ATC_ln_v1	Existing Transmission Right-of-Way	Generated from American Transmission Company AutoCAD drawings	6/18/2014
Individual Rasters	ortho_1-1_1n_s_wi009_2013_1	2013 NAIP Brown County	USDA NAIP	7/14/2013
	ortho_1-1_1n_s_wi087_2013_1	2013 NAIP Outagamie County	USDA NAIP	7/14/2013
	drg_s_wi087	Collarless Topographic DRG mosaic for Outagamie County, WI	Digital Raster Graphic Mosaic of Outagamie County, Wisconsin	7/25/2002
	drg_s_wi009	Collarless Topographic DRG mosaic for Brown County, WI	Digital Raster Graphic Mosaic of Brown County, Wisconsin	7/25/2002

APPENDIX F SPCC PLAN

SPILL PREVENTION CONTROL AND COUNTERMEASURES PLAN

WISCONSIN PUBLIC SERVICE CORPORATION

FOX ENERGY CENTER

JUNE 2005

Revised
June 2010
August 30, 2013

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this plan is to describe the oil-containing equipment in place and the procedures that are employed at Fox Energy Center in Kaukauna. Wisconsin to: (1) prevent spills or discharge of oil into navigable waters; (2) control and contain spills if they do occur in order to prevent or to minimize the quantity of spilled material that enters navigable waters; and, (3) coordinate clean-up activities.

1.2 Applicability and Scope [40 CFR 112.1 (d)(2); 11 2.3(a)]

This SPCC plan applies to the Fox Energy Center because the aggregate aboveground storage capacity of oil at the contiguous facility is more than 1,320 gallons. The Fox Energy Center contains bulk oil storage in aboveground storage tanks (AST) and oil-containing operational equipment and other miscellaneous tanks having an aggregate total aboveground oil containing capacity of approximately 1,117,144 gallons.

1.3 SPCC Plan Location [40 CFR 112.3 (e)]

A complete copy of the SPCC plan is kept on site in the Environmental Health and Safety (EHS) office and in the Facility Control Room.

1.4 Definitions

Bulk storage container: any container, such as a tank or drum, used to store oil. These containers are used for purposes including, but not limited to, the storage of oil prior to use, while being used, or prior to further distribution in commerce. Oil-filled electrical, operating, or manufacturing equipment are not bulk storage containers.

Discharge: includes, but is not limited to, any spilling, leaking, pumping, pouring, emitting, emptying or dumping of oil."

Environment: Surface water, ground water, soil or air.

Navigable Waters: Virtually all surface waters and their shorelines, including: lakes, streams, (including intermittent streams, dry gullies, storm sewers, ravines, etc. that flow toward a stream), rivers, wetlands; and tributaries of waters described above. In addition, groundwater may also be included under the definition of navigable waters, if groundwater is directly connected hydrologically with surface waters.

Oil: Any oil product stored or used at a Company site, including, but not limited to: fats,

oils, or greases of animals, fish, or marine mammal origin; vegetable oils, including oils from seeds, nuts, fruits, or kernels; and other oils and greases, including petroleum, fuel oil, sludge, synthetic oils, mineral oils, oil refuse or oil mixed with wastes other than dredged spoil."

Oil-filled operational equipment: oil storage containers (or multiple containers) in which the oil is present solely to support the function of the apparatus or the device. Examples of oil-filled operational equipment include hydraulic systems, lubricating systems (including lubricating systems for pumps, compressors, and other rotating equipment), gear boxes, machining coolant systems, heat transfer systems, transformers, other electrical equipment, and other systems containing oil to enable operation.

Oil-filled electrical equipment: transformers, capacitors, substations, distribution pole-mount devices, oil circuit breakers, and underground cable systems

On-scene employee: Employee who discovers a release and takes initial response actions until the Incident Commander (or his designated alternate) can be reached. The on-scene employee shall ensure that the Incident Commander, or designee, is notified as soon as possible. Until the Incident Commander is reached, the on-scene employee shall carry out the requirements of the Emergency Response Plan.

Release (spill or spill event): A chemical has escaped from its storage tank or associated piping and entered the environment. A release to the environment does not include a minor leak or spill that is contained within a lined containment structure and recovered quickly. However, such a spill is a release, possibly reportable, if it is allowed to evaporate.

Reportable Discharge: A discharge that violates applicable water quality standards, causes a film or sheen upon or discoloration of the surfaces of water or adjoining shorelines, or causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. Any discharge of petroleum resulting in a release to the environment that exceeds 5 gallons. Any discharge of gasoline resulting in a release to the environment that exceeds 1 gallon.

Spill Prevention, Control, and Countermeasure Plan; SPCC Plan, or Plan: the document required by 40 CFR Part 112.3 that details the equipment, workforce, procedures, and steps to prevent, control, and provide adequate countermeasures to a discharge.

2.0 CERTIFICATIONS, AMENDMENTS, REVIEWS AND APPROVALS

2.1 P.E. Certification [112.3(d)]

112.3 (d) A licensed Professional Engineer must review and certify a Plan for it to be effective to satisfy the requirements of this part.

(1) By means of this certification the Professional Engineer attests:

(i) That he is familiar with the requirements of this part;

(ii) That he or his agent has visited and examined the facility;

(iii) That the Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards, and with the requirements of this part;

(iv) That procedures for required inspections and testing have been established; and

(v) That the Plan is adequate for the facility.

(2) Such certification shall in no way relieve the owner or operator of a facility of his duty to prepare and fully implement such Plan in accordance with the requirements of this part.

112.5(c) Have a Professional Engineer certify any technical amendment to your Plan in accordance with § 112.3(d).

The P.E. Certification is required for the original SPCC Plan and SPCC Plan reviews and amendments that include a physical change that materially affects the oil spill potential. Non-physical changes (e.g., personnel names, titles and phone numbers) do not require P.E. Certification.

I hereby certify that I or my agent have examined the Fox Energy Center, and being familiar with the provisions of 40 CFR part 112, attest that this SPCC Plan has been prepared in accordance with the SPCC regulation and good engineering practices, this SPCC Plan is adequate for the facility, and inspection and testing procedures have been established.

Engineer: Brian F. Bartoszek, P.E.

Signature:

Registration Number: 35055-006

State: Wisconsin

Date: August 30, 2013

Seal

2.2 Amendments [112.5(a)]

112.5 (a) If you are the owner or operator of a facility subject to this part, you must:
Amend the SPCC Plan for your facility in accordance with the general requirements in § 112.7, and with any specific section of this part applicable to your facility, when there is a change in the facility design, construction, operation, or maintenance that materially affects its potential for a discharge as described in § 112.1(b). Examples of changes that may require amendment of the Plan include, but are not limited to: commissioning or decommissioning containers; replacement, reconstruction, or movement of containers; reconstruction, replacement, or installation of piping systems; construction or demolition that might alter secondary containment structures; changes of product or service; or revision of standard operation or maintenance procedures at a facility. An amendment made under this section must be prepared within six months, and implemented as soon as possible, but not later than six months following preparation of the amendment.

112.5(c) Have a Professional Engineer certify any technical amendment to your Plan in accordance with § 112.3(d).

The SPCC Plan should be amended within six months whenever there is a physical change at the facility that could affect the facility's spill potential (e.g., adding or removing tanks, changing drainage systems). Amendments to the SPCC Plan should be certified by a Professional Engineer (P.E.). Table 2 should be filled out for each SPCC Plan Amendment and a P.E. review and certification should be conducted.

TABLE 2: SPCC PLAN AMENDMENTS

Amendment Date	Reason for Amendment	P.E. Certification Applied
November 2004	Implementation of initial SPCC plan – construction activities only	Yes
June 2005	Conversion to new regional standard plan, including new requirements under 40 CFR Part 112, incorporation of operations-related equipment and activities	Yes
February 2010	Updated SPCC plan for current site conditions, facility walk-through by registered professional engineer	Yes
August 2013	Property ownership change, converted plan to Integrys format	Yes

2.3 Five-Year Review [112.5(b)]

112.5(b) If you are the owner or operator of a facility subject to this part, you must, notwithstanding compliance with paragraph 112.5(a) of this section, complete a review and evaluation of the SPCC Plan at least once every five years from the date your facility becomes subject to this part; or, if your facility was in operation on or before August 16, 2002, five years from the date your last review was required under this part. As a result of this review and evaluation, you must amend your SPCC Plan within six months of the review to include more effective prevention and control technology if the technology has been field-proven at the time of the review and will significantly reduce the likelihood of a discharge as described in § 112.1(b) from the facility. You must implement any amendment as soon as possible, but not later than six months following preparation of any amendment. You must document your completion of the review and evaluation, and must sign a statement as to whether you will amend the Plan, either at the beginning or end of the Plan or in a log or an appendix to the Plan. The following words will suffice, ''I have completed review and evaluation of the SPCC Plan for (name of facility) on (date), and will (will not) amend the Plan as a result.'' (c) Have a Professional Engineer certify any technical amendment to your Plan in accordance with 112.3(d).

The SPCC Plan should be reviewed and evaluated at least once every five years to determine if the SPCC Plan accurately reflects the facility operations and to determine if better prevention measures could be applied. The SPCC Plan review form should be filled out for each SPCC Plan five-year review. A P.E. review and certification should be conducted, if needed.

SPCC Plan Review Form

WPSC has completed a review and evaluation of the SPCC Plan on _____
Date

☐ The Plan **will not** be amended as a result of the review and evaluation of the SPCC Plan.

☐ The Plan **will** be amended as a result of the review and evaluation of the SPCC Plan. The amendment will be made for the following reasons: .

_____

_____

_____

_____ _____
Signature Date

2.4 Management Approval [112.7]

112.7 The Plan must have the full approval of management at a level of authority to commit the necessary resources to fully implement the Plan.

The SPCC Plan should have the full approval of management at a level with authority to implement the measures identified in the SPCC Plan. The management approval should be included with each revision of the SPCC Plan (i.e., it should be re-signed after SPCC Plan reviews and amendments).

WPSC is committed to the prevention of discharges of oil to navigable waters and maintains oil spill prevention, control and countermeasures through reviews, updates and implementation of this Spill Prevention Control and Countermeasure Plan.

Substation Operations Authorized Facility Representative: Timothy Douglas Signature: [signature]

Title: Manager Substation Operations Date:

Generation Authorized Facility Representative: Scott Johnson Signature: [signature]

Title: Director - Generation & Engineering Services Date: 12.19.13

2.5 Additional Facilities, Procedures, Methods or Equipment [112.7]

112.7 If the plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, these items should be discussed in separate paragraphs, and the details of installation and operational start-up should be explained separately.

If needed, additional facilities, procedures, methods or equipment are described in Appendix I.

2.6 SPCC Cross Reference Information – [112.7]

This SPCC plan does not follow the exact order of SPCC topics presented in 40 CFR Part 112. However, section headings identify, where appropriate, the relevant sections of the SPCC rule. Regulations in 40 CFR Part 112.7 require that a SPCC plan include a section that cross-references the location of plan information with the regulatory requirements. Table 1 (page iv) is a cross-referencing table included in the plan to meet this requirement.

This Plan does not deviate from the SPCC plan requirements referenced in 40 CFR Part 112.

2.7 Conformance with Applicable Rules – [112.7(a)(1)&(2)]

112.7(a)(1) Include a discussion of your facility's conformance with the requirements listed in this part.
(2) Comply with all applicable requirements listed in this part.

The SPCC Plan has been developed to address the requirements outlined in 40 CFR Part 112.1 through 40 CFR Part 112.8 as applicable to non-transportation-related onshore facilities for both petroleum and non-petroleum oils.

This SPCC Plan includes provisions for controls, containment and diversionary structures, monitoring equipment, personnel training programs, inspection and record keeping, security, and spill cleanup procedures.

This document provides a ready reference for operating personnel on the provisions for discharge prevention and control on the site. It will also be used as an information resource when regulatory agency personnel visit the site for inspection purposes.

3.0 FACILITY LOCATION AND SITE DESCRIPTION [112.7(a)(3)]

112.7(a)(3) Describe in your Plan the physical layout of the facility and include a facility diagram, which must mark the location and contents of each container. The facility diagram must include completely buried tanks that are otherwise exempted from the requirements of this part under 112.1(d)(4). The facility diagram must also include all transfer stations and connecting pipes.

A site location map and an oil storage location map are included in Appendix A. A description of the facility is included in Sections 3.5 and 3.6.

3.1 Facility Address, and Telephone

Wisconsin Public Service Corporation (WPSC)
Fox Energy Center
310 East Frontage Road
Kaukauna, Wisconsin 54130
Telephone (920) 225-5353

3.2 Facility Owner/Operator, Address, and Telephone

Wisconsin Public Service Corporation (WPSC)
700 North Adams Street
Green Bay, Wisconsin 54307-9001
Telephone (920) 433-1396

3.3 Facility Contact

Name	Title	Telephone
Scott Cherveny	Transition Mgr – Fox Energy Asset	920-225-5394

3.4 Facility Location and Nearby Navigable Waters

Fox Energy is located at 310 East Frontage Road, Kaukauna, Wisconsin. Figure 1 in Appendix A is a Site Location Map and shows the location of the facility. The Fox Energy is located approximately 17 miles north of the city of Appleton in Outagamie County. The geographic coordinates of the facility are latitude 44" 19'21" N, longitude 88" 12'32 W.

The Fox Energy facility is situated on a property that is generally triangular in shape and is surrounded by farmland, highways or rail lines. The site is bounded to the north by Wrightstown Road, to the west by a frontage road to US Highway 41, to the east by privately owned farmland and to the south by a railway corridor.

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The facility is located approximately 0.4 mile northwest of the Fox River, which is a navigable body of water.

3.5 Facility Operations

The Standard Industrial Classification (SIC) code for the Fox Energy Center is 4931 (Electric Power Generation by Fossil Fuels When Combined with Other Services). Fox Energy is a combined-cycle electric power generating facility. Natural gas is combusted in two GE Frame 7FB dual-fuel combustion turbines that drive electric generators and produce electrical energy. Exhaust gas from the combustion turbines is used to produce steam in heat recovery steam generators (HRSGs), and the steam is expanded in a steam turbine to generate additional electrical energy. The facility has the capability to fire distillate oil in the combustion turbines for limited periods, and as such is equipped with two oil storage ASTs and associated unloading and transfer equipment.

3.6 Facility Storage

112.7(a)(3)(i)You must also address in your Plan (i)The type of oil in each container and its storage capacity.

Appendix B provides details on the tanks with oil storage at the Fox Energy Center. Figure 3 in Appendix A illustrates the facility layout and the location of oil storage containers. The facility layout marks the location, contents and volume of each oil-containing AST. The layout also shows the location of the fuel oil truck unloading stations and equipment, and also indicates the general location of associated underground piping.

The facility is composed of six major areas where ASTs are currently located:

- The boiler water demineralization building receives raw water from the pretreatment building southeast of the power block area near the Plant cooling tower and prepares it for use at the Fox facility. Two electrical transformers, which contain mineral oil, are located in this area and are included in this SPCC plan.

- The power block area contains two combustion turbines, two heat recovery steam generators and one steam turbine that are used to drive the electric generators. Each turbine is connected to its own oil lubricating system, consisting of an oil reservoir, pumps and piping. Each generator also is equipped with transformers that are used to increase electric voltage prior to interconnection with the transmission grid as well as provide other electrical support services. These transformers contain mineral oil and are included in this SPCC plan. The switchyard area of the facility is the interface between the transformers in the power block area and the electric transmission system. There are a number of oil-containing transformers and breakers that are included in this SPCC plan.

- The natural gas metering and conditioning area, located within the confines of the facility.

  Note: a portion of this area is controlled by ANR Pipeline Company; however, the two gas conditioning skids are owned and operated by Fox Energy - one within the gas metering yard and one on Fox Energy's property. Each of these conditioning skids contains a 150-gallon tank that is used to store condensed liquids that are extracted from the incoming gas. Although Fox Energy considers these reservoirs to be part of a process, they are included in this SPCC plan.

- The fuel oil storage and unloading area, found on the northwest portion of the facility, is where the facility's main fuel oil storage ASTs are located. In addition, two oil truck-unloading stations, oil forwarding pumps, and other associated equipment are located in this area. This area is covered by this SPCC plan.

- The cooling tower area, located on the western portion of the facility, includes a station service transformer that is used to supply power to the cooling tower fans, pumps and other equipment. This transformer contains mineral oil and is included in this SPCC plan.

Other ASTs (e.g. 55 gallon drums) are found in various locations throughout the facility and are addressed in this SPCC plan.

3.7 Wastewater Treatment Plant

The Fox Energy Center has a water treatment system that is designed to remove oil from stormwater runoff from the areas where AST's, vessels, and oil-containing electrical equipment are located. The stormwater is routed to one of the facility's three equipment sumps, then to an oil/water separator (OWS) where the oil and water are separated for further treatment. Oil collected in the OWS is collected by a licensed 3rd party contractor and disposed of in accordance with applicable requirements. Water collected by the OWS is diverted to the facility's cooling tower basin for reuse and/or discharge through the facility's permitted discharge, Outfall 001. The discharge is monitored weekly for oil and grease as a condition of the permit.

A copy of the Site Grading and Drainage Plan is maintained in the administration building at the Fox Energy Center, as well as in Appendix A of this document.

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4.0 RESPONSE PLAN OR PROCEDURES [112.7(a)(3) and 112.7(a)(4)]

4.1 Methods of Disposal [112.7(a)(3)]

112.7(a)(3) You must also address in your Plan: (iv) Countermeasures for discharge discovery, response, and cleanup (both the facility's capability and those that might be required of a contractor); (v) Methods of disposal of recovered materials in accordance with applicable legal requirements; and (vi) Contact list and phone numbers for the facility response coordinator, National Response Center, cleanup contractors with whom you have an agreement for response, and all appropriate Federal, State, and local agencies who must be contacted in case of a discharge as described in 112.1(b).

This facility is an Industrial Hazardous Waste generator and is subject to all state and federal regulations governing the management and disposal of such material. The Integrys Hazardous Waste Management Plan provides information and guidance on hazardous waste generation, storage, packaging, record development/maintenance and general management of hazardous. State specific regulations can be found in the appendices of the Integrys Hazardous Waste Management Plan.

Spill cleanup measures include the removal and off-site disposal of materials that have come in contact with the spilled oil or hazardous material. The disposal of oil discharge/spill waste will be coordinated with the IBS Hazardous Waste Management Plan Administrator.

In the event of a spill, the following materials need to be accounted for:

- Recovered product,
- Contaminated soil,
- Contaminated equipment (i.e., drums, tanks, valves, shovels, etc.),
- Personnel Protective Equipment,
- Decontamination Solutions,
- Absorbents,
- Spent Chemicals

All liquid and solid waste will be characterized as either hazardous or non-hazardous using USEPA and Wisconsin regulations. The IBS Hazardous Waste Management Plan Administrator will be contacted to obtain assistance with waste characterization. If the waste is determined to be hazardous, the material will be managed as a hazardous waste subject to all applicable regulations. This includes storage time limitations, which will be determined by the generator status of the facility and total quantity of hazardous waste accumulated on-site.

4.2 Emergency Response Plan [112.7(a)(4)]

112.7(a)(4) Unless you have submitted a response plan under § 112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in § 112.1(b) to relate

information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in § 112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

112.7(a)(5) Unless you have submitted a response plan under § 112.20, organize portions of the Plan describing procedures you will use when a discharge occurs in a way that will make them readily usable in an emergency, and include appropriate supporting material as appendices.

The Fox Energy Center has developed a Facility Response Plan according to 112.20, which addresses spill response procedures, spill reporting information and a readily available response plan.

Appendix J contains an Emergency Response Plan that addresses procedures for reporting oil and hazardous substance spills. The Emergency Response Plan has been developed in general conformance with 112(a)(4). The Emergency Response Plan is located in the back of the SPCC Plan to allow ease of access in the event of a spill.

5.0 POTENTIAL SPILL PREDICTIONS, VOLUMES, RATES, AND CONTROL [112.7(b)]

112.7(b) Where experience indicates a reasonable potential for equipment failure (such as loading or unloading equipment, tank overflow, rupture, or leakage, or any other equipment known to be a source of a discharge), include in your Plan a prediction of the direction, rate of flow, and total quantity of oil which could be discharged from the facility as a result of each type of major equipment failure.

Figure 1 in Appendix A illustrates the location of the facility relative to nearby navigable waterways. Figure 2 (Final Site Grading and Drainage Plan) in Appendix A illustrates the potential flow of surface runoff on the facility (i.e., a visual spill prediction).

The potential failures of oil-containing AST's and equipment at Fox Energy can occur because of electrical faults, structural failure, tank overflows, leaking valves, vandalism, oil transfer activities, and catastrophic rupture (immediate loss of the entire contents) from the following:

- Fuel Oil Storage Tank
- Fire Pump Fuel Storage Tank
- Lube Oil Reservoirs
- Seal Oil Reservoirs
- CT Accessory Modules
- Electrical Transformers
- Boiler Feed Pumps
- Natural Gas Condensate Reservoirs
- Gasoline & Diesel Fuel Tanks
- Lube Oil Storage Drums

A list of all on-site oil-containing tanks/equipment, type of oil stored, material of construction, and volumes are presented in Appendix B. Included in this table is information concerning predicted direction of flow, potential failure, storage capacity, estimated rate of flow, and estimated quantity of discharge. The locations of the oil-containing equipment, hazardous materials, and points of containment are depicted on Figure 3 Oil Storage Location Map in Appendix B. Additional information pertaining to chemical and physical characteristics of the substances stored at the facility is provided in the Material Safety Data Sheets (MSDS) maintained at the facility.

Oil discharges would be readily identified during the routine on-site inspections, as well as during routine facility operations. When discovered, discharges would be promptly contained, collected, and pumped into temporary on-site containers (suitably labeled) until the appropriate disposal measures are implemented. If the discharge is not easily contained and cleaned up, Fox Energy will respond by using their on-site emergency spill response equipment, equipment brought to the site by a response vehicle, and/or the services of off-site spill response personnel and equipment.

Generally, an outside spill from the Fox Energy Center would flow according to the surface drainage patterns shown in Appendix A across the facility and could eventually discharge to the Fox River. A detailed analysis of potential discharge scenarios can be found in Section 1.5 of the Fox Energy Center Facility Response Plan.

TABLE 3 – TRUCK AND RAILCAR LOADING AND UNLOADING OPERATIONS

Truck and Railcar Loading or Unloading Area Description	Largest Compartment Volume (gallons)	Containment	Rate	Direction of flow
Tank truck loading/unloading of fuel oil	3,500*	Yes	High	West
Tank truck loading/unloading of used oil	3,000**	No	High	West
Tank truck loading/unloading of transformer oil	4,100***	No	Medium	West
The Fox Energy Center does not load or unload from railcars	NA			

Explanation of terms:
* Reported largest compartment volume of tanker truck from Halron, a fuel oil supplier.
** Estimated based on the compartment volume of an MC306 cargo tanker truck.
*** Largest compartment of substation tanker truck.

The spill prediction rate was estimated based on the following table:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

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6.0 DRAINAGE CONTROL DIVERSIONARY STRUCTURES AND CONTAINMENT [112.7(a)(3),(c)&(k)]

112.7(a)(3) You must also address in your Plan: (ii) Discharge prevention measures including procedures for routine handling of products (loading, unloading, and facility transfers, etc.); (iii) Discharge or drainage controls such as secondary containment around containers and other structures, equipment, and procedures for the control of a discharge.

112.7(c) Provide appropriate containment and/or diversionary structures or equipment to prevent a discharge as described in § 112.1(b), except for qualified oil-filled operational equipment. The entire containment system, including walls and floor, must be capable of containing oil and must be constructed so that any discharge from a primary containment system, such as a tank, will not escape the containment system before cleanup occurs. In determining the method, design, and capacity for secondary containment, you need only to address the typical failure mode, and the most likely quantity of oil that would be discharged. Secondary containment may be either active or passive in design. At a minimum, you must use one of the following prevention systems or its equivalent:
(1) For onshore facilities:
(i) Dikes, berms, or retaining walls sufficiently impervious to contain oil;
(ii) Curbing or drip pans;
(iii) Sumps and collection systems;
(iv) Culverting, gutters, or other drainage systems;
(v) Weirs, booms, or other barriers;
(vi) Spill diversion ponds;
(vii) Retention ponds; or
(viii) Sorbent materials.

The EPA allows for alternate requirements for general secondary containment for qualified oil-filled operational equipment where the facility has had no single discharge from operational equipment exceeding 1,000 gallons or no two discharges from any operational equipment exceeding 42 gallons within any 12 month period.

112.7(k)(2)Alternate Requirements to General Secondary Containment for Operational Equipment
(i) Establish and document the facility procedures for inspections or a monitoring program to detect equipment failure and/or a discharge; and
(ii) Unless you have submitted a response plan under §112.20, provide in your Plan the following:
(A) An oil spill contingency plan following the provisions of part 109 of this chapter.
(B) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

At the Fox Energy Center, oil storage and oil use operations have various types of secondary containment systems to prevent oil spills from impacting navigable waterways. Exceptions to the secondary containment systems are identified in the applicable sections of this SPCC plan.

In and around oil-containing ASTs, vessels and other areas where oil leaks and spills may occur, the Fox facility is equipped with curbs, dikes and other containment features to prevent spilled oil from escaping the facility. Specific spill prevention and control measures (i.e., specific

to the oil storage, use or operation) are identified in the Sections 10 to 15 of this SPCC Plan. The additional diversionary structures and/or containment systems are shown in Figure 3 in Appendix A.

Oil and storm water collected with the areas where AST's, vessels, and oil-containing electrical equipment are routed to one of the facility's three equipment sumps, then to an oil/water separator (OWS) where the oil and water are separated for further treatment. Oil collected in the OWS is collected by a licensed 3rd party contractor and disposed of in accordance with applicable requirements. Water collected by the OWS is diverted to the facility's cooling tower basin for reuse and/or discharge through the facility's permitted discharge, Outfall 001. A copy of the Site Grading and Drainage Plan is maintained in the administration building at the Fox Energy facility, as well as in Appendix A of this document.

Power transformers are equipped with sensors that send an alarm to the company's system operating in the event of a transformer failure. Although not specific to oil volume, a catastrophic loss of oil would cause the transformer to fail. Substation personnel would be immediately dispatched to investigate the cause of the fault.

WPSC management has signed this plan committing to supply the necessary, manpower, equipment and materials required to expeditiously control and remove any quantity of oil and/or hazardous substance discharged that may be harmful.

7.0 EXPLANATION OF IMPRACTICABILITY [112.7(d)]

112.7(d) Provided your Plan is certified by a licensed Professional Engineer under §112.3(d), or, in the case of a qualified facility that meets the criteria in §112.3(g), the relevant sections of your Plan are certified by a licensed Professional Engineer under §112.6(d), if you determine that the installation of any of the structures or pieces of equipment listed in paragraphs (c) and (h)(1) of this section, and §§112.8(c)(2),112.8(c)(11) to prevent a discharge as described in §112.1(b) from any onshore or offshore facility is not practicable, you must clearly explain in your Plan why such measures are not practicable; for bulk storage containers, conduct both periodic integrity testing of the containers and periodic integrity and leak testing of the valves and piping; and, unless you have submitted a response plan under §112.20, provide in your Plan the following:
(1) An oil spill contingency plan following the provisions of part 109 of this chapter.
(2) A written commitment of manpower, equipment, and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful.

All storage and process units at Fox Energy are contained within buildings, berms, dikes, or other diversionary structures as described in Appendix B. Bulk oil ASTs that are stored under cover and away from precipitation and storm water runoff are only required to have secondary containment that will contain the volume of the largest tank. The exceptions to this statement are the facility's natural gas condensate reservoirs, which do not feature secondary containment structures.

Under the current rules, strong contingency planning is necessary whenever it is determined that additional secondary containment for any part of a facility that might be the cause of a discharge as described in 112.1 (b) is not practicable. The installation of additional equipment is not necessary at this time. If it is determined that constructing additional secondary containment to Fox Energy Center is impracticable, it must be explained in a revised SPCC Plan why such measures are not practicable.

Since oil-filled electrical equipment is not defined as a bulk storage container, the use of secondary containment as described in 40 CFR 112.8 (c) and 112.8 (d) is not required; however, transformers at the Fox Energy facility are constructed with secondary containment. Also, because the natural gas condensate reservoirs are a part of a process, contain limited volumes of condensate material and are located in areas that provide a limited opportunity for adverse environmental impact, no secondary containment has been provided. Adsorbent pads, booms and other materials are used in the reservoir area when condensate draining takes place as a method of preventing discharge of collected liquids

To fulfill the containment requirements in 40 CFR 112.7 (c), Fox Energy is committed to maintain, at a minimum, spill kits in areas near unprotected electrical equipment.

8.0 INSPECTIONS, TESTS AND RECORDS [40 CFR 112.7(e)]

112.7(e) Conduct inspections and tests required by this part in accordance with written procedures that you or the certifying engineer develop for the facility. You must keep these written procedures and a record of the inspections and tests, signed by the appropriate supervisor or inspector, with the SPCC Plan for a period of three years. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

The EPA allows SPCC-related inspection and test records to be maintained separate from the SPCC Plan if the records would normally be maintained in a separate location (e.g., in maintenance files).

To satisfy requirements is API 653 and SP001-03, the Fox Energy employee responsible for spill prevention at this facility or his/her trained designated representative will conduct monthly in-service visual inspection of the facility to observe any abnormalities or to identify and repair potential problems.

This monthly in-service inspection shall include a visual inspection of the facility's ASTs for:

- Leaks;
- Shell distortions;
- Signs of settlement;
- Signs of deterioration and corrosion;
- Condition of foundations and supports;
- Condition of tank grounding system components;
- Evidence of discharge;
- Condition of secondary containment systems
- Presence of water within the primary tank of shop fabricated tanks; and
- Presence of stored product within the interstice of a double wall tanks.

This monthly inspection will also address condition of aboveground valves and appurtenances checking for the presence of leaks and signs of deterioration or malfunction. Leaks and/or equipment malfunction is promptly reported and repaired. In addition, liquid level gauges are regularly inspected by facility personnel to ensure proper operation. Visible leaks within secondary contained areas will be promptly corrected and oil accumulated within these secondary containment areas will be promptly removed.

This monthly inspection also includes the following:

- Condition of facility drainage;
- Condition of oil/hazardous substance spill retention system;
- External appearance of containers;
- Condition of waste drums in storage area;
- Condition of product drums in storage area;
- Integrity of containment walls and floors; and
- Adequate aisle and workspace in storage area.

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This facility utilizes reservoirs to store oil for operating equipment (turbines and transformers). Each combustion turbine and steam turbine lubricating system (reservoir, piping, valves, & ancillary equipment) is inspected as a whole system during the monthly in-service inspections. Inspections of this equipment are conducted in accordance with manufacturer's recommendations for operating conditions. Additionally, natural gas condensate reservoirs are inspected for corrosion and leaks, as well as the presence of condensate, which can be drained and disposed of to eliminate the potential for leakage.

The results of the monthly in-service visual inspection will be recorded with details of the person conducting the inspection, date the inspection was conducted, findings, and corrective action taken if appropriate. These inspection records will be maintained with this SPCC Plan for a period of three years. Any leaks or other oil spills will also be recorded in the Operator's Log, which is maintained in the Control Room.

An SPCC Plan inspection of the site is conducted at least annually. The SPCC Plan inspection consists of:

- Verification of the absence of recorded changes to the facility that could affect the facility's potential for the discharge of oil into or upon navigable waters or adjoining shorelines;
- Check the adequacy of the facility's spill kit inventory;
- Determine if oil absorbent barriers and/or berms (aggregate or concrete) require cleaning or replacement; and,
- Inspection of the grounds and equipment for evidence of leakage;
- Regular examinations of all aboveground valves;
- Inspection of rainwater collected in secondary containment areas prior to discharge; and,
- Visual exam of the ASTs

Blank forms used for some of these assessments can be found in Appendix D. The inspection form is prepared, signed, and dated by the inspector. Written inspection records will be signed at the time of the inspection by the responsible supervisor or his trained designee and will be maintained for a period of at least three (3) years as part of this Plan in Appendix E – Completed Monthly Assessment Forms.

Before secondary containment areas that flow directly to the ground or ditch are drained, the retained storm water will be inspected to ensure that any run-off storm water is in compliance with applicable water quality standards and will not cause a harmful discharge. Draining of storm water from secondary containment areas that do not drain to the OWS must be conducted under the direct supervision of an operator and will be recorded on the Record of Draining Bermed or Diked Areas (Appendix C). Currently, the Fox Energy Center does not have containment areas that could be impacted by oil exposed to precipitation.

Draining of natural gas condensate from collection tanks is conducted periodically. No secondary containment exists for these containers; however, Fox Energy considers these containers to be process equipment and adsorbent pads or other materials are used during the condensate draining process to prevent the spillage of such material onto the ground. The exception to this is the condensate collection tank that is located within the gas metering yard. An impervious concrete curbed area with a capacity of 280 gallons is available to assist retrieval of filter media from the collection vessel. Adsorbent materials will be used on this reservoir when draining is conducted.

In addition to the continuous inspections, inspections of process equipment and storm water-related systems and equipment are performed on a regular basis in accordance with the Storm Water Pollution Prevention Plan (SWPPP). Documentation of these inspections is maintained in the SWPPP, which is kept in the facility's administration building. Drum storage areas and oil spill response equipment are inspected weekly, and documentation is maintained as part of the SWPPP, which is located in the administration building.

9.0 PERSONNEL, TRAINING, AND DISCHARGE PREVENTION PROCEDURES [112.7(f)]

9.1 Training

112.7(f)(1) At a minimum, train your oil-handling personnel in the operation and maintenance of equipment to prevent discharges; discharge procedure protocols; applicable pollution control laws, rules, and regulations; general facility operations; and, the contents of the facility SPCC Plan.

New hires, for positions that require oil use or involve oil operations, are required to have spill prevention training, which includes a review of the SPCC Plan. Personnel involved in oil operations are also provided on-the-job training and receive annual refresher training.

9.2 Designated Person

112.7(f)(2) Designate a person at each applicable facility who is accountable for discharge prevention and who reports to facility management.

The Site Environmental Coordinator is the designated person accountable for spill prevention.

9.3 Briefings

112.7(f)(3) Schedule and conduct discharge prevention briefings for your oil-handling personnel at least once a year to assure adequate understanding of the SPCC Plan for that facility. Such briefings must highlight and describe known discharges as described in § 112.1(b) or failures, malfunctioning components, and any recently developed precautionary measures.

The facility schedules and conducts discharge prevention briefings for oil-handling personnel on an annual basis to ensure that they posses an adequate understanding of this SPCC Plan in accordance with 40 CFR 112.7(f)(3). The briefings are designed to highlight and describe known oil discharges in harmful quantities, failures, malfunctioning components, and any recently developed precautionary measures. The training is designed to cover site-specific information, including implementation of this Plan. At the minimum, this training will include the following:

A. Applicable Laws and Regulations

    1. Clean Water Act, Oil Pollution Prevention, and Spill Prevention Control and Countermeasure Plans

    2. Reporting spills of oil

B. Environmental Awareness

C. Spill Prevention

1. Secondary containment devices
2. Containment device maintenance
3. Inspection procedures
4. Operational precautions

D. Spill Control Emergency Equipment

1. Proper use and limitations
2. Inspection procedures

E. Oil and Waste Spill Response

1. Response to minor spills
2. Response to significant spills

Fox Energy Center personnel training and employee documentation records are maintained at the facility as per 40 CFR 112.7(9(3)) and will be retained for at least three (3) years.

10.0 SECURITY (EXCLUDING OIL PRODUCTION FACILITIES) [112.7(g)]

10.1 Fencing

112.7(g) Fully fence each facility handling, processing, or storing oil, and lock and/or guard entrance gates when the facility is not in production or is unattended.

The facility is surrounded by an 8-ft fence with other oil storage and use located inside locked buildings. The buildings and the fence prohibit access to oil use areas by unauthorized personnel. The entrance gates are normally kept closed and locked with controlled access to the plant to pre-authorized individuals. The exception being when the gate is left open for farm field access on occasion.

10.2 Master Flow and Drain Valves

112.7(g) Ensure that the master flow and drain valves and any other valves permitting direct outward flow of the container's contents to the surface have adequate security measures so that they remain in the closed position when in non-operating or non-standby status.

Tanks with valves that allow the direct outward discharge of the tank's contents should have the drain valves closed and locked when not in use. Some tanks may have drain pipes, but the drain pipes are equipped with plugs or piped into a process or operation (i.e., they do not drain directly to the ground and therefore, do not require locks).

All controls associated with the facility's drainage and oil-handling systems are located within the fenced perlimeter of the plant. Drain valves, as well as other valves that may drain or discharge oil, are kept in a closed position when not in use or in a standby status. Process lines containing oil are isolated with valves or drained prior to performing maintenance.

Any valves used for the drainage of containment areas will be of the manual operated, open and-closed design.

10.3 Starter Controls

112.7(g) Lock the starter control on each oil pump in the "off" position and locate it at a site accessible only to authorized personnel when the pump is in a non-operating or non-standby status.

The Fox Energy Center has pumps with starter controls. Pump starter controls are located in a site accessible only to authorized personnel. The starter control on each oil pump is locked in the "off" position and is accessible only to authorized personnel when the pump is in a non-operating or standby status.

10.4 Pipeline Connections

112.7(g) Securely cap or blank-flange the loading/unloading connections of oil pipelines or facility piping when not in service or when in standby service for an extended time. This security practice also applies to piping that is emptied of liquid content either by draining or by inert gas pressure.

Oil pipeline connections/piping are securely capped when they are not in use and blank-flanged when they are in standby service for an extended time. Out of service pipeline connections/piping are evacuated of their contents.

10.5 Facility Lighting

112.7(g) Provide facility lighting commensurate with the type and location of the facility that will assist in the: (i) Discovery of discharges occurring during hours of darkness, both by operating personnel, if present, and by non-operating personnel (the general public, local police, etc.); and (ii) Prevention of discharges occurring through acts of vandalism.

Lighting by storage tanks should be adequate to detect spills and deter vandalism during nighttime hours.

Lighting by storage tanks and/or oil-filled equipment is adequate to detect spills and deter vandalism during nighttime hours. Specific information regarding tank illumination by lights on nearby buildings and light poles is presented in Appendix B.

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11.0 FACILITY TANK CAR AND TANK TRUCK LOADING/UNLOADING OPERATION (EXCLUDING OFFSHORE FACILITIES) [112.7(h)].

The Fox Energy Center loads or unloads fuel oil, gasoline and used oil from tank trucks. The Fox Energy Center does not load or unload oils from railcars.

11.1 Tank Truck Loading/Unloading Operation

112.7(h) (1) Where loading/unloading area drainage does not flow into a catchment basin or treatment facility designed to handle discharges, use a quick drainage system for tank car or tank truck loading and unloading areas. You must design any containment system to hold at least the maximum capacity of any single compartment of a tank car or tank truck loaded or unloaded at the facility.

112.7(h) (2) Provide an interlocked warning light or physical barrier system, warning signs, wheel chocks, or vehicle break interlock system in loading/unloading areas to prevent vehicles from departing before complete disconnection of flexible or fixed oil transfer lines.

112.7(h) (3) Prior to filling and departure of any tank car or tank truck, closely inspect for discharges the lowermost drain and all outlets of such vehicles, and if necessary, ensure that they are tightened, adjusted, or replaced to prevent liquid discharge while in transit.

Fuel oil is transferred into the main oil storage tanks via one of two truck unloading stations that are located adjacent to the tanks. The truck unloading stations are clearly marked to prevent entry by unauthorized vehicles and/or equipment, and they include unloading bays that are constructed below grade and hold the delivery truck during the oil unloading process. The volume of each of the sub-grade containment bays (one per unloading station) is 6,000 gallons, which is approximately 100 percent of the full capacity of a fuel oil delivery truck tank. The unloading bays also are equipped with floor drains that are capable of capturing and diverting spilled oil away from the bays and to the plant's equipment sump and OWS system, where it may be collected for disposal. The unloading station truck connections will be capped when not in use to prevent accidental or unauthorized operation of the unloading facility. A facility-specific fuel oil unloading procedure has been developed, and all operations personnel are trained on the procedure prior to overseeing unloading activities. A copy of the Fuel Oil Delivery Checklist is in Appendix F

Delivery trucks also supply gasoline and diesel fuel to aboveground storage tanks used for on site vehicle refueling. These tanks are located near the fuel oil storage tanks and the delivery trucks use the main oil storage tank unloading containment system. A facility-specific diesel/gasoline unloading procedure has been developed, and all operations personnel are trained on the procedure prior to overseeing unloading activities. Copies of the Fuel Oil and Diesel/Gasoline (For Aux Tanks) Delivery Checklists are in Appendix F

With the exception of drum storage and waste lube oil storage containers, all oil products are utilized in facility processes; therefore, there is no additional transfer, loading or unloading equipment is at the Fox Energy facility.

If loading and unloading is conducted from the used oil tank, the area where the tank truck loading/unloading is paved. Because waste/used oil is transferred by pulling oil from the used oil tank with a vacuum truck, any spill (i.e., the entire contents of the vacuum truck) is unlikely since if a leak occurred, the positive displacement pump would stop and not allow flow in either direction. A spill from the positive displacement pumper truck would pool in place or be routed to one of the facility's two equipment sumps, then to an OWS where the oil and water are separated for further treatment. Spill control equipment would be used to contain spills and prevent them from migrating to the Fox River.

Transformers and circuit breakers are stand-alone process equipment and do not include ancillary piping and fittings. If loading and unloading is conducted in the switchyard, the area where the tank truck loading and unloading would be relatively flat and covered with a gravel bed. A spill from a tank truck would likely pool in place. If the largest compartment of a tank truck spilled onto the loading areas near a piece of eqiupment, the spill would likely flow the direction indicated on the Site Grading and Drainage Plan found in Appendix A of this document. Spill control equipment would be used to contain spills and prevent them from migrating to the Fox River.

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12.0 OTHER GENERAL REQUIREMENTS

12.1 Field-Constructed Aboveground Containers [112.7(i)]

112.7(i) If a field-constructed aboveground container undergoes a repair, alteration, reconstruction, or a change in service that might affect the risk of a discharge or failure due to brittle fracture or other catastrophe, or has discharged oil or failed due to brittle fracture failure or other catastrophe, evaluate the container for risk of discharge or failure due to brittle fracture or other catastrophe, and as necessary, take appropriate action.

WPSC will evaluate a container for potential failure if the tank service is changed or if the tank experiences a failure or discharge.

12.2 Conformance with Applicable Guidelines – [112.7(j)]

112.7(j) Include in your Plan a complete discussion of conformance with the applicable requirements and other effective discharge prevention and containment procedures listed in this part or any applicable more stringent State rules, regulations, and guidelines.

This SPCC Plan contains information to conform to the general requirements for the Plan under Wisconsin Department of Natural Resources [NR 706] and the specific discharge prevention and containment procedures listed within this section.

12.3 Spill History – [112.7(k)(1)]

112.7(k)(1) The EPA allows for alternate requirements for general secondary containment for qualified oil-filled operational equipment where the facility has had no single discharge from operational equipment exceeding 1,000 gallons or no two discharges from any operational equipment exceeding 42 gallons within any 12 month period.

The Fox Energy Center has not experienced any EPA reportable oil spill events.

Subpart B—Requirements for Petroleum Oils and Non-Petroleum Oils, Except Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and Vegetable Oils (Including Oils from Seeds, Nuts, Fruits, and Kernels)

Sections 13 to 19 address specific requirements for certain facilities that have oils such as gasoline, diesel, kerosene, crude oil, and most lubricating and hydraulic oils.

112.8 Spill Prevention, Control, and Countermeasure Plan requirements for onshore facilities (excluding production facilities).

Sections 14 to 16 address facility drainage, bulk storage tanks, and facility transfer operations.

13.0 FACILITY DRAINAGE [112.8 (b)(1) & (2)]

13.1 Diked Area Drainage

112.8(b)(1) Restrain drainage from diked storage areas by valves to prevent a discharge into the drainage system or facility effluent treatment system, except where facility systems are designed to control such discharge. You may empty diked areas by pumps or ejectors; however, you must manually activate these pumps or ejectors and must inspect the condition of the accumulation before starting, to ensure no oil will be discharged.

112.8(b)(2) Use valves of manual, open-and-closed design, for the drainage of diked areas. You may not use flapper-type drain valves to drain diked areas. If your facility drainage drains directly into a watercourse and not into an on-site wastewater treatment plant, you must inspect and may drain uncontaminated retained stormwater, as provided in paragraphs (c)(3)(ii), (iii), and (iv) of this section.

This section addresses drainage from localized containment areas (i.e., dikes, berms, and other containment systems).

The Fox Energy facility was designed to retain any spilled oil at the facility and prevent an oil spill event. The Site Grading and Drainage Plan (Figure 2 in Appendix A) demonstrates that site drainage is handled in one of two ways. Oil and storm water collected with the areas where AST's, vessels, and oil-containing electrical equipment are routed to one of the facility's three equipment sumps, then to an OWS where the oil and water are separated for further treatment. Storm water drainage from plant general areas is captured and then diverted to the facility's storm water detention pond, from which it is discharged through the plant's storm water outfall to an unnamed stream located north of the facility. This unnamed stream leads north from the facility's north property line until it reaches Wrightstown Road, at which point it turns east and leads ultimately to its discharge point into the Fox River.

Before secondary containment areas that flow directly to the ground or ditch are drained, the retained storm water will be inspected to ensure that any run-off storm water is in compliance

with applicable water quality standards and will not cause a harmful discharge. Draining of storm water from secondary containment areas that do not drain to the OWS system must be conducted under the direct supervision of an operator and will be recorded on the Record of Draining Bermed or Diked Areas (Appendix C). Currently, the Fox Energy Center does not have containment areas that could be impacted by oil exposed to precipitation.

There are no flapper valves used at Fox Energy.

All valves used to drain secondary containment areas will be manually operated and of the open-and close design.

13.2 Undiked Area Drainage

112.8(b)(3) Design facility drainage systems from undiked areas with a potential for a discharge (such as where piping is located outside containment walls or where tank truck discharges may occur outside the loading area) to flow into ponds, lagoons, or catchment basins designed to retain oil or return it to the facility. You must not locate catchment basins in areas subject to periodic flooding.

This section describes drainage from oil use areas that do not have containment systems.

There is no drainage or secondary containment features - such as curbs or dikes - associated with the switchyard; however, this area is graded such that any spilled oil would drain to a drainage swale on the south side of the switchyard.

The remaining areas at the Fox Energy Center do not have a reasonable potential to be contaminated by an oil spill, with the exception of the diked storage areas, oil storage tanks and loading and unloading areas, which have separate spill control requirements that are addressed in the appropriate sections of this SPCC Plan.

13.3 Discharge Diversion System

112.8(b)(4) If facility drainage is not engineered as in paragraph (b)(3) of this section, equip the final discharge of all ditches inside the facility with a diversion system that would, in the event of an uncontrolled discharge, retain oil in the facility.

If the drainage system does not meet the requirements in 112.8(b)(3), then the facility should have equipment (e.g., a valve that can be closed) to contain, prevent or control the final discharge of water from the facility.

Oil and storm water collected with the areas where AST's, vessels, and oil-containing electrical equipment are routed to one of the facility's three equipment sumps, then to an OWS where the oil and water are separated for further treatment. Oil captured in the OWS is collected by a licensed 3"' party contractor and disposed of in accordance with applicable requirements. Water

collected by the OWS is diverted to the facility's cooling tower basin for reuse and/or discharge through the facility's permitted discharge, Outfall 001. A copy of the Site Grading and Drainage Plan is maintained in the administration building at the Fox Energy facility, as well as in Appendix A of this document.

13.4 Treatment System Pumps

112.8(b)(5) Where drainage waters are treated in more than one treatment unit and such treatment is continuous, and pump transfer is needed, provide two "lift" pumps and permanently install at least one of the pumps. Whatever techniques you use, you must engineer facility drainage systems to prevent a discharge as described in § 112.1(b) in case there is an equipment failure or human error at the facility.

If the facility has a drainage treatment system designed to treat oil (e.g., an oil/water separator), the system should be designed to prevent oil from being discharged from the facility.

The facility is equipped with an OWS. The OWS is adequately engineered to prevent a spill from discharging to a waterway.

14.0 BULK STORAGE CONTAINERS [112.8(c)]

The bulk storage tank section addresses containers designed to store oil. This section does not address containers that hold oil incidental to the container's intended operation (e.g., transformers, hydraulic and lubricating oil reservoirs).

Appendix B lists the bulk oil storage tanks at the Fox Energy Center. Figure 3 in Appendix A also shows the locations of mobile or portable bulk oil storage not listed in Appendix B.

14.1 Compatibility [40 CFR 112.8(c)(1)]

112.8(c)(1) Not use a container for the storage of oil unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature.

This section discusses the bulk storage tank's contents, material of construction and operating conditions. Design standards used for the construction of the tank should be included if available (i.e., the design standard may not be available for older tanks).

The Fox Energy facility includes two ASTs that are used to store distillate fuel oil for the combustion turbines. These tanks were designed in accordance with all applicable American Petroleum Institute (API) requirements API 650, 10th ED, ADD 2, and the shell, roof, bottom and structural members of each tank conform to ASTM A36 for structural steel, which is compatible with oil storage service. Additionally, the facility is equipped with two 250-gallon tanks that are used to store gasoline and diesel fuel for the purpose of supplying plant vehicles and equipment, a 360 gal AST for storing diesel to supply fuel to an emergency fire pump, and a 250 gallon AST used to store waste oil in the Oil Storage Area.

All oil storage container materials are compatible with the substances that they contain. Any storage containers installed at the facility in the future must be compatible with the materials that will be stored in them. A list of on-site oil storage containers, oil-containing equipment, type of oil stored, material of construction, and volumes are presented in Appendix B.

15.2 Secondary Containment [40 CFR 112.8(c)(2)]

112.8(c)(2) Construct all bulk storage container installations so that you provide a secondary means of containment for the entire capacity of the largest single container and sufficient freeboard to contain precipitation. You must ensure that diked areas are sufficiently impervious to contain discharged oil. Dikes, containment curbs, and pits are commonly employed for this purpose.
You may also use an alternative system consisting of a drainage trench enclosure that must be arranged so that any discharge will terminate and be safely confined in a facility catchment basin or holding pond.

As a general guideline, 110% of the largest tank in the secondary containment area is used to determine the volume of freeboard for precipitation. Another alternative is to use the 25-year, 24-

hour storm event to determine the volume of freeboard for precipitation.

Secondary containment for the 350,000-gallon and 650,000-gallon Fuel Oil ASTs is provided by a double wall tank design that is capable of holding 114 percent of the volume of the small tank, or 400,000 gallons, and 104 percent of the volume of the larger tank, or 676,663 gallons. The tanks are constructed according to a tank-within-a-tank design in which the outer tank wall will contain any leakage or discharge from the main inner tank.

The gasoline and diesel fuel 250-gallon vehicle fuel tanks and the 360 gal emergency fire pump diesel are double-walled tanks. The 250 gallon waste oil located is located in the storage vault that is provided via with a secondary containment vessel located at the bottom of the vault that holds up to 790 gallons.

All containment systems, including walls and floors, are sufficiently impervious and have been constructed to contain discharged oil within the associated storage tank to minimize oil escaping the containment system before cleanup occurs.

A series of underground pipes leading from the main fuel oil storage tanks to the fuel oil forwarding skids located near the CTs are encased in a second carrier pipe. The interstitial space between the pipes is continuously monitored and a trouble signal is routed to the plant's control system. A trouble indication, such as that caused by corrosion or a leak, will cause an alarm in the plant control room.

Appendix B contains information on tank secondary containment systems including secondary containment volume calculations, where applicable.

15.3 Diked Area Drainage [40 CFR 112.8(c)(3)]

112.8(c)(3) Not allow drainage of uncontaminated rainwater from the diked area into a storm drain or discharge of an effluent into an open watercourse, lake, or pond, bypassing the facility treatment system unless you:
(i) Normally keep the bypass valve sealed closed.
(ii) Inspect the retained rainwater to ensure that its presence will not cause a discharge as described in § 112.1(b).
(iii) Open the bypass valve and reseal it following drainage under responsible supervision; and (iv) Keep adequate records of such events, for example, any records required under permits issued in accordance with §§ 122.41(j)(2) and 122.41(m)(3) of this chapter.

This section addresses procedures for removing accumulated precipitation from containment areas including procedures for removal of potential oil sheens.

Precipitation captured within curbed/diked areas located at Fox Energy Center is discharged to the plant sump and OWS via valve-controlled outlets that are kept closed under normal operating conditions. Before these secondary containment areas are drained, the retained storm

water will be inspected into ensure that any storm water will not cause a discharge as described in 40 CFR 112.l(b)] is in compliance with applicable water quality standards and will not cause a harmful discharge. Any drainage from a secondary containment area will be under direct supervision of an operator. To assure that contaminated water is not discharged to waters of the state or onto the ground surface, the following procedures must be obselved:

- Visually inspect the quality of the liquid to be drained for clarity, color, odor, floating/suspended solids, foam, oil sheen, and any other obvious pollutant indicators;
- For equipment that does not drain directly to the OWS, record observations on a copy of the Record of Draining Bermed or Diked Areas (Appendix C). Currently, the Fox Energy Center has no containment features that serve oil-containing storage containers and do not drain to the plant's sump & OWS system. Such records are currently not required;
- If no pollutants are observed in the collected liquid, the on-site authorized supervisor may authorize the discharge by signing the completed inspection form;
- Maintain all records related to the discharges of non-contaminated storm water from secondary containment systems in Appendix E (Completed InspectionINotification Forms) of this Plan for at least three (3) years.

Any water captured in this type of area and that contains petroleum-based material will be treated with the OWS, and a licensed 3rd party contractor will dispose of the oil.

15.4 Buried Metallic Storage Tanks [40 CFR 112.8(c)(4)]

112.8(c)(4) Protect any completely buried metallic storage tank installed on or after January 10, 1974 from corrosion by coatings or cathodic protection compatible with local soil conditions.
You must regularly leak test such completely buried metallic storage tanks.

Facilities with buried metallic storage tanks are also subject to 40 CFR 280 – The Underground Storage Tank regulation that requires coatings and/or cathodic protection.

This section addresses the corrosion protection systems on buried metallic storage tanks.

Not Applicable - The Fox Energy Center does not have buried metallic storage tanks. There are a limited number of below-ground storage tanks present on-site, such as false start drain tanks and those handling combustion turbine wash water; however, all such tanks are of double-wall construction, are less than the 42,000 total gallons requirement, are considered to be part of an operating process, and are not expected release oil to waters of the US.

15.5 Partially Buried or Bunkered Metallic Tanks [40 CFR 112.8(c)(5)]

112.8(c)(5) Not use partially buried or bunkered metallic tanks for the storage of oil, unless you protect the buried section of the tank from corrosion. You must protect partially buried and bunkered tanks from corrosion by coatings or cathodic protection compatible with local soil conditions.

Not Applicable - The Fox Energy Center does not have partially buried metallic storage tanks.

15.6 Integrity Testing and Inspection [40 CFR 112.8(c)(6)]

112.8(c)(6) Test each aboveground container for integrity on a regular schedule, and whenever you make material repairs. The frequency of and type of testing must take into account container size and design (such as floating roof, skid-mounted, elevated, or partially buried). You must combine visual inspection with another testing technique such as hydrostatic testing, radiographic testing, ultrasonic testing, acoustic emissions testing, or another system of non-destructive shell testing. You must keep comparison records and you must also inspect the container's supports and foundations. In addition, you must frequently inspect the outside of the container for signs of deterioration, discharges, or accumulation of oil inside diked areas. Records of inspections and tests kept under usual and customary business practices will suffice for purposes of this paragraph.

This section addresses the inspection procedures used by the facility.

In accordance with [40 CFR 112.8(c)(6)], Fox Energy Center has adopted a tank integrity testing program as part of its standard operating procedures program to ensure tank integrity is maintained to industry standards. Tank integrity wiil be maintained through the Fox Energy Aboveground Storage Tank Integrity Testing Program developed to approximate API 653 and SP001-03-inspection protocols. The program applies to field-fabricated as well as shop-fabricated metal tanks and their associated piping. AST inspections and tests will be conducted at appropriate frequencies as specified in the API 653, Wisconsin Department of Agriculture, Trade and Consummer Protection (ATCP 93) standards and SP001-03. Fox Energy shall maintain tank integrity records at the facility to document inspection and test records. The Tank Integrity Testing Program is managed by the Maintenance Manager and by an outside API 653/SP001-03 licensed inspector.

The program consists of:

- Monthly visual inspection of the exterior of the tank
- Historical records review;
- Periodic external non-destructive testing (NDT);
- Periodic internai visual and NDT inspection; and
- Inspections are managed through Fox Energy's Maintenance Management System (CMMS).

Inspection records and reference documents can be obtained through the CMMS or the file server at Fox Energy, Integrity testing of small oil storage containers, such as drums, will be met

by visual inspections alone, as long as the monthly inspections outlined above are conducted regularly and these containers are either not stored in contact with the ground or stored so that all but one side of the container is visible

Aboveground piping is pressure tested on an annual basis as specified in API 653 and SP001-03.

15.7 Internal Heating Coils

112.8(c)(7) Control leakage through defective internal heating coils by monitoring the steam return and exhaust lines for contamination from internal heating coils that discharge into an open watercourse, or pass the steam return or exhaust lines through a settling tank, skimmer, or other separation or retention system.

The main Fuel Oil ASTs contain electric internal heating elements and not steam loop-type heating coils.

15.8 Fail-Safe Engineering [40 CFR 112.8(c)(8)]

112.8(c)(8) Engineer or update each container installation in accordance with good engineering practice to avoid discharges. You must provide at least one of the following devices:
(i) High liquid level alarms with an audible or visual signal at a constantly attended operation or surveillance station. In smaller facilities an audible air vent may suffice.
(ii) High liquid level pump cutoff devices set to stop flow at a predetermined container content level.
(iii) Direct audible or code signal communication between the container gauge and the pumping station.
(iv) A fast response system for determining the liquid level of each bulk storage container such as digital computers, telepulse, or direct vision gauges. If you use this alternative, a person must be present to monitor gauges and the overall filling of bulk storage containers.
(v) You must regularly test liquid level sensing devices to ensure proper operation.

Appendix B lists the types of fail-safe engineering devices used on the bulk storage tanks. The Fuel Oil Storage Tanks are equipped with high liquid level alarm and pump cutoff devices to ensure that overfilling of the tanks does not occur. These sensors are tested on a regular basis according to the manufacturer's specified directions. Other container system installations have been designed to avoid spills by incorporating devices such as liquid level direct vision gauges.

15.9 Observation Of Effluent Treatment Facilities [40 CFR 112.8(c)(9)]

112.8(c)(9) Observe effluent treatment facilities frequently enough to detect possible system upsets that could cause a discharge as described in § 112.1(b).

Water collected by the facility OWS is diverted to the facility's cooling tower basin for reuse and/or discharge through the facility's discharge Outfall 001. Plant personnel make frequent checks of the entire Fox Energy facility. These routine checks include observation of the OWS. The effluent through Outfall 001 is monitored weekly for oil & grease per WPDES Permit

Number WI-0061891. These routine checks are frequent enough to detect possible system upsets that could cause a discharge as described in [40 CFR 112.1(b)].

15.10 Visible Discharge Correction [40 CFR 112.8(c)(10)]

112.8(c)(10) Promptly correct visible discharges which result in a loss of oil from the container, including but not limited to seams, gaskets, piping, pumps, valves, rivets, and bolts. You must promptly remove any accumulations of oil in diked areas.

Aboveground storage tanks, oil-containing electrical equipment, containment structure valves, pumps, drains, etc. are visually inspected on a regular basis to check for deterioration, spills from malfunction, and leaks. When discovered, spilled oil is cleaned up by operating personnel using oil spill cleanup supplies (e.g., floor dry, sand) located in various areas throughout the facility.

15.11 Mobile or Portable Oil Storage Containers

112.8(c)(11) Position or locate mobile or portable oil storage containers to prevent a discharge as described in § 112.1(b). You must furnish a secondary means of containment, such as a dike or catchment basin, sufficient to contain the capacity of the largest single compartment or container with sufficient freeboard to contain precipitation.

The Fox Energy Center does not have mobile or portable oil storage tanks other than 55-gallon drums. All mobile or portable oil storage containers located on-site will be properly positioned to prevent a spill from reaching a navigable waterway.

Used oil and various lubrication oils are stored in 55-gallon steel containers located in a self-contained storage vault, which is located immediately east of the administration/control room building. Secondary containment for the drums located in the storage vault is provided via with a secondary containment vessel that is located at the bottom of the vault and beneath the drums. The sump containment holds up to 790 gallons.

Other portable storage containers (I.e., 55-gallon drums) within the Fox Energy buildings are located on oil-containing drip pans or pallets and positioned to prevent spilled oil from reaching navigable waters.

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16.0 FACILITY TRANSFER OPERATIONS, PUMPING, AND FACILITY PROCESS [112.8(d)]

The Fox Energy Center facility has underground pipes as well as aboveground pipes used to transfer oils.

16.1 Buried Piping

112.8(d)(1) Provide buried piping that is installed or replaced on or after August 16, 2002, with a protective wrapping and coating. You must also cathodically protect such buried piping installations or otherwise satisfy the corrosion protection standards for piping in part 280 of this chapter or a State program approved under part 281 of this chapter. If a section of buried line is exposed for any reason, you must carefully inspect it for deterioration. If you find corrosion damage, you must undertake additional examination and corrective action as indicated by the magnitude of the damage.
280.20(b) New Piping (installed after December 1988). The piping that routinely contains regulated substances and is in contact with the ground must be properly designed, constructed, and protected from corrosion in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory as specified below:
(1) The piping is constructed of fiberglass-reinforced plastic; or
(2) The piping is constructed of steel and cathodically protected in the following manner:
(i) The piping is coated with a suitable dielectric material;
(ii) Field-installed cathodic protection systems are designed by a corrosion expert;
(iii) Impressed current systems are designed to allow determination of current operating status as required in § 280.31(c); and
(iv) Cathodic protection systems are operated and maintained in accordance with § 280.31 or guidelines established by the implementing agency; or
(3) The piping is constructed of metal without additional corrosion protection measures provided that:
(i) The piping is installed at a site that is determined by a corrosion expert to not be corrosive enough to cause it to have a release due to corrosion during its operating life; and
(ii) Owners and operators maintain records that demonstrate compliance with the requirements of paragraph (b)(3)(i) of this section for the remaining life of the piping; or
(4) The piping construction and corrosion protection are determined by the implementing agency to be designed to prevent the release or threatened release of any stored regulated substance in a manner that is no less protective of human health and the environment than the requirements in paragraphs (b) (1) through (3) of this section.
280.21(c) Existing Piping (installed before December 1988) upgrading requirements. Metal piping that routinely contains regulated substances and is in contact with the ground must be cathodically protected in accordance with a code of practice developed by a nationally recognized association or independent testing laboratory and must meet the requirements of § 280.20(b)(2) (ii), (iii), and (iv).

The fuel oil piping between the 1) fuel oil unloading stations and the main storage tanks, 2) storage tanks to the power block area, 3) between the two storage tanks 4) and from the main fuel oil storage tanks to the fuel oil forwarding skids is constructed aboveground. The piping

from the fuel forwarding skids to the combustion turbines is constructed underground. There is no other underground piping utilized to transfer or process oil at the Fox Energy Center.

The underground piping is a double wall containment pipe (Perma-pipe). The inner pipe is approximately 4-inches in diameter and is protected by a carbon steel outer pipe that is coated and is jacketed with FRP (i.e., not subject to corrosion). The piping containment is continuously monitored and a trouble signal is routed to the plant's control system. A trouble indication, such as a suspected leak, will cause an alarm in the plant control room.

If construction activities expose an underground pipe, it will be examined and if deterioration is identified, corrective action will be taken.

16.2 Terminal Connections

112.8(d)(2) Cap or blank-flange the terminal connection at the transfer point and mark it as to origin when piping is not in service or is in standby service for an extended time.

Out-of-service pipelines are evacuated and blank-flanged.

16.3 Pipe Supports

112.8(d)(3) Properly design pipe supports to minimize abrasion and corrosion and allow for expansion and contraction.

Aboveground pipe systems are adequately supported. Pipe supports are designed to minimize abrasion and corrosion and allow for expansion and contraction.

16.4 Inspections

112.8(d)(4) Regularly inspect all aboveground valves, piping, and appurtenances. During the inspection you must assess the general condition of items, such as flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, locking of valves, and metal surfaces. You must also conduct integrity and leak testing of buried piping at the time of installation, modification, construction, relocation, or replacement.

Visual observations of valves, pipelines and pipe supports are made throughout the day by operations personnel. Aboveground pipelines and valves are also examined during the monthly assessment. The monthly assessment form is included in Appendix D.

If construction activities expose an underground pipe, it will be examined and if deterioration is identified, corrective action will be taken.

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16.5 Vehicle Warnings

112.8(d)(5) Warn all vehicles entering the facility to be sure that no vehicle will endanger aboveground piping or other oil transfer operations.

The Fox Energy Center does not have areas where vehicular traffic would likely impact the pipelines.

17.0 ON-SHORE PRODUCTION FACILITIES

Spill Prevention, Control, And Countermeasure Plan Requirements For Onshore Oil Production Facilities [112.9].

This section is not applicable. The Fox Energy Center is not an onshore oil production facility.

18.0 ONSHORE OIL DRILLING AND WORKOVER FACILITIES

Spill Prevention, Control, And Countermeasure Plan Requirements For Onshore Oil Drilling And Workover Facilities [112.10].

This section is not applicable. The Fox Energy Center is not an onshore oil drilling or workover facility.

19.0 OFFSHORE OIL DRILLING, PRODUCTION, OR WORKOVER FACILITIES

Spill Prevention, Control, And Countermeasure Plan Requirements For Offshore Oil Drilling, Production, Or Workover Facilities [112.11].

This section is not applicable. The Fox Energy Center is not an offshore oil drilling, production or workover facility.

20.0 NON-PETROLEUM OIL REQUIREMENTS

Subpart C—Requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, Including Oils from Seeds, Nuts, Fruits and Kernels

Subpart C of the SPCC regulation is designed to address specific requirements for certain facilities that have non-petroleum oils. However, the July 17, 2002 SPCC regulation has the same requirements for Animal Fats and Oils and Greases, and Fish and Marine Mammal Oils; and for Vegetable Oils, Including Oils from Seeds, Nuts, Fruits and Kernels. Therefore, to avoid duplication of effort, non-petroleum oils were addressed under the applicable section in Subpart B (i.e., Sections 13, 14 or 15).

APPENDIX A

SITE MAPS

APPENDIX B

TANK INFORMATION

Tank Information Sheet 1

Tank Identification or Name:	*Fuel Oil Storage (South) Tank 1 (DSPS Tank ID 1026359)*						*Map Reference No. 1*
Tank Information							
Aboveground or Belowground	**Location**	**Type**	**Shape**	**Orientation**	**Contents**	**Capacity (gallons)**	**Material of Construction**
Aboveground	*East of the cooling towers*	*Cylindrical*	*Cylindrical*	*Vertical*	*Fuel Oil*	*400,000*	*Carbon Steel*

Inspection Information				
Installation Date	**Last Inspection Date**	**Next Inspection Date**	**Inspection Standard Used**	**Corrosion Rate (inches/year)**
4/11/2005	*6/23/2009*	*4/11/2015*	*API 653*	*Not Determined*

Miscellaneous Information						
Drain Valves with Direct Outward Discharge?	**Drain Valves Locked?**	**Level Monitoring Method**	**Other Fail-Safe Engineering**	**Corrosion Protection**	**Internal Heating Coils?**	**Lighting?**
No	*NA*	*Electronic Readout in Control Room*	*High Level Alarms and Pump Cut Off, Interstitial Monitor*	*NA*	*Yes*	*Yes*

Secondary Containment Information							
Type	**Length (feet)**	**Width (feet)**	**Height (feet)**	**Displacement (gallons)**	**Available Volume (gallons)**	**Percentage of Volume of Tank**	**Precipitation Drainage Method**
Double-walled	--	--	--	--	--	*100*	*NA*

Spill Prediction		
Potential Spill Volume (gallons)	**Spill Rate**	**Spill Direction**
350,000	*High*	*West*

NA = Not Applicable

Precipitation Drainage Methods:
plug = screw-in drain plug on the containment system
valve = hand operated drain valve on the containment system
none = precipitation is allowed to evaporate or it is pumped out

Inspection Information
API 653 = In general accordance with American Petroleum Institute Standard 653
STI SP001-00 = In general accordance with Steel Tank Institute Standard SP001-00
Unknown = that data is not available
ND = that inspection information has not been determined

Secondary Containment:
NM = Not Measured for underground and double-walled tanks

Spill Prediction
The spill prediction rate is based on the following matrix:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

Tank Information Sheet 2

Tank Identification or Name:	*Fuel Oil Storage (North) Tank 2 (DSPS Tank ID1063630)*					*Map Reference No. 2*
Tank Information						
Aboveground or Belowground	**Location**	**Type**	**Shape**	**Orientation**	**Contents**	**Capacity (gallons)**	**Material of Construction**
Aboveground	*East of the cooling towers*	*Cylindrical*	*Cylindrical*	*Vertical*	*Fuel Oil*	*676,633*	*Carbon Steel*

Inspection Information				
Installation Date	**Last Inspection Date**	**Next Inspection Date**	**Inspection Standard Used**	**Corrosion Rate (inches/year)**
1/25/2006	*6/23/2009*	*4/11/2015*	*API 653*	*Not Determined*

Miscellaneous Information						
Drain Valves with Direct Outward Discharge?	**Drain Valves Locked?**	**Level Monitoring Method**	**Other Fail-Safe Engineering**	**Corrosion Protection**	**Internal Heating Coils?**	**Lighting?**
No	*NA*	*Electronic Readout in Control Room*	*High Level Alarms and Pump Cut Off, Interstitial Monitor*	*NA*	*Yes*	*Yes*

Secondary Containment Information							
Type	**Length (feet)**	**Width (feet)**	**Height (feet)**	**Displacement (gallons)**	**Available Volume (gallons)**	**Percentage of Volume of Tank**	**Precipitation Drainage Method**
Double-walled	--	--	--	--	--	*100*	*NA*

Spill Prediction		
Potential Spill Volume (gallons)	**Spill Rate**	**Spill Direction**
650,000	*High*	*West*

NA = Not Applicable

Precipitation Drainage Methods:
plug = screw-in drain plug on the containment system
valve = hand operated drain valve on the containment system
none = precipitation is allowed to evaporate or it is pumped out

Inspection Information
API 653 = In general accordance with American Petroleum Institute Standard 653
STI SP001-00 = In general accordance with Steel Tank Institute Standard SP001-00
Unknown = that data is not available
ND = that inspection information has not been determined

Secondary Containment:
NM = Not Measured for underground and double-walled tanks

Spill Prediction
The spill prediction rate is based on the following matrix:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

Tank Information Sheet 3

Tank Identification or Name:	*Oil/Water Separator Storage Oil Tank (DSPS Tank ID NA)*					*Map Reference No. 3*
Tank Information						
Aboveground or Belowground	**Location**	**Type**	**Shape**	**Orientation**	**Contents**	**Volume (gallons)**	**Material of Construction**
Aboveground	*Southeast of the Cooling Towers*	*Cylindrical*	*Cylindrical*	*Horizontal*	*Used Oil*	*3000*	*Carbon Steel*

Inspection Information				
Installation Date	**Last Inspection Date**	**Next Inspection Date**	**Inspection Standard Used**	**Corrosion Rate (inches/year)**
2005	*NA*	*NA*	*NA*	*NA*

Miscellaneous Information						
Drain Valves with Direct Outward Discharge?	**Drain Valves Locked?**	**Level Monitoring Method**	**Other Fail-Safe Engineering**	**Corrosion Protection**	**Internal Heating Coils?**	**Lighting?**
No	*Na*	*Electronic Float*	*High Level Alarm in Control Room*	*NA*	*No*	*No*

Secondary Containment Information							
Type	**Length (feet)**	**Width (feet)**	**Height (feet)**	**Displacement (gallons)**	**Available Volume (gallons)**	**Percentage of Volume of Tank**	**Precipitation Drainage Method**
Double-walled	--	--	--	--	--	*100*	*NA*

Spill Prediction		
Potential Spill Volume (gallons)	**Spill Rate**	**Spill Direction**
3000	*Low*	*West*

NA = Not Applicable

Precipitation Drainage Methods:
plug = screw-in drain plug on the containment system
valve = hand operated drain valve on the containment system
none = precipitation is allowed to evaporate or it is pumped out

Inspection Information
API 653 = In general accordance with American Petroleum Institute Standard 653
STI SP001-00 = In general accordance with Steel Tank Institute Standard SP001-00
Unknown = that data is not available
ND = that inspection information has not been determined

Secondary Containment:
NM = Not Measured for underground and double-walled tanks

Spill Prediction
The spill prediction rate is based on the following matrix:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

Tank Information Sheet 4

Tank Identification or Name:	*Emergency Diesel Fire Pump Fuel Storage Tank (DSPS Tank ID 1420725)*	*Map Reference No. 4*

Tank Information

Aboveground or Belowground	Location	Type	Shape	Orientation	Contents	Volume (gallons)	Material of Construction
Aboveground	*East of the Water Pretreatment Building*	*Cylindrical*	*Cylindrical*	*Horizontal*	*Diesel*	*360*	*Carbon Steel*

Inspection Information

Installation Date	Last Inspection Date	Next Inspection Date	Inspection Standard Used	Corrosion Rate (inches/year)
2005	*6/23/2009 Visual Tank Inspection*	*Annual External*	*STI SP001*	*NA*

Miscellaneous Information

Drain Valves with Direct Outward Discharge?	Drain Valves Locked?	Level Monitoring Method	Other Fail-Safe Engineering	Corrosion Protection	Internal Heating Coils?	Lighting?
No	*Na*	*Local Site Gauge and Electronic Readout In Control Room*	*Vent Whistle, Electronic Interstitial Monitor*	*NA*	*No*	*No*

Secondary Containment Information

Type	Length (feet)	Width (feet)	Height (feet)	Displacement (gallons)	Available Volume (gallons)	Percentage of Volume of Tank	Precipitation Drainage Method
Double-walled	--	--	--	--	--	*100*	*NA*

Spill Prediction

Potential Spill Volume (gallons)	Spill Rate	Spill Direction
300	*Medium*	*West*

NA = Not Applicable

Precipitation Drainage Methods:

plug = screw-in drain plug on the containment system

valve = hand operated drain valve on the containment system

none = precipitation is allowed to evaporate or it is pumped out

Inspection Information

API 653 = In general accordance with American Petroleum Institute Standard 653

STI SP001-00 = In general accordance with Steel Tank Institute Standard SP001-00

Unknown = that data is not available

ND = that inspection information has not been determined

Secondary Containment:

NM = Not Measured for underground and double-walled tanks

Spill Prediction

The spill prediction rate is based on the following matrix:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

Tank Information Sheet 5

Tank Identification or Name:	*Used Oil AST (DSPS Tank ID NA)*	*Map Reference No. 27*

Tank Information

Aboveground or Belowground	Location	Type	Shape	Orientation	Contents	Volume (gallons)	Material of Construction
Aboveground	*Southeast End Of Site*	*Cylindrical*	*Cylindrical*	*Horizontal*	*Used Oil*	*250*	*Carbon Steel*

Inspection Information

Installation Date	Last Inspection Date	Next Inspection Date	Inspection Standard Used	Corrosion Rate (inches/year)
2005	*NA*	*Annual External*	*STI SP001*	*NA*

Miscellaneous Information

Drain Valves with Direct Outward Discharge?	Drain Valves Locked?	Level Monitoring Method	Other Fail-Safe Engineering	Corrosion Protection	Internal Heating Coils?	Lighting?
No	*NA*	*Manual Gauge Stick*	*Spill Bucket*	*NA*	*No*	*No*

Secondary Containment Information

Type	Length (feet)	Width (feet)	Height (feet)	Displacement (gallons)	Available Volume (gallons)	Percentage of Volume of Tank	Precipitation Drainage Method
Self Contained Storage Vault	--	--	--	--	*790*	*316%*	*NA*

Spill Prediction

Potential Spill Volume (gallons)	Spill Rate	Spill Direction
250	*Low*	*West*

NA = Not Applicable

Precipitation Drainage Methods:

plug = screw-in drain plug on the containment system

valve = hand operated drain valve on the containment system

none = precipitation is allowed to evaporate or it is pumped out

Inspection Information

API 653 = In general accordance with American Petroleum Institute Standard 653

STI SP001-00 = In general accordance with Steel Tank Institute Standard SP001-00

Unknown = that data is not available

ND = that inspection information has not been determined

Secondary Containment:

NM = Not Measured for underground and double-walled tanks

Spill Prediction

The spill prediction rate is based on the following matrix:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

Tank Information Sheet 6

Tank Identification or Name:	Gasoline Vehicle Fuel Storage Tank (DSPS Tank ID 1154764)						Map Reference No. 32
Tank Information							
Aboveground or Belowground	**Location**	**Type**	**Shape**	**Orientation**	**Contents**	**Volume (gallons)**	**Material of Construction**
Aboveground	*Vehicle Fueling Area*	*Cylindrical*	*Cylindrical*	*Horizontal*	*Unleaded Gasoline*	*250*	*Carbon Steel*

Inspection Information				
Installation Date	**Last Inspection Date**	**Next Inspection Date**	**Inspection Standard Used**	**Corrosion Rate (inches/year)**
12/14/2006	*6/23/2009 5-yr Visual Tank Inspection*	*Annual External*	*STI SP001*	*NA*

Miscellaneous Information						
Drain Valves with Direct Outward Discharge?	**Drain Valves Locked?**	**Level Monitoring Method**	**Other Fail-Safe Engineering**	**Corrosion Protection**	**Internal Heating Coils?**	**Lighting?**
No	*NA*	*Level Gauge*	*Vent Whistle, Spill Bucket, Interstitial Monitor*	*Paint*	*No*	*No*

Secondary Containment Information							
Type	**Length (feet)**	**Width (feet)**	**Height (feet)**	**Displacement (gallons)**	**Available Volume (gallons)**	**Percentage of Volume of Tank**	**Precipitation Drainage Method**
Double-walled	--	--	--	--	--	*100*	*NA*

Spill Prediction		
Potential Spill Volume (gallons)	**Spill Rate**	**Spill Direction**
250	*Medium*	*West*

NA = Not Applicable

Precipitation Drainage Methods:
plug = screw-in drain plug on the containment system
valve = hand operated drain valve on the containment system
none = precipitation is allowed to evaporate or it is pumped out

Inspection Information
API 653 = In general accordance with American Petroleum Institute Standard 653
STI SP001-00 = In general accordance with Steel Tank Institute Standard SP001-00
Unknown = that data is not available
ND = that inspection information has not been determined

Secondary Containment:
NM = Not Measured for underground and double-walled tanks

Spill Prediction
The spill prediction rate is based on the following matrix:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

Tank Information Sheet 7

Tank Identification or Name:	Diesel Vehicle Fuel Storage Tank (DSPS Tank ID 1154770)						Map Reference No. 32
Tank Information							
Aboveground or Belowground	**Location**	**Type**	**Shape**	**Orientation**	**Contents**	**Volume (gallons)**	**Material of Construction**
Aboveground	*Vehicle Fueling Area*	*Cylindrical*	*Cylindrical*	*Horizontal*	*Diesel*	*250*	*Carbon Steel*

Inspection Information				
Installation Date	**Last Inspection Date**	**Next Inspection Date**	**Inspection Standard Used**	**Corrosion Rate (inches/year)**
12/14/2006	*6/23/2009 5-yr Visual Tank Inspection*	*Annual External*	*STI SP001*	*NA*

Miscellaneous Information						
Drain Valves with Direct Outward Discharge?	**Drain Valves Locked?**	**Level Monitoring Method**	**Other Fail-Safe Engineering**	**Corrosion Protection**	**Internal Heating Coils?**	**Lighting?**
No	*NA*	*Level Gauge*	*Vent Whistle, Spill Bucket, Interstitial Monitor*	*Paint*	*No*	*No*

Secondary Containment Information							
Type	**Length (feet)**	**Width (feet)**	**Height (feet)**	**Displacement (gallons)**	**Available Volume (gallons)**	**Percentage of Volume of Tank**	**Precipitation Drainage Method**
Double-walled	--	--	--	--	--	*100*	*NA*

Spill Prediction		
Potential Spill Volume (gallons)	**Spill Rate**	**Spill Direction**
250	*Medium*	*West*

NA = Not Applicable

Precipitation Drainage Methods:
plug = screw-in drain plug on the containment system
valve = hand operated drain valve on the containment system
none = precipitation is allowed to evaporate or it is pumped out

Inspection Information
API 653 = In general accordance with American Petroleum Institute Standard 653
STI SP001-00 = In general accordance with Steel Tank Institute Standard SP001-00
Unknown = that data is not available
ND = that inspection information has not been determined

Secondary Containment:
NM = Not Measured for underground and double-walled tanks

Spill Prediction
The spill prediction rate is based on the following matrix:

	Tank Volume (gallons)			
Viscosity	**Less than 100**	**100 to 1,000**	**1,000 to 10,000**	**Greater than 10,000**
Not Viscous	Low	Medium	High	High
Viscous	Low	Low	Medium	High
Nearly Solid	Low	Low	Low	Low

APPENDIX B – OIL-FILLED EQUIPMENT AND SPILL PREDICTION

No.	Equipment Identification	Equipment Contents	Capacity (Gal)	Tank Material	Containment/ Diversion	Rate and Predicted Direction of Flow	Owner
5	#1 CT Accessory Module Lube Oil Reservoir	Lube Oil	6,200	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
6	#2 CT Accessory Module Lube Oil Reservoir	Lube Oil	6,200	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
7	Steam Turbine Lube Oil Reservoir (skid)	Lube Oil	5,548	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
8	Steam Turbine Hydraulic Oil Reservoir (skid)	Hydrualic Oil	3300	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
9	Steam Turbine Seal Oil Reservoir	Lube Oil	411	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
10	Steam Turbine Generator Step Up Transformer HV-1591	Mineral Oil	24,116	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
11	#1 CT Generator Step Up Transfomer HV-1589	Mineral oil	24,753	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
12	#2 CT Generator Step UpTransformer HV-1590	Mineral oil	24,753	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
13	#1 CT Excitation Transformer	Mineral oil	408	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
14	#2 CT Excitation Transformer	Mineral oil	408	Carbon Steel	Concrete Basin/Sump/OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
15	LCI Starter Isolation Transformer (Unit 2)	Mineral oil	1,030	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
16	Unit 1 Auxiliary Transformer 1A HV-1587	Mineral oil	4,757	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
17	Unit 2 Auxiliary Transformer 1B HV-1588	Mineral oil	4,757	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
18	Unit 1 SUS Transformer 1A	Mineral oil	501	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
19	Unit 2 SUS Transformer 1B	Mineral oil	501	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
20	Water Treatment System SUS Transformer 2A	Mineral oil	501	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
21	Water Treatment System SUS Transformer 2B	Mineral oil	501	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured In containment basin.	WPSC
22	Cooling Tower SUS Transformer 3	Mineral oil	501	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC

APPENDIX B – OIL-FILLED EQUIPMENT AND SPILL PREDICTION

No.	Equipment Identification	Equipment Contents	Capacity (Gal)	Tank Material	Containment/ Diversion	Rate and Predicted Direction of Flow	Owner
23	Boiler Feedwater Pump 1A	Lube oil	132	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin	WPSC
24	Boiler Feedwater Pump 1B	Lube oil	132	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin	WPSC
25	Boiler Feedwater Pump 2A	Lube oil	132	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin	WPSC
26	Boiler Feedwater Pump 2B	Lube oil	132	Carbon Steel	Concrete Basin/Sump/ OWS	Gradual to Instantaneous. Captured in containment basin.	WPSC
27	Oil Storage Area	Lube oil/ Used oil	55-gal drums (multiple)	Carbon Steel	Containment chamber underneath the storage enclosure (700 gal capacity)	Gradual to Instantaneous. Captured in containment chamber.	WPSC
28	#1 CT Fuel Gas Conditioning Skid Drain Tank	Water / Condensed Hydrocarbons	150	Carbon Steel	No Secondary Containment / Absorbent Materials Used During Tank Draining	Gradual to Instantaneous	WPSC
29	#2 CT Fuel Gas Conditioning Skid Drain Tank	Water / Condensed Hydrocarbons	150	Carbon Steel	Containment / Absorbent Materials Used During Tank Draining	Gradual to Instantaneous	WPSC
30	Gas Yard Fuel Gas Filter / Separator Drain Tank	Water / Condensed Hydrocarbons	47	Carbon Steel	Minimal Secondary Containment / Absorbent Materials Used During Tank Draining	Gradual to Instantaneous	WPSC
31	Plant Fuel Gas Filter / Separator Drain Tank	Water / Condensed Hydrocarbons	36	Carbon Steel	No Secondary Containment / Absorbent Materials Used During Tank Draining	Gradual to Instantaneous	WPSC

APPENDIX C

DIKED AREA DRAINAGE INFORMATION

RECORD OF DRAINING BERMED OR DIKED AREAS

USE FOR CONTAINMENT AREAS THAT DRAIN DIRECTLY TO THE GROUND AND NOT TO TREATMENT FACILITIES AND/OR REUSE.

NOTE: FOX ENERGY NO SUCH CONTAINMENT AREAS

Tank No. or Area	Discharge Directly Observed During Draining (Yes/No)	Date & Time Drainage Valve Opened	Date & Time Drainage Valve Closed	Oil Sheen on water or oil stains within diked system, (Yes/No)	Signature of Responsible Person Who Conducted Drainage and Inspection	Comments

Bypass valves must be closed at all times except during drainage under responsible supervision. According to 40 CFR 112.8, inspection of the run-off storm water ensures releases of oil do not occur. Adequate records must be kept of these events.

APPENDIX D

MONTHLY ASSESSMENT FORM

FACILITY FRP/SPCC MONTHLY INSPECTION CHECKLIST
FOX ENERGY

Date: _____
Name: _____
Signature: _____

Storage Area / Containment Area	Evidence of Leaks, Spills, Signs of Corrosion, Distress of Tanks, Support, Foundations or Containment Structure, Oil or Water Inside Diked Areas/Interstice Space?	Inspection Comments:	Corrective Actions:
Fuel Oil Storage Tank #1			
Fuel Oil Storage Tank #2			
Oil Water Separator			
Emergency Diesel Fire Pump Fuel Storage Tank			
#1 CT Accessory Module Lube Oil Reservoir			
#2 CT Accessory Module Lube Oil Reservoir			
Steam Turbine Lube Oil Reservoir (skid)			
Steam Turbine Hydraulic Oil Reservoir (skid)			
Steam Turbine Seal Oil Reservoir			
Steam Turbine Generator Step Up Transformer			

Storage Area / Containment Area	Evidence of Leaks, Spills, Signs of Corrosion, Distress of Tanks, Support, Foundations or Containment Structure, Oil or Water Inside Diked Areas/Interstice Space?	Inspection Comments:	Corrective Actions:
#1 CT Generator Step Up Transformer			
#2 CT Generator Step Up Transformer			
#1 CT Excitation Transformer			
#2 CT Excitation Transformer			
LCI Starter Isolation Transformer			
Unit #1 Auxiliary Transformer 1A			
Unit #2 Auxiliary Transformer 1B			
Unit #1 SUS Transformer 1A			
Unit #2 SUS Transformer 1B			
Water Treatment System SUS Transformer 2A			
Water Treatment System SUS Transformer 2B			
Cooling Tower SUS Transformer 3			
Boiler Feedwater Pump 1A			
Boiler Feedwater Pump 1B			

Storage Area / Containment Area	Evidence of Leaks, Spills, Signs of Corrosion, Distress of Tanks, Support, Foundations or Containment Structure, Oil or Water Inside Diked Areas/Interstice Space?	Inspection Comments:	Corrective Actions:
Boiler Feedwater Pump 2A			
Boiler Feedwater Pump 2B			
Oil Storage Area			
Used Oil Tank			
#1 CT Fuel Gas Cond Drain Tank			
#2 CT Fuel Gas Cond Drain Tank			
Gas Yard Fuel Gas Filter Separator Drain Tank			
Plant Fuel Gas Filter Separator Drain Tank			
Vehicle Fueling Area – Gasoline Tank			
Vehicle Fueling Area – Diesel Tank			

APPENDIX E

COMPLETED MONTHLY ASSESSMENT FORMS

APPENDIX F
FUEL OIL DELIVERY AND
DIESEL/GASOLINE DELIVERY CHECKLISTS

FUEL OIL DELIVERY CHECKLIST

Description of Chemical to be received: Low sulfur #2 Fuel Oil Date: _____
Transporter: _____
Driver Name: _____
Technician Initials: _____
PPE required: Oil resistant gloves, safety glasses, hard hat, and work boots.

_____ Bill of lading verified by offload operator and that it matches the purchase order.
_____ Verify ample volume available in receiving tank to accept full delivery.
_____ Pre-evolutionary brief conducted in control room with all involved parties.
- _____ Review MSDS for chemical.
- _____ Record initial level of receiving tank
- _____ Determine anticipated final level in tank
- _____ Discuss notification and communication procedures to be followed during on-load and in the event of a casualty
- _____ Discuss how to abort the delivery and isolate influent chemical in the event of a spill
- _____ All personnel are familiar with the delivery procedure and understand their duties and responsibilities; truck operator and Fox Energy operator at delivery site understand their duty to not leave the truck and tank unattended during on-load.
- _____ Respiratory protection available as applicable

_____ Emergency shower tested satisfactory
_____ Wheels of delivery truck chocked and parking brake set, and grounding strap connected.
_____ Truck verified to be completely within the unloading area
_____ Delivery area roped off as required, to prevent inadvertent entry by unauthorized personnel
_____ Verify spill kit available and ample neutralizing materials
_____ Shield all exposed storm drains with appropriately sized cover. _____Verify all valves are in their proper position and ready for chemical transfer
_____ Verify all hoses are connected and secured to their proper location and are in a safe working condition
_____ Bucket placed under hose connections.
_____ Announce commencement of chemical off-load over radio and contact Control Room Operator.
_____ Log time of commencement of flow
_____ Log final tank level, time of completion and contact Control Room Operator.
_____ All transfer hoses depressurized, to verify, open tank fill valve to ensure hose is depressurized prior to disconnecting transfer hose.
_____ All transfer hoses drained
_____ All valves returned to normal position
_____ All conditions are normal, there are no leaks and no chemicals have been spilled.

Comments: _____

**Outside Technician Signature: _____ Date: _____
**Driver Technician Signature: _____ Date: _____

****Turn in signed and completed checklist to Control Room Operator****

DIESEL/GASOLINE (FOR AUX TANKS) DELIVERY CHECKLIST

Description of Chemical to be received: Diesel Fuel Oil/Gasoline Date: _____
Transporter: _____ **(Write down the amount of diesel that the fire pump tanks take...it is paid for from a different account)** _____
Driver Name: _____ **Technician Initials:** _____
*A *fuel oil sample* is *required to be taken* on *all fuel oil deliveries for the diesel fire pump. Obtain* a *sample kit and forward fuel sample to EHS Manager for analysis.*
PPE required: Oil resistant gloves, safety glasses, hearing protection, hard hat, work boots and FR Clothing

_____ Bill of lading verified by offload operator and that it matches the purchase order.
_____ Verify ample volume available in receiving tank to accept full delivery.
_____ Pre-evolutionary brief conducted in control room with all involved parties.
- _____ Review MSDS for chemical.
- _____ Record initial level of receiving tank
- _____ Determine anticipated final level in tank
- _____ Discuss notification and communication procedures to be followed during on-load and in the event of a casualty
- _____ Discuss how to abort the delivery and isolate influent chemical in the event of a spill
- _____ All personnel are familiar with the delivery procedure and understand their duties and responsibilities; truck operator and Fox Energy operator at delivery site understand their duty to not leave the truck and tank unattended during on-load.
- _____ Respiratory protection available as applicable

_____ Emergency shower tested satisfactory
_____ Wheels of delivery truck chocked and parking brake set, and grounding strap connected.
_____ Truck verified to be completely within the unloading area
_____ Verify delivery truck is at the correct fuel tank to be filled **(Gasoline North Tank. Diesel South Tank.)**
_____ Wheels of delivery truck chocked and parking brake set and engine shut off
_____ Grounding strap connected
_____ Delivery area roped off as required, to prevent inadvertent entry by unauthorized personnel
_____ Verify spill kit available and ample neutralizing materials
_____ Shield all exposed storm drains with appropriately sized cover. Verify all valves are in their proper position and ready for chemical transfer
_____ Verify all hoses are connected and secured to their proper location and are in a safe working condition
_____ Announce commencement of chemical off-load over radio and contact Control Room Operator.
_____ Log time of commencement of flow
_____ Whistle will blow while filling, **If whistle stops blowing STOP filling of the tank immediately. The whistle stopping indicated that the tank has been filled past the vent line or the vent line is plugged.**
_____ Verify after start of filling that the level gauge is working properly.
_____ Stop filling tank at 7/8 full.
_____ Log final tank level, time of completion and contact Control Room Operator
_____ Wipe any spilled fuel from bowl around fill hole
_____ All conditions are normal, there are no leaks and no chemicals have been spilled.

Comments: _____
**Outside Technician Signature: _____ Date: _____
**Driver Technician Signature: _____ Date: _____

****Turn in signed and completed checklist to Control Room Operator****

APPENDIX G

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA CHECKLIST

APPENDIX C TO PART 112—SUBSTANTIAL HARM CRITERIA

1.0 Introduction

The flowchart provided in Attachment C–I to this appendix shows the decision tree with the criteria to identify whether a facility ''could reasonably be expected to cause substantial harm to the environment by discharging into or on the navigable waters or adjoining shorelines.'' In addition, the Regional Administrator has the discretion to identify facilities that must prepare and submit facility-specific response plans to EPA.

1.1 Definitions

1.1.1 Great Lakes means Lakes Superior, Michigan, Huron, Erie, and Ontario, their connecting and tributary waters, the Saint Lawrence River as far as Saint Regis, and adjacent port areas.

1.1.2 Higher Volume Port Areas include
(1) Boston, MA;
(2) New York, NY;
(3) Delaware Bay and River to Philadelphia, PA;
(4) St. Croix, VI;
(5) Pascagoula, MS;
(6) Mississippi River from Southwest Pass, LA to Baton Rouge, LA;
(7) Louisiana Offshore Oil Port (LOOP), LA;
(8) Lake Charles, LA;
(9) Sabine-Neches River, TX;
(10) Galveston Bay and Houston Ship Channel, TX;
(11) Corpus Christi, TX;
(12) Los Angeles/Long Beach Harbor, CA;
(13) San Francisco Bay, San Pablo Bay, Carquinez Strait, and Suisun Bay to Antioch, CA;
(14) Straits of Juan de Fuca from Port Angeles, WA to and including Puget Sound, WA;
(15) Prince William Sound, AK; and
(16) Others as specified by the Regional Administrator for any EPA Region.

1.1.3 Inland Area means the area shoreward of the boundary lines defined in 46 CFR part 7, except in the Gulf of Mexico. In the Gulf of Mexico, it means the area shoreward of the lines of demarcation (COLREG lines as defined in 33 CFR 80.740—80.850). The inland area does not include the Great Lakes.

1.1.4 Rivers and Canals means a body of water confined within the inland area, including the Intracoastal Waterways and other waterways artificially created for navigating that have project depths of 12 feet or less.

2.0 Description of Screening Criteria for the Substantial Harm Flowchart

A facility that has the potential to cause substantial harm to the environment in the event of a discharge must prepare and submit a facility-specific response plan to EPA in accordance with Appendix F to this part. A description of the screening criteria for the substantial harm flowchart is provided below:

2.1 Non-Transportation-Related Facilities With a Total Oil Storage Capacity Greater Than or Equal to 42,000 Gallons Where Operations Include Over-Water Transfers of Oil.

A non-transportation-related facility with a total oil storage capacity greater than 42,000 gallons that transfers oil over water to or from vessels must submit a response plan to EPA. Daily oil transfer operations at these types of facilities occur between barges and vessels and onshore bulk storage tanks over open water. These facilities are located adjacent to navigable water.

2.2 Lack of Adequate Secondary Containment at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.

Any facility with a total oil storage capacity greater than or equal to 1 million gallons without secondary containment sufficiently large to contain the capacity of the largest aboveground oil storage tank within each area plus sufficient freeboard to allow for precipitation must submit a response plan to EPA. Secondary containment structures that meet the standard of good engineering practice for the purposes of this part include berms, dikes, retaining walls, curbing, culverts, gutters, or other drainage systems.

2.3 Proximity to Fish and Wildlife and Sensitive Environments at Facilities With a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.

A facility with a total oil storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility could cause injury (as defined at 40 CFR 112.2) to fish and wildlife and sensitive environments. For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's ''Guidance for Facility and Vessel Response Plans: Fish and Wildlife and Sensitive Environments'' (see Appendix E to this part, section 10, for availability) and the applicable Area Contingency Plan. Facility owners or operators must determine the distance at which an oil spill could cause injury to fish and wildlife and sensitive environments using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.4 Proximity to Public Drinking Water Intakes at Facilities with a Total Storage Oil Capacity Greater Than or Equal to 1 Million Gallons.

A facility with a total storage capacity greater than or equal to 1 million gallons must submit its response plan if it is located at a distance such that a discharge from the facility would shut down a public drinking water intake, which is analogous to a public water system as described at 40 CFR 143.2(c). The distance at which an oil spill from an SPCC-regulated facility would shut down a public drinking water intake shall be calculated using the appropriate formula presented in Attachment C–III to this appendix or a comparable formula.

2.5 Facilities That Have Experienced Reportable Oil Spills in an Amount Greater Than or Equal to 10,000 Gallons Within the Past 5 Years and That Have a Total Oil Storage Capacity Greater Than or Equal to 1 Million Gallons.

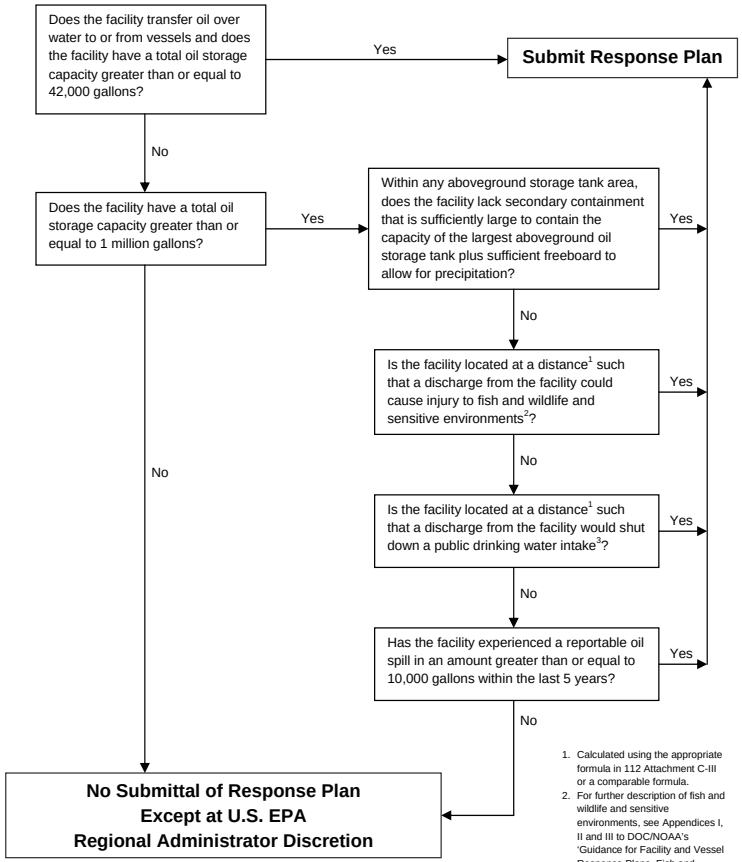
A facility's oil spill history within the past 5 years shall be considered in the evaluation for substantial harm. Any facility with a total oil storage capacity greater than or equal to 1 million gallons that has experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the past 5 years must submit a response plan to EPA.

3.0 Certification for Facilities That Do Not Pose Substantial Harm

If the facility does not meet the substantial harm criteria listed in Attachment C–I to this appendix, the owner or operator shall complete and maintain at the facility the certification form contained in Attachment C–II to this appendix. In the event an alternative formula that is comparable to the one in this appendix is used to evaluate the substantial harm criteria, the owner or operator shall attach documentation to the certification form that demonstrates the reliability and analytical soundness of the comparable formula and shall notify the Regional Administrator in writing that an alternative formula was used.

40 CFR 112 Attachment C-1

Flowchart of Criteria for Substantial Harm



1. Calculated using the appropriate formula in 112 Attachment C-III or a comparable formula.
2. For further description of fish and wildlife and sensitive environments, see Appendices I, II and III to DOC/NOAA's 'Guidance for Facility and Vessel Response Plans, Fish and Wildlife and Sensitive Environments' (59 FR 14713, March 29, 1994) and applicable Area Contingency Plans.
3. Public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

CERTIFICATION OF THE APPLICABILITY OF THE SUBSTANTIAL HARM CRITERIA CHECKLIST

FACILITY NAME: Fox Energy Center

FACILITY ADDRESS: N 2310 East Frontage Road, Kaukauna, Wisconsin 54130

Latitude 44° 19'21" N, Longitude 88° 12'32 W

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons?
   Yes _____ No X
2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground oil storage tank area?
   Yes _____ No X
3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the formula in Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula [1]) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments? For further description of fish and wildlife and sensitive environments, see Appendices I, II, and III to DOC/NOAA's "Guidance for Facility and Vessel Response Environments" (Section 10, Appendix E, 40 CFR 112 for availability) and the applicable Area Contingency Plan.
   Yes X No _____
4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula (Attachment C-III, Appendix C, 40 CFR 112 or a comparable formula [1]) such that a discharge from the facility would shut down a public drinking water intake[2]?
   Yes _____ No X
5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?
   Yes _____ No X

1. If a comparable formula is used, documentation of the reliability and analytical soundness of the comparable formula must be attached to this form.
2. For the purposes of 40 CFR part 112, public drinking water intakes are analogous to public water systems as described at 40 CFR 143.2(c).

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Shirley A Scharff
Name (please type or print)

Shirley A Scharff
Signature

Manager Environmental Compliance
Title

3/30/13
Date

APPENDIX H

SPCC PLAN REVIEW CHECKLIST

SPCC REVIEW CHECKLIST

Topic	Yes/No/NA	Comment
Section 1.0		
P.E. Certification Provided		
Amendments Documented		
Five-Year Review Conducted		
Five-Year Review Documented		
Management Approval Provided		
Section 2.0		
Additional Facilities Required		
Additional Facilities Included in Appendix I		
Section 3.0		
Facility Information Up-To-Date		
Section 4.0		
Methods of Disposal		
Response Plan Provided (Appendix J)		
Section 5.0		
Spill Predictions Provided		
Spill Predictions Up-To-Date		
Section 6.0		
Drainage Control Addressed		
Section 7.0		
Explanation of Impracticability Addressed		
Section 8.0		
Inspections, Tests and Records Addressed.		
Records Available in Referenced Location		
Inspections, and Tests Conducted		
Section 9.0		
Training and Briefings Conducted		
Designated Person Up-To-Date		
Oil Operations Personnel Receive Training		
Training Records Kept		
Section 10.0		
Fencing In Place		
Fencing Addressed		
Master Flow and Drain Valves Addressed		

Topic	Yes/No/NA	Comment
Master Flow and Drain Valves Locked or Otherwise Closed		
Starter Controls Addressed		
Starter Controls Locked		
Pipeline Connections Addressed		
Pipeline Connections Capped or Blank Flanged		
Lighting Addressed		
Lighting Provided Commensurate with Facility Type and Location		
Section 11.0		
Loading/Unloading Drainage Addressed		
Loading/Unloading Drainage Provided		
Warning Light or Barriers Addressed		
Warning Light or Barrier Provided		
Vehicle Observations Addressed		
Vehicle Observations Made		
Section 12.0		
Field-Constructed Tanks Addressed		
Conformance with Applicable Guidelines Addressed		
Spill Information Up to Date		
Section 13.0		
Diked Area Drainage Addressed		
Diked Area Drainage Adequate		
Diked Area Drainage Valves Addressed		
Appropriated Diked Area Drainage Valves Used		
Undiked Area Drainage Addressed		
Undiked Area Drainage Handled Appropriately		
Discharge Diversion System Addressed		
Discharge Diversion System In Place If Required		
Section 14.0		
Compatibility Addressed		
Tanks Compatible With Contents		
Secondary Containment Addressed		
Secondary Containment Adequate		
Diked Area Drainage Addressed		
Diked Area Drainage Properly Performed		

Topic	Yes/No/NA	Comment
Partially Buried or Bunkered Tanks Addressed		
Partially Buried or Bunkered Tanks Have Suitable Protection		
Testing Addressed		
Testing Performed		
Internal Heating Coils Addressed		
Internal Heating Coils Exhaust Monitored or Treated		
Fail-Safe Engineering Addressed		
Fail-Safe Engineering In Place as Needed		
Observation of Effluent Treatment Addressed		
Observation of Effluent Treatment Made Where Needed		
Visible Discharge Correction Addressed		
Visible Discharges Corrected		
Mobile or Portable Containers Addressed		
Mobile or Portable Containers Properly Positioned		
Section 15		
Buried Piping Addressed		
Buried Piping Protected from Corrosion		
Terminal Connections Addressed		
Terminal Connections Capped		
Pipe Supports Addressed		
Pipe Supports Suitable		
Inspections Addressed		
Inspections Performed		
Vehicle Warnings Addressed		
Vehicle Warnings Made		
Appendix A		
Site Diagrams Included		
Site Diagrams Up-To-Date		
Appendix B		
List of Storage Containers Up-to-Date		
Appendix C		
Diked Area Drainage Information Provided		
Appendix D		
Monthly Inspection Form Included		

Topic	Yes/No/NA	Comment
Appendix E		
Completed Monthly Inspection Forms Included		
Appendix F		
Delivery Checklists Up-To-Date		
Appendix G		
Certification of Substantial Harm Signed		
Appendix H		
SPCC Plan Review Checklist Included		
Appendix I		
Additional Procedures Included If Needed		
Appendix J		
Emergency Action Plan Included		
Phone Numbers Up-To-Date		
Qualified Individual		
Contractors (Verify Numbers)		

APPENDIX I

ADDITIONAL FACILITIES, PROCEDURES, METHODS , OR EQUIPMENT

112.7 If the plan calls for additional facilities or procedures, methods, or equipment not yet fully operational, these items should be discussed in separate paragraphs, and the details of installation and operational start-up should be explained separately.

Not Applicable. There are no changes planned at this time.

APPENDIX J

EMERGENCY RESPONSE PROCEDURES

EMERGENCY RESPONSE ACTION PLAN

112.7(a)(4) Unless you have submitted a response plan under § 112.20, provide information and procedures in your Plan to enable a person reporting a discharge as described in § 112.1(b) to relate information on the exact address or location and phone number of the facility; the date and time of the discharge, the type of material discharged; estimates of the total quantity discharged; estimates of the quantity discharged as described in § 112.1(b); the source of the discharge; a description of all affected media; the cause of the discharge; any damages or injuries caused by the discharge; actions being used to stop, remove, and mitigate the effects of the discharge; whether an evacuation may be needed; and, the names of individuals and/or organizations who have also been contacted.

The Fox Energy Center has developed a Facility Response Plan according to 112.20, which address spill response procedures, spill reporting information and a readily available response plan.

This Emergency Response Action Plan (ERAP) supplements the Spill Prevention Control and Countermeasures (SPCC) Plan. The SPCC Plan describes measures used to prevent oil spills whereas the ERAP is for responding to oil spills from oil-filled electric equipment and barrels with oil products. The ERAP has been included in the back of the SPCC Plan to allow ease of access in the event of a spill. The Emergency Response Action Plan is for oils and Oil Products and is not intended for responses to hazardous materials.

This ERAP becomes effective immediately upon the observance of or hearing of an oil spill from any company facilities. Any employee observing or receiving knowledge of an oil spill must immediately take actions to minimize injuries and damage and notify the designated person. Make sure all steps taken are in accordance with good safety practices. The priority in the ERAP provides information needed immediately when managing an oil spill incident.

Index

Forms

EMERGENCY RESPONSE ACTION PLAN

1.0 PURPOSE

This procedure provides direction to personnel responding to a petroleum release. This procedure also lists storage facilities and existing containment structures.

2.0 SYSTEM DESCRIPTION

2.1 The Fox River Energy Center located approximately 2000 feet west of the Fox River at 310 East Frontage Road, Kaukauna, Wisconsin, consists is a combined-cycle electric power generating facility consisting of two GE Frame 7FB dual-fuel combustion turbines. Natural gas is the primary fuel source. The facility has the capability to fire distillate oil in the combustion turbines for limited periods, and as such is equipped with two oil storage ASTs and associated unloading and transfer equipment. The Fox Energy Center has a total storage capacity of the following amounts of oil:

1. Fuel oil & gasoline storage total capacity of 1,006,300 gallons. Individual tank storage capacities are listed below:

   a. 350,000-gallon aboveground fuel oil tank (Map Reference #1)

   b. 650,000-gallon aboveground fuel oil tank (Map Reference #2)

   c. 360-gallon aboveground Emergency Diesel Fire Pump fuel oil tank (Map Reference #4)

   d. 250-gallon aboveground vehicle fueling gasoline tank (Map Reference #32)

   e. 250-gallon aboveground vehicle fueling diesel tank (Map Reference #32)

2. Lubricating and Hydraulic oil - A total of 19,219 gallons inside the building. Individual Unit lube oil capacities are:

   a. 250-gallon Used Oil AST (Map Reference #27)

   b. 6,200 gallon #1 CT Accessory Module (Map Reference #5)

   c. 6,200 gallon #2 CT Accessory Module (Map Reference #6)

   d. 5,548 gallon Steam Turbine Lube Oil Reservoir (Map Reference #7)

   e. 3,300 gallon Steam Turbine Hydraulic Reservoir (Map Reference #8)

f. 411 gallon Steam Turbine Seal Oil Reservoir (Map Reference #9)

g. 660 gallon in five Boiler Feedwater Pumps (132 gallons in each) (Map Reference #s 23-26)

3. 87,487 gallons in nineteen Transformers containing mineral oil (Map Reference #s10-22)

4. Miscellaneous storage - lubricating oil inside the building (Map Reference #27)

5. 3000 gallon oil/water separator holding tank (Map Reference #3)

6. 383 gallons total four Condensate drain tanks (Map Reference #s 28-31)

3.0 SAFETY PRECAUTIONS

3.1 Actions taken to any response to an oil spill shall comply with the Company Safety Rules

3.2 Many petroleum products are regulated as OSHA hazardous materials. A response to an emergency involving such materials must be in compliance with the requirements of OSHA's Hazwoper regulation (29 CFR 1910.120) which includes training for certain emergency responders. These requirements do not apply to responses to non-emergency spill events.

4.0 SENSITIVE AREAS

During an oil spill response, special attention needs to be placed on preventing oil spills from entering or reaching environmental sensitive areas and water conveyances. Environmentally sensitive areas include drinking water system intakes, threatened and endangered species habitat, and national and state parks and wildlife refuges. Water conveyances include streams, creeks and rivers. The following areas and water conveyances were identified as potential environmentally sensitive areas:

- Fox River
- Unnamed stream located north of the facility.

5.0 LOGISTICS

Preplanning for an emergency increases the efficiency and prevents confusion. Logistics involved in an emergency include communication systems such as facility radios with a predetermined emergency channel, and the location of an operations center (e.g., office

building) and an alternative operations center. The following communication systems will be used during an oil spill

- Cell Phones
- Internal Plant Phones
- Walkie-talkies

The following site, unless prohibited by the spill event, will be used as the operations center during a spill event:

- Fox Energy Center, 310 East Frontage Road, Kaukauna, Wisconsin 54130

If the primary assembly location is involved in the emergency, assemble at the safest exit gate.

6.0 IMPLEMENTATION

6.1 Emergency Response Procedures for Oil Spills. Notification lists are found in the Emergency Notification Record.

1. The witness recognizes the presence of an oil spill and identifies (if possible) the material. Keep clear of the contaminated area.

2. Notify "A" Operator (Control Room Operator)
   - Type of spill, location, amount;
   - Injured personnel, if any; and,
   - The "A" Operator will notify plant management and dispatch plant personnel. The plant manager will notify the appropriate state and federal authorities listed in the Emergency Notification Record.

3. The Plant Employee shall then:

   a. Protect Personnel
      - Warn personnel in the immediate area;
      - Protect personnel from injury;
      - Personnel overcome by the spill and that are outside of the spill area may be attended by anyone that has CPR and First Aid Training. Personnel overcome by the spill and that are inside the spill area maybe rescued ONLY by trained personnel; and,
      - Personnel using appropriate protection can rescue during a response.

   b. Shut off Ignition Sources
      - Shut off all sources of ignition in the affected area: open flames, motors, electrical circuits, etc.

c. Control/Stop Flow of Product
- Close valves, turn off pumps, etc., to stop the release;
- Do not go in the spill area to stop the release unless you are trained to do so; and,
- Protect waterways by damming creeks and ditches, blocking drains, etc.

d. Initiate Containment

- Contain the spill, as close to its origin as possible, through use of an oil boom, sorbent pads, sorbent material, or other appropriate method to prevent the spill from reaching navigable waters, including the storm drain system;

  - Dike the area (ahead of the spill, if possible).

  - Divert product into a ditch that can be dammed

  - Contain any runoff water from fire suppression activities.

  - Cover or dike threatened storm drains.

  - Use sorbent materials to contain spilled product. If commercial sorbents are not available, materials such as sand or sawdust can be used.

  - Install oil containment booms on streams. A product that floats on water can be contained by using booms, underflow dams, or weirs, which should be placed near access areas so that product can be recovered from the containment area.

e. Review Chemical Information

- Material Safety Data Sheets.

f. Assist responding Emergency Response Teams, as needed.

4. The Control Room Operator is responsible to take the necessary steps to control the situation until the Qualified Individual becomes available to assume/delegate these duties. These steps will depend on the particular and specific circumstances, and may include, but are not limited to:

   a. Isolate the source immediately if possible and restrict access (stop operation of the affected tank/valve/equipment.

   b. Initiating the Plant Security/Control Procedure, if necessary.

   c. Establish a command post in a communications center appropriate to the event.

   d. Notify either the Maintenance or Operations Manager (or his designee) to assume local control of the incident until the Qualified Individual can assume responsibility.

   8. Notify Plant Manager (Qualified Individual)
      - Collect information on the Spill Notification Form and submit to Plant Manager;
      - Do not delay notifying Plant Manager to collect the information on the spill form; and,
      - Plant Manager (Qualified Individual) conducts notification to regulatory agencies if he/she is unable to contact the IBS Environmental Services.

   e. Request Fire Department assistance if the release is outside the engineered containment system and the source cannot be immediately controlled. (on and off-site).

   f. Request ambulance for accident victims, if any.

5. Upon assignment the Maintenance/Operations Manager shall:

   a. Establish a post near but outside the release area, and assume local control of the incident. This control shall be based on personnel knowledge, training, and qualifications, as well as by direction from the Control Room Operator.

   b. In consultation with the HazMat Contractor (Veolia Environmental Services 800-688-4005), develop a plan to control the incident, whether internally, or with assistance from an external response agency.

   c. Oversee spill containment and clean up.

6. The Qualified Individual shall act as the liaison for any external Response Teams summoned to the facility for the purpose of controlling the incident.

7. The Plant Environmental and Safety Consultant shall alter, suspend, or terminate activities that are deemed Immediately Dangerous to Life or Health (IDLH), and shall brief all external Response Teams as they arrive.

8. The first-line supervisor or designate shall notify families of injured or involved employees. The Plant Manager or designate works with governmental organizations in charge of security beyond the facility perimeter, and coordinates media releases.

6.2 Notification

1. All spills that are required to be reported under a state or federal rule must be reported to the designated agency as soon as possible following discovery.

Contractors working for Fox Energy Center are responsible for reporting spills caused by their activities.

***NOTE: All reporting is required immediately, which means, "as soon as the person in charge of the facility becomes aware of the spill." For spills requiring immediate agency notification, the Incident Commander shall notify the Environmental Services Department (ESD) to report the spill.**

2. Environmental Services Department Contacts:
   For spills requiring EPA, WDNR, or National Response Center notification or to obtain guidance in spill response, one of the following shall be called to report the spill:

   During normal working hours:

Patrick Ahrens - Office	(920) 433-1391
Shirley Scharff - Office	(920) 433-1396
Stacy Brault - Office	(920) 433-1780
Mark Metcalf - Office	(920) 433-1833
Brian Bartoszek - Office	(920) 433-2643

   Anytime (24/7) Notification: Call Central Dispatch at 800-450-7255 and select "1" indicating you are an employee subject to call out. Enter your employee number to speak to the dispatcher. Ask them to page someone from Environmental Services Department (ESD) call list.

   IF ESD personnel cannot be reached, the spill shall be reported by the Plant Manager (Qualified Individual) or his designee.

3. The following is a brief summary of relevant spill reporting regulations:

   a. State Spill Rule - In Wisconsin, spills of federally-regulated hazardous substances and certain petroleum spills must be reported. Common petroleum products such as diesel fuel, lubricating oil, and hydraulic oil are not classified as hazardous substances. However, the state requires that spills of petroleum products of 5 gallons or more that are not completely contained on an impervious surface be immediately reported.

      Wisconsin Department of Natural Resources (WDNR) state toll-free number for spill reporting is (800) 943-0003.

   b. Federal Clean Water Act - According to 40 CFR Part 110, a discharge of oil to a navigable water or adjoining shoreline is reportable if the quantity discharged causes a film or sheen upon or discoloration of the surface of the water. Such spills are also required to be reported immediately to the National Response Center.

      National Response Center number for spill reporting is (800) 424-8802. Any such spill that is reported must also be reported to the WDNR.

   c. If the Fox Energy Center facility has a spill of 1,000 gallons or more of oil into a waterway, or two spills of 42 gallons or greater of oil into a waterway in a twelve month period, the facility is required to submit information to the U.S. Environmental Protection Agency (EPA) Regional Administrator and the Wisconsin Department of Natural Resources (WDNR) within 60 days (i.e., 60 days after the spill of 1,000 gallons or the second spill within a twelve month period). The following information should be submitted to the EPA Regional Administrator and WDNR:

      - Name of the facility,
      - The name of the individual submitting the information,
      - Location of the facility,
      - Maximum storage or handling capacity of the facility and normal daily throughput,
      - Corrective action and countermeasures you have taken, including a description of equipment repairs and replacements,
      - An adequate description of the facility, including maps, flow diagrams, and topographical maps, as necessary,
      - The cause of such discharge, including a failure analysis of the system or subsystem in which the failure occurred,
      - Additional preventive measures that have been taken or have contemplated to minimize the possibility of recurrence, and
      - Such other information as the Regional Administrator may reasonably require pertinent to the Plan or discharge.

The mailing addresses for the EPA Regional Administrator and the WDNR are as follows:

Regional Administrator
US EPA Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604

Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, Wisconsin 53707-7921

7.0 RESPONSIBILITIES

7.1 All Plant Personnel Responsibilities:

1. The plant operating staff has the primary responsibility for notification and initial implementation of oil spill containment. In the event of an oil spill he/she shall:

   - Inform the Control Room Operator of the presence of the petroleum release.

   - Determine if the oil spill can be immediately controlled and if so, take appropriate action to stop the release and contain spilled oil.

7.2 Control Room Operators (CRO)

1. The Control Room Operator has the primary responsibility during his shift for implementation of the oil spill procedure.

7.3 Qualified Individual (Plant Manager **or** Alternate) Responsibilities:

1. The Plant Manager (Qualified Individual) has the overall responsibility for implementing corrective actions to prevent or mitigate any discharge, including the commitment of manpower, equipment and materials required to expeditiously control and remove any quantity of oil discharged that may be harmful. These steps will depend on the particular and specific circumstances, and may include, but are not limited to:

   - Ensuring the Emergency Response Plan is implemented,
   - Coordinating communication and serve as the contact between the facility and off-site agencies and services;
   - Ensuring that the initial agency notifications are made; and
   - Initiate action to determine:

     - Material spilled.
     - Location and source of spill (facility, oil tank, vehicle, electrical equip, etc.)
     - Time spill occurred and/or observed.
     - Estimates of quantity and type of oil spilled and potential for additional material to be spilled.
     - If help is needed and how urgent is the situation?
     - Any information as to oil entering or near any waterway or impacting natural resources.
     - Description of any containment action or clean up procedures initiated.
     - Other pertinent information (access, weather, lighting, etc.)

7.4 The Plant Environmental and Safety Consultant

1. The Plant Environmental and Safety Consultant is responsible for assuring that the plant employees are familiar with the SPCC plan. The plan will be presented at least once each year at plant training sessions or departmental safety meetings.

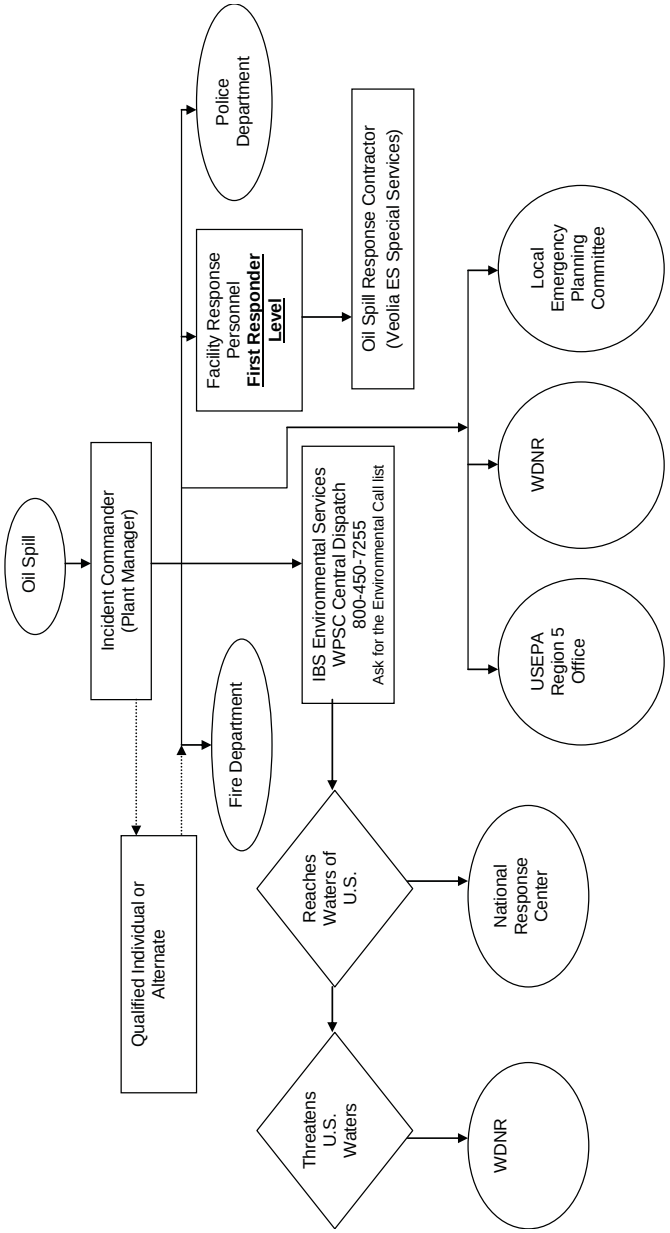
7.5 Environmental Services

1. The Environmental Services Department has the primary responsibility to:

- Periodically revise the SPCC plan and make amendments as required to assure that it is accurate, up to date, and complies with 40 CFR Part 112. This review is required at least every five years and is recorded as an appendix to this procedure
- Assist the plant manager perform immediate notification of state and federal agencies.
- Assist in obtaining services necessary to respond to and remediate spills which require outside services.
- Generate and submit all reports required by 40 CFR 112.

The information in this Flow Chart identifies the individuals and agencies that may need to be notified in the event of an oil spill. Contact numbers are included on the following page.

FIGURE ERP1 - Fox Energy Center Spill Notification Flow Chart



EMERGENCY RESPONSE ACTION PLAN

8.0 OIL SPILL RESPONSE EQUIPMENT AND LOCATION

The facility response equipment list provides an inventory of Fox Energy Center response equipment. A description of the equipment, its capabilities, quantity, and location of the stored equipment is provided below.

Equipment	Owner	Amount	Storage Locations	Inspection Frequency
ABSORBENTS / CONTAINMENT EQUIPMENT				
Absorbent	Facility	100 lbs	Warehouse	Monthly
Absorbent Pads	Facility	2 sets of 100	Warehouse & STG Building	Monthly
Absorbent Pillows	Facility	2 sets of 9	Warehouse & STG Building	Monthly
Absorbent Socks	Facility	2 sets of 20	Warehouse & STG Building	Monthly
Containment Boom	Facility	100 feet	STG Building	Monthly
Skimmers/Pumps	Facility	2	Warehouse and Pre-Treatment	At least Annual
Culvert Plug and Air Pump	Facility	1	STG Fire Protection Building	Monthly
HazMat Containment Bags	Facility	2 sets of 9	Warehouse & STG Building	Monthly
GENERAL RESPONSE EQUIPMENT				
Shovels, Mops, Wringers, Squeegees	Facility	2 each	Warehouse	At least Annual
Hand Tools	Facility	100	Maintenance Shop	At least Annual
Flashlights	Facility	2	Warehouse	At least Annual
Empty 55-gallon Drums	Facility	2	Warehouse / STG Building	At least Annual
75 Gallon Oil Spill Kit	Facility	1	Outside Oil Connex	At least Annual
COMMUNICATIONS EQUIPMENT				
Two-way radios	Facility	18	Control Room / Offices	At least Annual
HEAVY EQUIPMENT (The site does not have any boats or motors)				
Pick-up trucks	Facility	1	Plant	With use
Tractor (Front-end Loader)	Facility	1	Plant	With use
FIRE RESPONSE EQUIPMENT				
Fire Extinguishers (Dry and/or CO_2)	Facility	70	Throughout the plant	Monthly
Fire Hose	Facility	50 linear feet	Warehouse	Nozzles - monthly
FIRST AID / MEDICAL EMERGENCY EQUIPMENT				
First Aid Kits	Facility	3	Control Room / Water Treatment Lab / Pretreatment Lab / Shop	Monthly
PERSONAL PROTECTIVE EQUIPMENT (PPE)				
Respirators with multi-use cartridges	Facility	20	Water Treatment Lab	Monthly
Nitrile Gloves	Facility	5 pair	Water Treatment Lab	With use
Rubber Boots	Facility	5 pair	Water Treatment Lab	With use
Rain Gear	Facility	5 pair	Water Treatment Lab	With use
Tyvek Suits	Facility	5 pair	Water Treatment Lab	With use
Chemical Countermeasure Agents Stored				
Soda Ash	Facility	20 bags	Water Treatment Building	Monthly
SKIMMERS/PUMPS				
Weir Skimmers - SKIMPAC 4300 (50 gpm)	OSRC	4	Greenville, WI Germantown, WI	By OSRC
BOATS/MOTORS				
14' Boat w/ 9.9 HP Motor	OSRC	1	Greenville, WI	By OSRC
Zodiac Boat w/40 HP motor	OSRC	1	Greenville, WI	By OSRC
19' Boom Boat with 115HP motor	OSRC	1	Germantown, WI	By OSRC
12 to 18' Jon Boat w/ 15-25 HP outboards	OSRC	4	Germantown, WI	By OSRC
Heavy Equipment – Various – Refer to Appendix B FOR OSRC EQUIPMENT				

9.0 MATERIAL SAFETY DATA SHEETS

Additional information pertaining to chemical and physical characteristics of the substances stored at the facility is provided in the Material Safety Data Sheets (MSDS) maintained at the facility. Material Safety Data Sheets are located in the Control Room.

Name of Facility:	WPSC - Fox Energy Center
Facility Address:	310 East Frontage Road Kaukauna, WI 54130
Latitude/Longitude:	N 44° 19'21", W 88° 12'33"
Facility Phone:	920.225.5353; Fax: 920.225.5360
Owner:	Wisconsin Public Service Corporation
Owner Address:	700 North Adams Street Green Bay, WI 54307
Owner Phone:	800.450.7260
Operator:	Wisconsin Public Service Corporation

Primary Responders

Name	Phone Number	Response Time	Training / Responsibilities	
			Incident Commander	Spill Response Trained (Y/N), Date
Scott Cherveny, *Manager*	920-246-0547 (Cell)	15 min.	No	No
Steve Schaefer, *Manager*	715-321-2951 (Cell)	15 min.	No	No
Wade Handrich, *Manager*	920-360-4543 (Cell)	30 min.	No	Yes, 2/27/2013
Mike Gallagher, *Manager*	920-540-1723	25 min.	Yes	Yes, 2/27/2013

The following personnel are to respond if scheduled on-site during a spill and only will be called if job skill necessary for spill mitigation.

Name	Home Phone	Response Time	Training / Responsibilities	
			Operator (O) Maintenance (M)	Spill Response Trained (Y/N) Date
Barnett, Jason	920-277-7171	25 min.	O	Yes, 5/14/2013
Bowser, Kyle	920-471-6443	30 min.	M	Yes, 2/27/2013
Christian, John	920-358-5258	15 min.	M	Yes, 2/27/2013
Gane, James	920-405-6763	20 min.	O	Yes, 2/27/2013
Glisczinski, Randy	715-824-2021	60 min.	M	Yes, 2/27/2013
Hatton, Dan	920-532-9112	10 min.	O	Yes, 5/19/13
Hatzenbihler, Leon	920-858-7105	30 min.	O	Yes, 5/19/2013
Monroe, Keith	920-532-9048	15 min.	O	Yes, 2/27/2013
Montag, Bradlee	920-254-4824	15 min.	M	Yes, 2/27/2013
Morrissey, Joe	920-228-0884	30 min.	O	Yes, 2/27/2013
Mydlo, David	920-241-0543	30 min.	O	Yes, 4/12/2013
Pavloski, Richard	920-257-4087	30 min.	O	Yes, 3/23/13
Schmitz, Barney	920-303-5891	30 min.	O	Yes, 2/27/2013
Stobbe, Chris	920-636-5619	30 min.	O	Yes, 2/27/2013
Tanner, Ryan	920-420-8924	60 min.	O	Yes, 2/27/2013
Van De Voort, Michael	920-605-0302	30 min.	Manager	Yes, 2/27/2013
Vanden Heuvel, Mark	920-915-5667	30 min.	O	Yes, 2/27/2013
VerBust, Steve	920-788-0953	10 min.	O	Yes, 7/29/13
Wallace, Wesley	715-929-0189	75 min.	M	Yes, 2/27/2013
Wilkinson, Grant	920-360-6838	15 min.	M	Yes, 2/27/2013
Yates, Roy	920-434-8276	30 min.	O	Yes, 3/23/13

EMERGENCY NOTIFICATION RECORD

Reporter's Name: _____

Date: _____

Facility Name: WPSC – Fox Energy Center

Owner Name: WPSC

Facility Identification Number: _____

Organization	Phone Number
National Response Center (NRC):	(800) 424-8802
U.S. Environmental Protection Agency (EPA) Region V:	(800) 223-0425
Wisconsin Department of Natural Resources (WDNR):	(800) 943-0003
Local Law Enforcement:	911
Local Fire Department:	911
Fire Marshall:	911
Local Response Team:	911
Closest HazMat Team:	911

Response Personnel	Day Phone	Afterhours Phone
Primary Qualified Individual: Facility Manager	920-246-0547	920-246-0547
Alternate Qualified Individual and Safety: Safety Coordinator	715-321-2951	715-321-2951
WPSC Supt Regional Generation	920-433-4977	920-676-0892
WPSC Mgr Substation Operations	920-617-5200	920-680-1085
WPSC Supv Substation Maintenance	920-617-5190	920-246-5372
Facility Response Team:	Radio Broadcast	See attached call list for off duty personnel
IBS Environmental Services (Central Dispatch)	800-450-7255	800-450-7255
IBS Hazardous Waste Management Plan Administrator	920-433-1780	800-450-7255

Other Emergency Contacts		
Hospital:	St. Elizabeth Hospital, Appleton	920-731-4101
Media:	Media Hotline	800-977-2250
Weather:	Weather Forecast Recorded Announcement	920-432-1212
Spill Cleanup Contractor:	Veolia Environmental Services	800-688-4005
Testing Laboratory:	IBS Central Laboratory – Patrick J. Ahrens	920-433-1391
	PACE	920-469-2436

SPILL RESPONSE NOTIFICATION FORM

TIME & LOCATION OF SPILL	**Date:**	**Time:**
Name and Address of Facility Where Spill Occurred: Fox Energy Center 310 East Frontage Road Kaukauna, WI 54130	**Township:** Kaukauna **County:** Outagamie **Latitude:** N 44° 19' 21" **Longitude:** W 88° 12'33"	
Location of Spill: (Provide all available information)	**Discovery Date and Time:**	
Did spill occur and remain on Company Property, and is the spill contained?	**Offsite Impacts?** ☐ **Yes** ☐ **No** **Describe:**	
Incident description and nature of spill and any environmental or health effects (damages):		
Released to: [ ] air [ ] water [ ] well [ ] soil [ ] sewer [ ] containment [ ] other_____		
Approximate Size of Spill Area:	**Weather Conditions (at the time of notification):**	
Evacuations? ☐ **Yes** ☐ **No** **Number:** _____	**Injuries?** ☐ **Yes** ☐ **No** **Number:** _____	**Fatalities?** ☐ **Yes** ☐ **No** **Number:** _____
MATERIAL SPILLED	**Material spilled while being transported?** ☐ **Yes** ☐ **No**	
Quantity of Material Spilled (est.):	**Quantity of Material Recovered (est):**	
Name of Material Spilled (include Common and Chemical name, and CAS No., it known)		
Source of release:	**Capacity of container:**	
MSDS available for this material? ☐ **Yes** ☐ **No**	**Hazardous / Toxic Characteristics?** ☐ **Yes** ☐ **No**	
ELECTRICAL EQUIPMENT ONLY	**Any fires?** ☐ **Yes** ☐ **No**	
Mfg:	**Co#:** **KVA:** **Year Mfg:**	
PCB Info: ☐ < 50 PPM sticker ☐ Mfg Certified ☐ Need to check TRC Clor-N-Oil ☐ <50 ☐ >50 ☐ Lab Tested ☐ Lab Test Required Test Results – Date: _____ Conc.: _____ PPM		
ACTIONS TAKEN TO STOP SPILL		
ACTIONS TAKEN TO CONTROL SPILL		

NOTIFICATION - Agency Reported To		Contact Name:	Date/Time	Phone No.
Fox Energy Environmental	☐ Yes ☐ No			
Response Contractor	☐ Yes ☐ No			
Local (Fire, Police, LEPC)	☐ Yes ☐ No			
WDNR (☐ Hotline ☐ email)	☐ Yes ☐ No			
National Response Center	☐ Yes ☐ No			
U.S. EPA	☐ Yes ☐ No			
Spill Reported By:	Signature:			
Report Completed By:	Signature:			

Environmental Only	CERCLA listed	EPCRA listed	State listed	NRC Incident No:
Reportable Quantities (RQ)				

APPENDIX G ATC FACILITY STUDY

The ATC Facilities Study contains critical energy infrastructure information (CEII) subject to the requirements of the Federal Energy Regulatory Commission.

To comply with the Federal Energy Regulatory Commission's requirements, it cannot be provided to the PSCW in normal confidential format. As a result, it has been provided to the PSCW in a separate format that allows for proper handling of the CEII document.

APPENDIX H ARCHAEOLOGICAL SURVEY REPORT

Archaeological Survey of the Fox Energy Center and Proposed Pipeline Brown and Outagamie Counties, Wisconsin

TRC Report of Investigations No. WIARC008

September 2014

Archaeological Survey of the Fox Energy Center and Proposed Pipeline Brown and Outagamie Counties, Wisconsin

September 2014

Prepared For:
Wisconsin Public Service Corp.
700 Adams Street
P.O. Box 19800
Green Bay, Wisconsin

Prepared By:
Allen Van Dyke and Rachel Klabacka
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www.TRCsolutions.com

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Abstract

Wisconsin Public Service proposes to permit and construct additional facilities at their existing plant site just west of Wrightstown on the north side of the Fox River. The project will also require an underground natural gas pipeline that will cross the Fox River to the south and turn east to link with an existing natural gas transmission pipeline. Compliance with *Wis. Stats.' 44.40* is required for this project, thus a Phase I Archaeological Survey was conducted.

This report presents the findings of an archaeological survey of the land at the facility north of the river, and the four mile corridor on the south side of the river.

Literature and archives research revealed that ten archaeological sites were reported within one mile of the survey areas, but none of the mapped site limits overlap the project areas.

Archaeological fieldwork consisted of shovel testing in wooded areas, fallow fields and agricultural fields with low ground surface visibility, and surface collecting agricultural fields with good visibility. One projectile point was found during the survey; since this was an isolated find, and no other artifacts were found, no additional archaeological work is recommended for this location or for this project.

Section 1
Introduction

Wisconsin Public Service (WPS) proposes to permit and construct additional plant facilities and install a new underground natural gas pipeline between the existing plant near Wrightstown in Brown and Outagamie Counties, Wisconsin (Maps 1-2). A phase I archaeological survey was required to collect field information on cultural resource sites to determine if the proposed action will have an adverse effect upon any historic properties (Wisconsin Statute ' 44.40).

Part of the project is north of the Fox River and is a large block of land northwest of the existing facility in Section 4 of T21N, R19E, Kaukauna Township. This is where the proposed additional facility will be built. The rest of the project is a proposed underground natural gas pipeline that is approximately four miles long. It will cross the Fox River south of the plant and traverse Sections 4, 9, 10, 11, and 12, of T21N, R19E in Wrightstown Township, Brown County, and Buchanan Township in Outagamie County. The new pipeline will parallel the right-of-way of an existing electric transmission corridor and will join an existing natural gas transmission pipeline approximately four miles southeast of the power plant facility.

Literature and archives research revealed that ten archaeological sites are reported within one mile of the project area but their mapped boundaries are neither adjacent to, nor do they overlap, project lands (Maps 1-2).

Phase I archaeological fieldwork was conducted between July 9 and July 18, 2014. One projectile point was the only artifact found during the survey.

This report describes the results of the survey. Section 2 of this report is a brief description of the physical setting of the project lands, Section 3 is a review of the archaeological context, Section 4 is a description of the method and techniques, and the results and recommendations are in Sections 5 and 6.

Section 2
Physical Setting

The project is in the Fox River (north) watershed on the Eastern Ridges and Lowlands geographic province of Wisconsin (Martin 1965). During the Late Pleistocene, the Lower Fox River valley was submerged beneath various glacial lakes (Martin 1965). Surface deposits are glaciolacustrine in origin and include relic deltas, sand dunes and organic deposits (Hadley and Pelham 1976). The surface deposits are underlain by Paleozoic age sedimentary rocks of the Sinnipee Group (~4.5 million years sold) made up largely of dolomite, but with some limestone and shale (Mudrey et al. 1982).

The glaciolacustrine deposits form the parent materials for 13 soil series found in the project areas: *Bellevue silt loam*; *Kewaunee silt loam*, 2 to 6 percent slopes; *Kewaunee soils*, 20 to 45 percent slopes, severely eroded; *Manawa silty clay loam*, 0 to 3 percent slopes; *Manistee fine sandy loam*, 2 to 6 percent slopes; *Oshkosh silt loam*, 0 to 2 percent slopes; *Oshkosh silt loam*, 2 to 6 percent slopes; *Oshkosh silt loam*, 6 to 12 percent slopes, eroded; *Oshkosh silt loam*, 20 to 30 percent slopes, eroded; *Oshkosh silty clay loam*, 0 to 2 percent slopes; *Shiocton silt loam*, 0 to 3 percent slopes; *Winneconne silty clay loam*, 0 to 2 percent slopes; and *Winneconne silty clay loam*, 2 to 6 percent slopes (Web Soil Survey 2014).

A pre Euro-American settlement vegetation map based on nineteenth century U. S. General Land Office (GLO) surveyor notebooks shows that the project area traverses four vegetative zones. Along the Fox River was a zone of beech, sugar maple, basswood, red white and black oak. To the north was a zone of oak openings with bur oak, white and black oak; to the south were two vegetation zones: white, black, and bur oaks, and sugar maple, basswood, red, white and black oak (Finley 1976).

Section 3
Archaeological Context

The following sections are a brief review of the general development of archaeology in southeastern Wisconsin and the archaeological resources near the project area.

3.1 Wisconsin Archaeology

Many of Wisconsin's known archaeological sites, especially the more visible mound groups, were discovered and reported by nineteenth century pioneers of American archaeology (*e.g.,* Squier and Davis 1848, Lapham 1855, Thomas 1894, Peet 1898). Because North American archaeology was a developing discipline in the early decades of the twentieth century, many of the important concepts of modern archaeology had not been devised when most of the sites were reported. Early archaeologists tended to concentrate on the more visible remains of past cultures like mounds, garden beds, cemeteries and the large artifact distributions that were thought to represent the sites of former villages, and archaeological investigations tended to focus on areas near water bodies. Consequently, inland tracts of land were overlooked by early archaeologists. As settlement expanded through the early nineteenth century, many more archaeological sites were reported to the State Historical Society of Wisconsin (SHSW)[1], some by local farmers who found them while working fields, and others as a result of larger construction projects. The resulting reports from people of diverse backgrounds provided an information base of variable accuracy, consistency and reliability. A consequence of the quality of that information is that our current knowledge of those early archaeological resource locations is incomplete. And because much of the population was concentrated in small areas (like cities), and most of the ground disturbing activities that revealed archaeological sites occurred in the more populace areas, archaeological site locations were less well represented in less populated areas.

Charles E. Brown, while director of the SHSW museum, complied a state-wide record of archaeological site locations, as they were reported to him at the museum, before agriculture and land development began to erase the remaining evidence of prehistoric and historic land use. He solicited information about archaeological sites through newspaper ads, correspondence with people throughout the state, and in short articles published in *The Wisconsin Archeologist*[2]. Information obtained in this way was supplemented by his own research and occasional fieldwork. Brown plotted the often vague site locations on a set of maps that are now referred to as the C. E. Brown Atlas and whose pages represent the first systematic attempt to record archaeological site locations in the state. The C.E. Brown Atlas is

[1] The State Historical Society is now referred to as the Wisconsin Historical Society (WHS).
[2] *The Wisconsin Archeologist* (Kehoe 1997), contains a more complete account of early archaeology in Wisconsin.

curated in the Archives Division of the SHSW. Many of the site locations were also reported by Brown in several update articles in the *The Wisconsin Archaeologist* (*e.g.*, Brown, 1906, 1908, 1909, 1912, 1925).

After Brown's retirement in 1944, large scale systematic recording of archaeological sites diminished. By about 1965, the level of archaeological site reporting increased dramatically, and between 1965 and 1977, over 1,700 new archaeological sites were added to the Wisconsin Archaeological Codification File (Fay 1977). This file incorporated Brown's atlas and became the means for keeping a record of archaeological site information. The number of sites reported increased as a result of the number of archaeological surveys required by federal and state laws regarding the protection of the cultural environment. These are referred to as cultural resource compliance projects. This period was accompanied by some increase in the consistency of information that was reported due in part to the means by which the SHSW integrated the information into the codification file in a standardized format. But it was also due to the recognition by professional archaeologists that such standardization was needed to provide a more consistent means of communication. The codification file was replaced by the Archaeological Site Inventory (ASI), a computerized data base which was supplemented by a set of USGS maps showing the locations of archaeological sites. The ASI has since been uploaded to an online data base, the Wisconsin Historic Preservation Database (WHPD) that contains all site information as well as a digital site map.

3.2 Region 5 Archaeology

In 1989 the SHSW initiated the State Regional Archaeology program to identify, evaluate and protect archaeological sites, and to increase public awareness and understanding of the past in Wisconsin. Nine regional centers, consisting of seven to ten counties, were established as part of the program (Green 1984). Region 5 includes Brown, Door, Kewanee, Marinette, Oconto and Outagamie counties. The regional boundaries were established on the basis of similarities in vegetation, hydrology, and other physiographic factors, but not on similarities or differences in archaeological manifestations in the different regions. Regions, in this case, are administrative territories that also have some overlap with environmental zones (Riggs 1990)[3].

An archaeological context was to be developed for each region to supplement a general synthesis of archaeological contexts in Wisconsin (Green et al. 1986), by summarizing more specifically the major cultural stages in a defined area, the "Region." Within the regional context, specific cultural contexts, or "study units," were to be developed. These were conceived to be in-depth summaries of specific cultural periods (*e.g.*, "Paleoindian") in Region 5.

[3] In 2001, funding to the program was terminated.

The SHSW initiated a cultural overview of Region 5 (Speth 1994). The overview spans approximately 11,000 years of time, from 9,000 B. C. to the early nineteenth century, summarizing archaeological works from and near the Region, and records from the ASI. Additional information about specific prehistoric cultural periods, *e.g.*, Paleo-Indian and Early Archaic, Oneota, Middle and Late Archaic, Late Woodland, were added later (Speth 1996, 1997, 1998, 1999). These period specific study units present what is known of occupational chronology, environmental factors, settlement and subsistence routines, and socio-political structure. In the cultural overview for the region, Speth reported the following information about prehistoric sites in Region 5:

> Region 5 has a rich archaeological heritage. Its location on Green Bay and the Fox River Valley has placed it on an historical highway between river drainages. Involvement in copper trading during the Archaic has produced some of the most singular archaeology in North America (Speth 1994: 46).

Many new archaeological sites have been discovered in Region 5 as a result of cultural resources surveys. The total number of archaeological sites reported for Outagamie County is 389 while Brown County reports 506 as of this writing. Discovery of these sites has increased our knowledge of site distribution to some degree, but cultural identifications for many of the new sites are lacking. More often than not, new sites are identified by non-specific affiliations such as Woodland while the most common identification is "lithic scatter." There is much to be gained by further work. Speth (1994: 46) says the following about archaeological resources in Region 5:

> Population and industry in Outagamie and Brown Counties are growing rapidly. Areas outside these counties, such as Oconto and Marinette counties, are increasingly being used as bedroom suburbs or retirement areas for people in Green Bay of the Fox cities. Waterfront property especially is at a premium… Only public and private concern and interest can help salvage what is left of the archaeological remains of this area.

3.3 Local Archaeology

Local culture history has been previously reviewed and discussed in detail (Speth 1994, 1996, 1997, 1998, 1999). That information will not be repeated here. No previous archaeological surveys have taken place within the project areas; however, eight have been done within a half mile of the plant facilities and proposed pipeline, the most recent in 2012. The majority of those eight surveys were compliance projects. In 1975, an island in the Fox River was surveyed for use as a disposal site by the Fox River Navigation Project but nothing was found (Overstreet 1976). In 1978 and 1992, surveys for the expansion of US 14 and the US 41 frontage road system were done but no archaeological sites were discovered near the project area (Penman 1978,

1992). In 1983 and 2012, a phase I archaeological survey was done for the reconstruction of STH 96 (Riggs 1983, Van Dyke 2012). Both surveys noted that the areas were disturbed by past road construction. In 2005, a survey for a USDA NRCS proposed manure pond was conducted but no artifacts were encountered (Watson 2005). Two additional surveys were done in the area, but the reports were not available at SHSW.

Section 4
Method and Techniques

The purpose of an archaeological survey is to find archaeological sites that might be within the project area. Literature and archives research, fieldwork and interview are the techniques that are used to complete the undertaking.

4.1 Literature and Archives Research

Literature and archives research were conducted at several facilities in Wisconsin. The sources listed below were examined: Office of State Archaeologist, Wisconsin; General Land Office (GLO) maps; National Register of Historic Places (NRHP); public and university libraries; Natural Resources Conservation Service (NRCS); published and non-published articles on archaeology and history; non published compliance reports on archaeology; the Wisconsin Historic Preservation Database (WHPD); the Archaeological Reports Inventory (ARI); Burial Sites Office maps; C.E. Brown Atlas and C.E. Brown Mss.; and county site files. Relevant journals and serial publications were reviewed for information on cultural resource sites near the project area as well.

4.2 Fieldwork

Several techniques are used to find archaeological sites; surface collection, shovel testing and soil coring are the most common. Shovel testing involves the excavation of small holes, about 35 cm in diameter, to a depth sufficient to reach a natural soil horizon that is likely to be below any former human occupation surface. This depth is based on a substantive knowledge of local archaeology and soil sequences for the area. All soil from each hole is screened through ¼ inch mesh hardware cloth and placed back into the hole. If artifacts are found, the location is noted, marked with a GPS, and added to a USGS map. An initial boundary determination is made, and a sketch map of the shovel test pattern within the site is produced. Shovel testing is done in a systematic grid-like fashion. The tests are dug in parallel lines, called transects, with a 15 meter interval between and within transects. The interval size is dependent on topographic conditions and other factors. If warranted, the shovel test interval might be reduced to 10 meters, or less, but the 15 meter interval is not exceeded.

Surface collection includes a visual examination of exposed surface areas such as cultivated fields, stream banks, lake shores, road cuts, footpaths, quarries, pits, animal burrows and areas of sparse vegetation cover. Archaeologists constantly observe the surface of all areas, whether the ground is exposed or not, looking for above ground evidence of archaeological sites such as logging camps, railroad grades and homesteads.

Section 5 Results

The results of literature and archives research, and fieldwork are discussed in the following sections.

5.1 Literature and Archives Research

The sources listed in Section 4 were consulted. Ten archaeological sites are reported within a mile of the project area but none of the sites are adjacent to or overlap the project area. Since this project will not affect the known sites in the area, they are not described in this report. Those site locations that are close to the project are depicted on Maps 1-2.

A part of the 1835 GLO map covering the survey area (Map 3) shows trails running along the north and south sides of the Fox River. Maps 4 and 5, from the 1945 WLEI, show that the primary land uses in the survey area were cropland, swamp hardwoods, upland hardwoods, pasture and stump pasture. The 1938 aerial photos show cropland with small forested areas (Photos 1-3). Atlases and plat maps from 1878, 1889, 1915, 1936, and 1942 do not show anything of cultural significance (Maps 6-15).

5.2 Fieldwork

Archaeological fieldwork was conducted as described in Section 4.2 above from July 9 - July 18, 2014. The project area held a mix of fallow and cultivated fields and small tracts of woodlands. Wooded tracts and fallow and agricultural fields with less than 30 percent visibility were shovel tested at 15 meter intervals within and between transects. Agricultural fields with visibility greater than 30% were surface collected at 5 meter intervals. Swamps, permanent wetlands, and slopes greater than 30% were excluded from survey. Boundaries were interpreted from aerial photos maps and development maps supplied by Wisconsin Public Service Corporation.

As noted in the introduction, the survey area was divided into two parts: 1) the contiguous area at the existing facility, and 2) approximately four miles of proposed new pipeline (see Maps 1-2).

5.2.1 Plant Site

The large parcel adjacent to the west and north of the existing plant was comprised of fields that were either fallow or marshy; shovel tests were dug in any dry areas. The small shallow field directly west of the plant showed mixed soils in shovel tests probably due to the construction of the existing facility. Fallow fields due north and northwest of the plant showed a general soil profile consisting of A horizon of dark brown clayey silt (~30 cm) over a B horizon of reddish silty clay.

Beyond the small fallow fields and marshy areas adjacent to the plant were two agricultural fields. An alfalfa field to the south was shovel tested at 15 meter intervals. Typical soil profiles showed an A horizon of dark brown clayey silt (30 cm) over a B horizon of reddish silty clay. Profiles along the southern edge of the field differed, showing an A horizon of dark brown clayey silt (25 cm) over a B horizon of grayish clayey silt. The difference in soil profiles was probably due to earlier pipeline construction along the south edge of the field. The northern agricultural field was planted in soy beans and had 80 percent surface visibility. No artifacts were found in the 80 acre plant site area.

5.2.2 Pipeline

The four mile pipeline corridor between the plant site and the natural gas transmission pipeline to the east and south across the river will run south for about ¾ mile, turn east and span another 3.25 miles where it will meet an existing natural gas transmission line corridor south of CTH ZZ. The corridor parallels an existing electric transmission line corridor. The corridor contains several agricultural fields and wooded tracts which were shovel tested. Typical soil profiles showed an A horizon of brown silt loam (25 cm) over a B horizon of reddish brown clayey silt. A few of the soil profiles near a delineated wetland showed a gleyed B horizon which indicates a previously waterlogged soil.

Visibility was high throughout the corn and soy bean fields (80-95%), 50-75% in alfalfa fields and 80% in wheat fields, all of which were surface collected. One projectile point was discovered in a soy bean field.

47BR484 (GPS - Zone 16T, 4906757N, 407495E)

One Snyders type projectile point was found in a soy bean field in the SE¼, SW¼, NW¼, NE¼ of Section 11, T21N, R19E (see Map 2). The surface collection interval in the field was reduced to two meters between the transects and repeated to cover an area 50 meters north, south, east, and west of the isolated find. This effort did not yield any additional artifacts. A small forested area directly south of the find was shovel tested at 10 meter intervals but this effort also yielded no artifacts. Since this is an isolated find, no additional archaeological work is recommended for this location.

Snyders points are broad bladed, corner notched points that are a diagnostic artifact for the approximate 200 B.C. to A.D. 200 time range. The point type occurs in the southeastern half of Wisconsin, into southern Illinois and beyond, east into Michigan, west into Missouri and Arkansas, and east through Indiana, Ohio, western Pennsylvania and western New York. The dimensions of this projectile point (Table 1) fit within the sample of Snyders projectile points

from two samples of Illinois archaeological sites which yielded 27 and 13 measurable specimens (Justice 1987). The projectile point is shown in Photo 4. This one is made of Burlington Chert.

Table 1: Fox Power Center Snyders Point Measurements

Dimension	*mm.*
Length	58.8
Width	41.9
Thickness	9.3
Width of stem	19.3
Length of stem	15.7
Width of base	23.9

Photo 4: Snyders Projectile Point

Section 6
Summary and Conclusion

Wisconsin Public Service proposes to permit and construct a new four mile long underground natural gas pipeline and additional facilities on their existing plant site just west of Wrightstown, Wisconsin. The plant is north of the Fox River; the pipeline will run south from the plant, cross the Fox, and go east where it will intercept an existing natural gas transmission pipeline.

Literature and archives research revealed ten previously reported archaeological sites within a mile of the project areas. None of the sites overlap the project.

Fieldwork consisted of shovel testing in forested areas, fallow fields and agricultural fields with low visibility, and surface collection in agricultural fields with better visibility. A single Middle Woodland Snyder's projectile point was discovered along the pipeline corridor. Once the artifact was located, the survey interval was reduced for more intensive survey within 50 meters in all directions of the find. No additional artifacts were discovered.

Since the projectile point is an isolated find, and no additional artifacts or archaeological features were discovered within the rest of the survey area, no additional archaeological work is recommended for this project.

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This survey was done in accordance with accepted professional standard procedures and care. The results of this study are based upon professional interpretation of the information available. TRC assumes that the information provided is complete and correct. The techniques used in this survey are only appropriate for finding archaeological sites that are at or near the surface. It is possible that deeply buried sites or unmarked graves might exist. In Michigan, if archaeological material is discovered during construction, immediate consultation can be obtained by contacting the Wisconsin Historical Society Historic Preservation Division at 608-264-6507 for compliance with 36 CFR 800.11, the Regulations of the Advisory Council on Historic Preservation governing the Section 106 Process.

If bone or a burial is found, stop working at that location, immediately call the Burial Sites Office (608-264-6493) to report the find and to receive guidance on how to proceed.

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Section 8
Maps and Atlases Reviewed

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PHASE I ARCHAEOLOGICAL SURVEY OF FOX ENERGY CENTER & PIPELINE IN BROWN AND OUTAGAMIE COUNTIES, WISCONSIN

Appendix A
Maps and Photos

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Archaeological Survey of the Fox Energy Center
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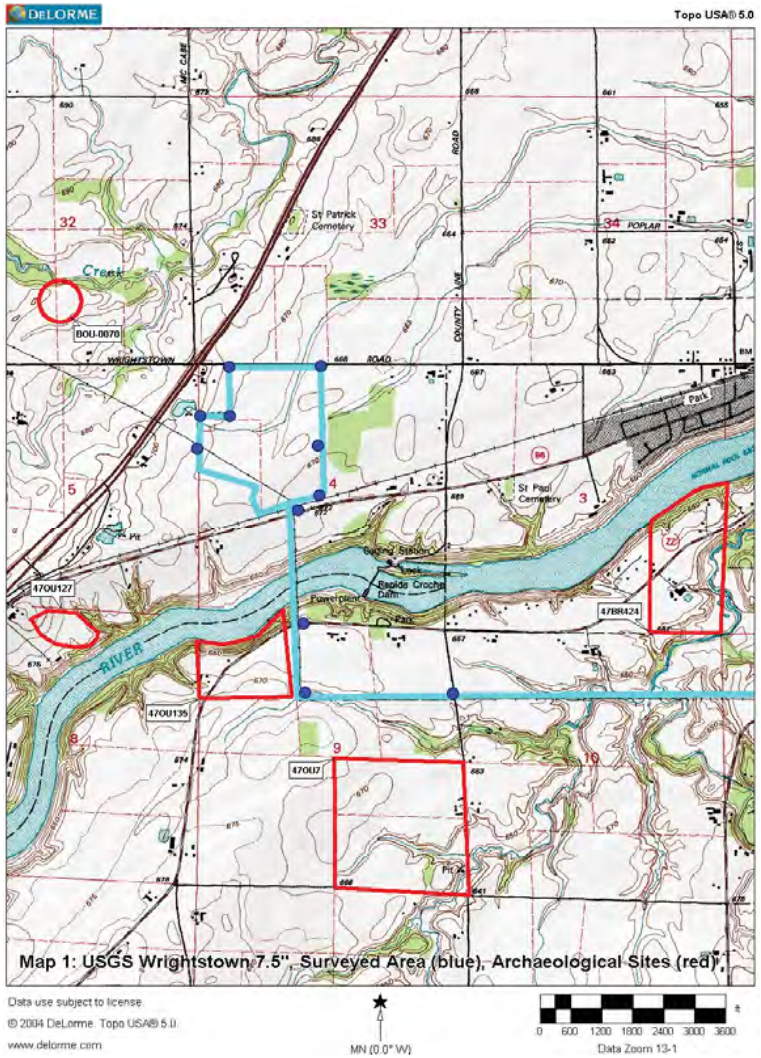
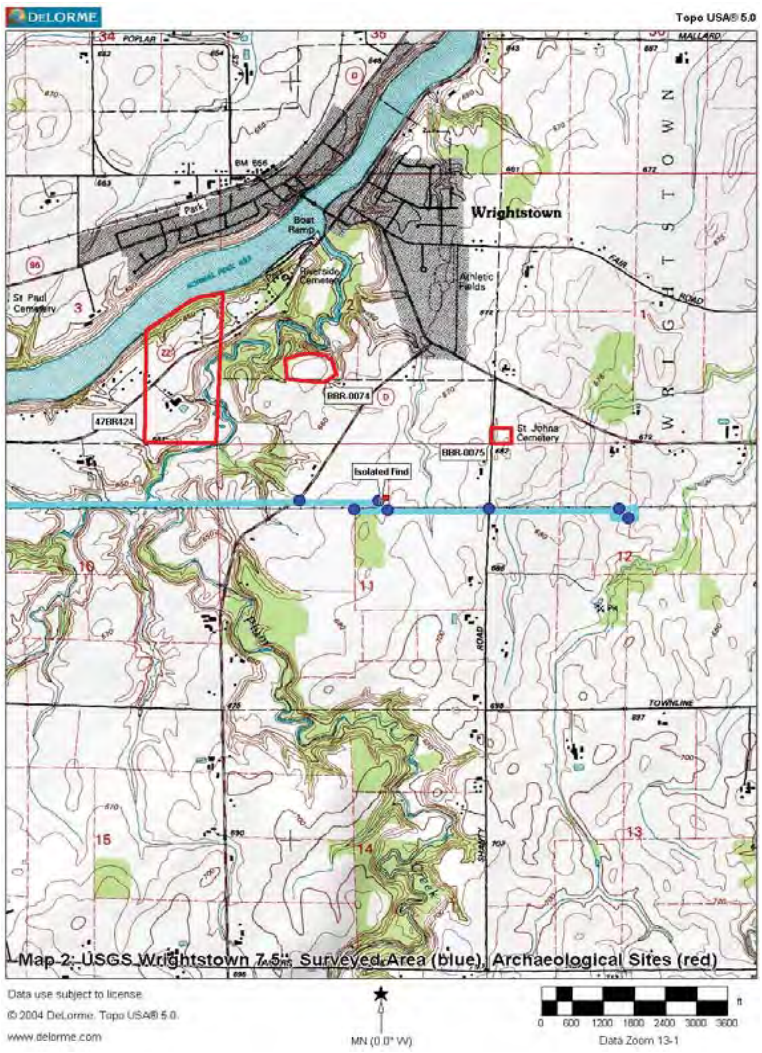


Map 1: USGS Wrightstown 7.5", Surveyed Area (blue), Archaeological Sites (red)

PHASE I ARCHAEOLOGICAL SURVEY OF FOX ENERGY CENTER & PIPELINE IN BROWN AND OUTAGAMIE COUNTIES, WISCONSIN



Map 2: USGS Wrightstown 7.5", Surveyed Area (blue), Archaeological Sites (red)

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Archaeological Survey of the Fox Energy Center
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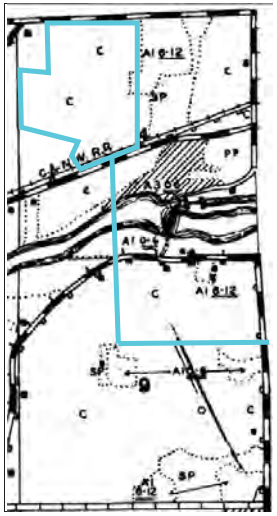
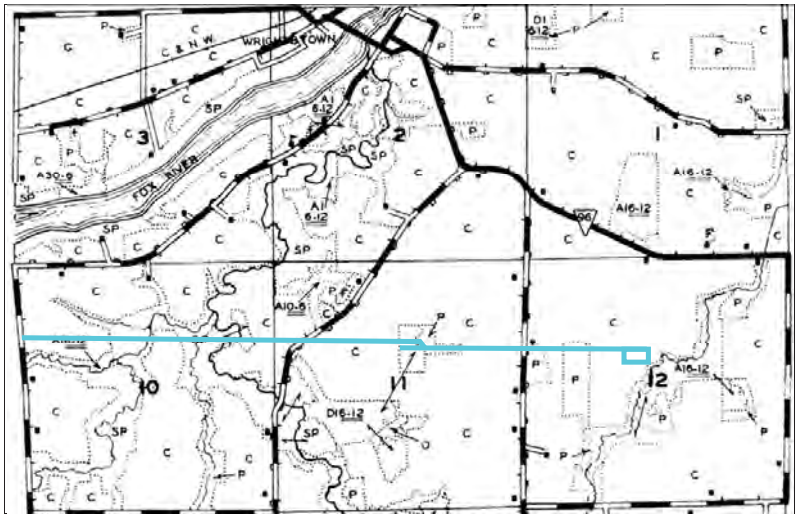
Map 3: 1835 GLO - approximate survey area (blue overlay). Source: Board of Commissioners of Public Lands.



Map 4: 1945 WLEI - west part of survey area (blue). Source: Wisconsin Land Economic Inventory.

PHASE I ARCHAEOLOGICAL SURVEY OF FOX ENERGY CENTER & PIPELINE IN BROWN AND OUTAGAMIE COUNTIES, WISCONSIN



Map 5: 1945 WLEI – center & east part of survey area (blue). Source: Wisconsin Land Economic Inventory.

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Archaeological Survey of the Fox Energy Center
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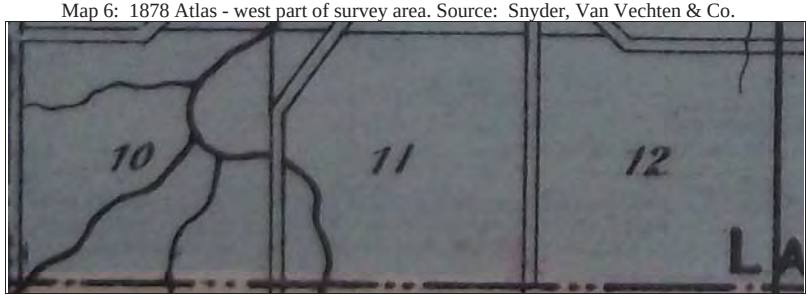
Map 6: 1878 Atlas - west part of survey area. Source: Snyder, Van Vechten & Co.



Map 7: 1878 Atlas - central & eastern parts of survey area. Source: Snyder, Van Vechten & Co.

PHASE I ARCHAEOLOGICAL SURVEY OF FOX ENERGY CENTER & PIPELINE IN BROWN AND OUTAGAMIE COUNTIES, WISCONSIN

Map 8: 1889 Atlas - northwestern part of survey area. Source: C.M.Foote & Co.

Map 9: 1889 Atlas - southwestern part of survey area. Source: C.M. Foote & Co.

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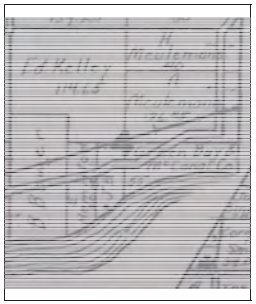
Map 10: 1889 Atlas - central & eastern part of survey area. Source: C.M. Foote & Co.



Map 11: 1915 Atlas - northwestern part of survey area. Source: W.W. Hixon & Co.

Map 12: 1915 Atlas - southwestern part of survey area. Source: W.W. Hixon & Co.

PHASE I ARCHAEOLOGICAL SURVEY OF FOX ENERGY CENTER & PIPELINE IN BROWN AND OUTAGAMIE COUNTIES, WISCONSIN

Map 13: 1915 Atlas - central & eastern part of survey area. Source: W.W. Hixon & Co.

Map 14: 1942 Atlas - western part of survey area. Source: Robert N. Connelly.

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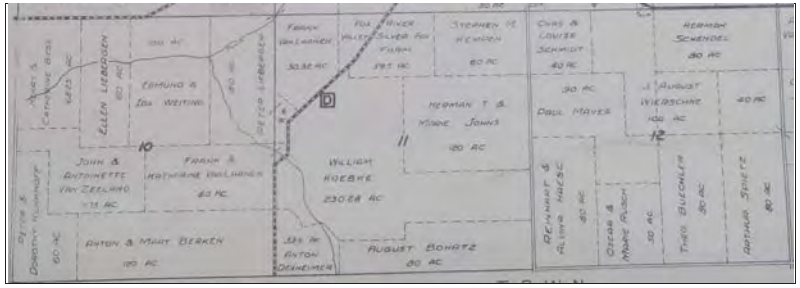

Map 15: 1936 Atlas - central & eastern part of survey area. Source: Brown County Board of Supervisors.

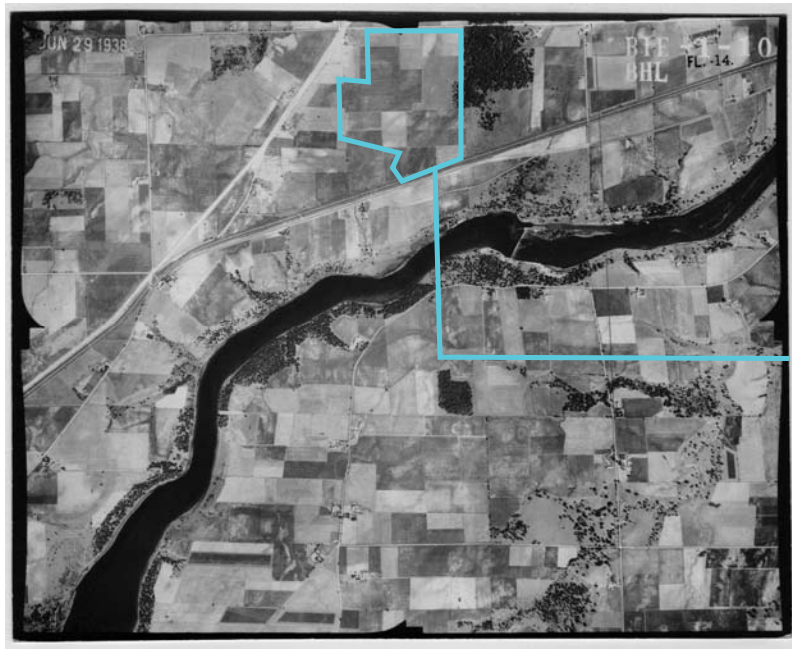

Photo 1: 1938 Aerial - western part of survey area (blue). Source: Historical Aerial Image Finders.

PHASE I ARCHAEOLOGICAL SURVEY OF FOX ENERGY CENTER & PIPELINE IN BROWN AND OUTAGAMIE COUNTIES, WISCONSIN

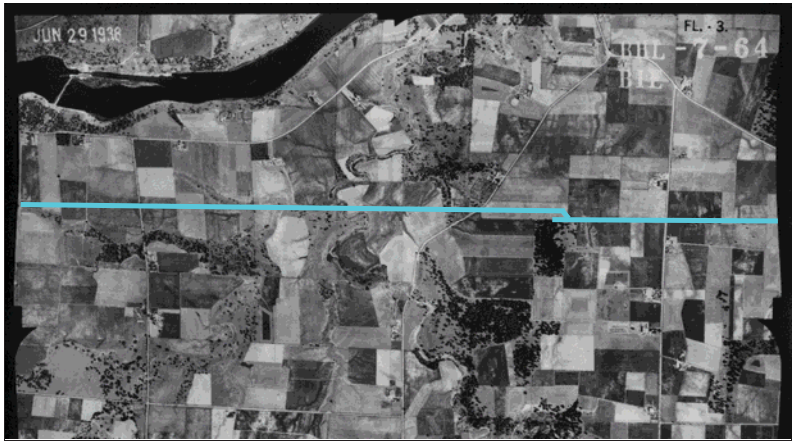

Photo 2: 1938 Aerial - central part of survey area (blue). Source: Historical Aerial Image Finders.

TRC Environmental Corporation | Wisconsin Public Service Corp.
Archaeological Survey of the Fox Energy Center
\\NTAPABROOKFIELD\MLW-VOL1\-\WPMLW\PJT2\221605\0001_FOX ENERGY CENTER\FINAL REPORT_.DOCX *Final September 2014*

Photo 3: 1938 Aerial - eastern part of survey area (blue). Source: Historical Aerial Image Finders.

APPENDIX I ER REVIEW

State of Wisconsin
Department of Natural Resources
Bureau of Natural Heritage Conservation
Endangered Resources Review Program
PO Box 7921, Madison WI 53707-7921
http://dnr.wi.gov/topic/ERReview/
DNRERReview@wisconsin.gov

ER Review Verification

Broad Incidental Take Permit/Authorization for No/Low Impact Activities

Form 1700-079 (R 12/13)

Notice: This form is authorized by s. 29.604, Wis. Stats. This completed signed form fulfills the requirement of an Endangered Resources Review and should be attached to other permits requiring an ER Review to show that Endangered Resources requirements have been met. Personal information collected on this form will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.].

Instructions: Complete this form if your project is covered under the Broad Incidental Take Permit/Authorization for No/Low Impact Activities and therefore does not require an Endangered Resources Review.

Section 1: Applicant and Project Information

Requester Name	Organization or Agency Name				
James Nuthals	Integrys Energy Services				
Project Location – Street	**Civil Township Name**	**County**	**Township**	**Range** ◉E ○W	**Section**
Proposed Fox 3 Energy Center Site	Wrightstown	Outagamie	21 N	19	4
Telephone Number	**Email Address**			**Reporting Year**	
(920) 433-1460	jdnuthals@integrysgroup.com			2014	

Project Description

The proposed project includes the construction of the 400 megawatt Fox 3 Natural Gas Energy Center to be constructed on the current Fox 1 and Fox 2 Energy Center Sites. The existing site and purchased property encompass approximately 184 acres.

Wisconsin Public Service Corporation consulted with the Wisconsin Department of Natural Resources - Bureau of Natural Heritage Conservation (WDNR NHC) on July 3, 2014. The WDNR NHC concurred that no rare species were identified during the review.

Indicate who you are completing this form as:

- ○ DNR Staff
- ◉ Certified Reviewer
- ○ Other: _____

Section 2: Broad Incidental Take Permit/Authorization Coverage Information

How is your project covered under the Broad Incidental Take Permit/Authorization for No/Low Impact Activities?

- ◉ It is included in the list of activities in Table 1 – No/Low Impact Table for All Species at All Times of the Year.
- ○ It is included in the list of activities in Table 2 – No/Low Impact Table by Taxa Group for ER Certified Reviewers and the Taxa groups for the species of concern are covered.
- ○ It is included in the list activities in the Table 2 – No/Low Impact Table by Taxa Group for ER Certified Reviewers and the species of concern are covered by the Avoidance Measures document.

Section 3: Applicant Certification

By my signature below, I certify that to the best of my knowledge, the information stated above is complete and accurate.

Signature _____ Date Signed 7-31-14 James Nuthals
Requester Name (please print)

APPENDIX J WETLAND DELINEATION REPORT

Wetland Delineation Report for
Fox Energy Center 3

Wisconsin Public Service

PSCW Docket # 6690-CE-202

August 2014

Wetland Delineation Report for Fox Energy Center 3

prepared for

Wisconsin Public Service

PSCW Docket # 6690-CE-202

August 2014

prepared by

Burns & McDonnell Engineering Company, Inc.
Kansas City, Missouri

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1.0 INTRODUCTION

Wisconsin Public Service (WPS) proposes to construct a natural gas fired electric generating facility (Project) adjacent to Fox Units 1 and 2 at the Fox Energy Center on a 184-acre parcel of WPS-owned land located in the Village of Wrightstown, Outagamie County, approximately 18 miles southwest of Green Bay (Figure A-1, Appendix A). The Project would consist of a single new nominal 400 megawatt (MW) net combined cycle electric generating unit (Fox Unit 3). The new unit would be in a "one on one" configuration consisting of one heavy frame combustion turbine generator (CTG), one heat recovery steam generator (HRSG) with supplemental duct firing, and one condensing reheat steam turbine generator. Other infrastructure would include access roads, ponds for storm water runoff and storage, and buildings that support the operation. The purpose of the Fox Unit 3 Project is to satisfy WPS's forecasted need for additional capacity to serve native retail and wholesale load. The proposed Project site was investigated by Burns & McDonnell Engineering Inc. (Burns & McDonnell). This Wetland Delineation Report was prepared by Burns & McDonnell to document the jurisdictional waters (streams, creeks, rivers, ponds, lakes, and wetlands) within the limits of the Project site.

WPS has initiated consultation with the U.S. Army Corps of Engineers (Corps), Green Bay Field Office and the State of Wisconsin Department of Natural Resources (WDNR), Office of Energy. Because of the potential for this Project to impact wetlands and watercourses, it was determined that the Project would require Wetland and Waterway Permits from the Corps and WDNR.

1.1 General Setting

The Project site occurs in the Lake Michigan Lacustrine Clay Plain region of Southeastern Wisconsin Till Plains.[1] The Southeastern Wisconsin Till Plains ecoregion has a relatively flat topography and historically supported a mosaic of vegetation types including hardwood forests, oak savannas, and tall-grass prairies. Currently, land in the Southeastern Wisconsin Till Plains is mostly used for growing corn (*Zea mays*) and soybean (*Glycine max*) crops. Soils of the Lake Michigan Lacustrine Clay Plain ecoregion are generally silty and loamy over lacustrine and calcareous loamy till deposits.

1.2 Project Site Description

Fox Unit 3 would be located on a 184-acre parcel of WPS-owned land located in the Village of Wrightstown, Outagamie County, approximately 18 miles southwest of Green Bay (Figure A-1). The

[1] Omernik, J.M., S.S. Chapman, R.A. Lillie, and R.T. Dumke. 2000. Ecoregions of Wisconsin. Transactions of the Wisconsin Acadeny of Sciences, Arts, and Letters. 88:77-103 (retrieved June13, 2014 http://www.epa.gov/wed/pages/ecoregions/wi_eco.htm#Ecoregions denote).

Project site, which is located in Section 4, Township 21 North, Range 19 East, is roughly delimited by Wrightstown Road/Golf Course Drive to the north, a private driveway to the east, a Fox Valley and Western Railroad Corridor to the south, and rural residences along East Highway 41 Frontage Road and Town Club Road to the west. The Project site can be accessed from the entrance road to the existing Fox Energy Center and from Wrightstown Road/Golf Course Drive. Latitude and longitude coordinates for the approximate center of the Project site are 44° 19' 27.28" N and 88° 12' 21.43" W.

Topography at the Project site varies from 700 feet above sea level in the southwest corner of the Project site to approximately 665 feet above sea level in the northeast corner of the Project site (Figure A-2, Appendix A). The Project site, which drains to the northeast toward Apple Creek, is located within the Apple Creek Watershed (Hydrologic Unit Code: 040302040402). The majority of the Project site consists of crop fields planted with corn, soybeans, or alfalfa (*Medicago sativa*). The approximately 35-acre, existing Fox Energy Center is located in the southern portion of the Project site. A chain-link fence separates the northern portion of the Project site from the southern portion.

2.0 WETLAND DELINEATION METHODS

A wetland delineation was conducted at the Project site to identify any potential Waters of the U.S. and the State of Wisconsin, including wetlands and streams.

2.1 Existing Data Review

Burns & McDonnell reviewed existing data prior to visiting the Project. Information was gathered and reviewed to determine if the Project site had the potential for supporting jurisdictional waters, including wetlands. The information reviewed included the U.S. Geological Survey (USGS) 7.5-minute topographic map for Wrightstown, Wisconsin; Wisconsin Wetland Inventory map data through the WDNR Surface Water Data Viewer; Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) for Outagamie County; U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Web Soil Survey for Outagamie County; and multiple years of the National Agricultural Imagery Program (NAIP) aerial photography.

2.1.1 USGS Topographic Map

The USGS 7.5-minute topographic map for Wrightstown, Wisconsin, was obtained from the USGS (http://store.usgs.gov). This map was used to identify drainages, potential intermittent and perennial streams, and topography that is conducive to wetland formation. Figure A-2 depicts the USGS 7.5-minute topographic map for the Project.

2.1.2 Wisconsin Wetland Inventory Map

The Wisconsin Wetland Inventory data was obtained through the WDNR Surface Water Data Viewer. The Surface Water Data Viewer identifies potential wetland areas according to WDNR criteria and was used as a general guide for the onsite wetland delineation (Figure A-3, Appendix A).

2.1.3 FEMA FIRM Map

The FEMA FIRM for Outagamie County (Panel No. 55087C0354D) was obtained to evaluate the potential presence of flood plains. As wetlands often develop in floodplains, knowing the location of floodplains assists in identifying areas where wetlands are likely to form. Figure A-3 includes floodplain data.

2.1.4 USDA Soil Survey

Soils information from the USDA NRCS Web Soil Survey for Outagamie County (http://websoilsurvey.nrcs.usda.gov) were reviewed. Wetlands are more likely to form in soils conducive to wetland formation. Specific information studied includes soil descriptions, hydric soil ratings,

groundwater tables, and drainage characteristics. Figure A-4 in Appendix A depicts the soils for the Project site.

2.1.5 NAIP Photography

NAIP aerial photography from 2001 through 2013 was obtained from the NRCS office in Appleton, Wisconsin, to determine historic land use patterns and evidence of wetland hydrology in cropland (e.g., flooding, saturated soils, bare ground in crop fields, changes in cultivation patterns, and crop stress) at the Project site.

2.2 Wetland Delineation

Mr. Brian Roh, a Burns & McDonnell wetland scientist, conducted a jurisdictional wetland delineation in April and June 2014 at the Project site. The jurisdictional wetland delineation following the guidelines of the 1987 *Corps of Engineers Wetlands Delineation Manual*[2] (1987 Manual) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region Version 2.0*[3] (2012 Regional Supplement).

2.2.1 Methodology

Sample plots were established in wetland and adjacent upland areas to identified wetland boundaries. At each sample plot, wetland determination data forms from the 2012 Regional Supplement were completed to characterize jurisdictional wetland areas and adjacent uplands (Appendix B). Vegetation, soil conditions, and hydrologic indicators were recorded at each of the sample plots. Plant identification, nomenclature, and wetland indicator status are based on the Corps 2014 *The National Wetland Plant List* version 3.2 (http://rsgisias.crrel.usace.army.mil/NWPL/) and Wisconsin State Herbarium (http://www.botany.wisc.edu/herbarium/). Soil samples were taken at each sample plot to an approximate depth of 20 inches using a Dutch soil auger. The soil at each sample plot was assessed for texture, saturation, redoximorphic features, inclusions and color. Color was determined by using Munsell© Soil Color Charts.[4] The locations of sample plots and the delineated extent of wetlands and streams at the Project site were recorded with a sub-meter global positioning system (GPS) unit and are included in Figure A-5, Appendix A. Natural color photographs of the sample plots were taken and are included in Appendix C.

[2] Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*, Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
[3] U. S. Army Corps of Engineers. 2012. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentrl and Northeast Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J.F. Berkowitx. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
[4] Munsell Color. 2010. Munsell Soils Color Charts, Grand Rapids, MI.

Delineated wetlands were evaluated according to WDNR Wetland Rapid Assessment Methodology (WRAM). This methodology assesses wetland condition and functional values based upon observable wetland characteristics. WRAM forms for the wetlands are provided in Appendix D.

2.2.2 Site Visits

Mr. Brian Roh, a Burns & McDonnell wetland scientist, conducted a wetland delineation at the Project site from April 16 through 18, 2014. Mr. Roh visited the Project site again on June 19, 2014.

During the April 16 through 18 wetland delineation, the minimum daily temperatures were 17° Fahrenheit (F), 24° F, and 29° F, respectively; the maximum daily temperatures were 33° F, 43° F, and 54° F, respectively (Appendix E). Although very little precipitation was recorded from April 16 to 18, the total precipitation recorded on April 13 and 14 was 1.51 and 1.61 inches, respectively. The relatively cold conditions during the site visit and the amount of precipitation the area received prior to the site visit, created relatively wet conditions, which can be seen in the site photographs as standing water in the crop fields.

During the June 19 site visit, the minimum daily temperature was 61° F; the maximum daily temperature was 74° F (Appendix E). Very little precipitation was recorded the week prior to the site visit; however, on June 17 to 19, the total precipitation recorded was 1.56 and 1.36, and 0.31 inches, respectively. The amount of precipitation the area received during the site visit created relatively wet conditions, which can be seen in the site photographs as swollen, flowing streams.

3.0 RESULTS

The following sections describe the results of the existing data review and wetland delineation for the Project site.

3.1 Existing Data Review

The following sections describe the results of the existing data review.

3.1.1 Topography

According to the USGS topographic data, one unnamed intermittent stream is located within the Project site (Figure A-2). The intermittent stream, which is a tributary to Apple Creek, flows to the northeast. The USGS topographic data indicate that the intermittent stream receives water from a pond in a sandpit quarry located to the west of the Project site. The pond, which still exists in the same location, is on an adjacent residential property along East Highway 41 Frontage Road; however, the pond is no longer connected to the intermittent stream.

3.1.2 Wisconsin Wetland Inventory Data

According to Wisconsin Wetland Inventory data, no wetlands are located within the Project site (Figure A-3). A forested (T3K/PFO1C) wetland is located on the property to the east of the Project site.

3.1.3 Floodplains

The Project site is not located in a floodplain, according to FEMA FIRM data (Figure A-3).

3.1.4 Soils

A total of seven different soil types are mapped within the Project site (Figure A-4). The seven soils within the Project site include Manawa silty clay loam (McA), Manistee fine sandy loam (MfB), Rousseau loamy fine sand (RoB), Shawano fine sand (SeC), Shiocton silt loam (ShA), and Winneconne silty clay loam (WnA and WnB). Each soil type is briefly described below. More detailed soils information for each soils type is available from the NRCS.

3.1.4.1 Manawa silty clay loam, 0 to 3 percent slopes (McA)

Manawa silty clay loam soils formed under natural vegetation of mixed hardwoods and conifers, mainly maple, oak, and white pine. They are nearly level to gently sloping, somewhat poorly drained soils in depressions and drainageways on glacial till plains. The typical water table depth for this soil is between 7 and 24 inches. The soil profile consists of silty clay loam, silty clay, and clay. According to the NRCS, this is a hydric soil that is also considered a prime farmland soil if drained. The WDNR's Surface Water

Data Viewer identified this soil as a wetland indicator because it is somewhat poorly drained, has a relatively shallow water table, and may be found within areas designated as wetlands.

3.1.4.2 Manistee fine sandy loam, 2 to 6 percent slopes (MfB)

Manistee fine sandy loam soils are well drained, gently sloping and sloping soils on lacustrine or till plains. They formed under forest vegetation of mostly northern hardwoods, typically maple, oak, hickory, and basswood. The typical water table depth for this soil is between 60 and 80 inches. The soil profile consists of fine sandy loam, loamy fine sand, sand, and clay. According to the NRCS, this soil is typically found on farmland of statewide importance.

3.1.4.3 Rousseau loamy fine sand, 2 to 6 percent slopes (RoB)

Rousseau loamy fine sand soils are well drained, gently sloping soils on sandy lacustrine and outwash plains. They formed under forest vegetation of maple, white birch, aspen and beech. The typical water table depth for this soil is between 60 and 80 inches. The soil profile consists of loamy fine sand and fine sand. According to the NRCS, this soil is not considered a prime farmland soil.

3.1.4.4 Shawano fine sand, rolling (SeC)

Shawano fine sand soils consist of excessively drained, rolling and hilly soils on sand dunes and ridges in areas of glacial outwash. The typical water table depth for this soil is between 60 and 80 inches. They formed under forests of oak, maple, white ash, basswood, white pine, and red pine. The soil profile consists of fine sand. According to the NRCS, this soil is not considered a prime farmland soil.

3.1.4.5 Shiocton silt loam, 0 to 3 percent slopes (ShA)

Shiocton silt loam soils consist of somewhat poorly drained, nearly level to gently sloping soils on lacustrine plains. They formed under forests of red maple, white ash, birch, and red oak. The typical water table depth for this soil is between 0 and 6 inches. The soil profile consists of silt loam, very fine sandy loam, coarse silt, and very fine sand. According to the NRCS, this is a hydric soil that is also considered a prime farmland soil if drained. The WDNR's Surface Water Data Viewer identified this soil as a wetland indicator because it is somewhat poorly drained, has a relatively shallow water table, and may be found within areas designated as wetlands.

3.1.4.6 Winneconne silty clay loam, 0 to 2 percent slopes (WnA)

Winneconne silty clay loam soils consist of well drained, nearly level soils on lacustrine plains that formed under prairies. The typical water table depth for this soil is between 36 and 70 inches. The soil

profile consists of silty clay loam, silty clay, and clay. According to the NRCS, this is a hydric soil that is also considered a prime farmland soil.

3.1.4.7 Winneconne silty clay loam, 2 to 6 percent slopes (WnB)

Theses Winneconne silty clay loam soils consist of well drained, gently sloping soils on lacustrine plains and may include some small areas that are severely eroded. They formed under prairies. The typical water table depth for this soil is between 60 and 80 inches. The soil profile consists of silty clay loam, silty clay, and clay. According to the NRCS, this soil is considered a prime farmland soil.

3.1.5 NAIP Photography

Multiple years of NAIP photography were used to determine if wetland hydrology was indicated in cropland (Appendix D). Archived local precipitation tables (http://www.wcc.nrcs.usda.gov/climate/wetlands.html) were consulted to determine precipitation levels during the months before the images were taken (Appendix D). Images from 2007 to 2013 are from years of average to above average precipitation, according to the USDA Field Office Climate Data. NAIP aerial photographs for 2002, 2010, and 2013 indicate that potential wetland hydrology (bare ground in crop fields and/or visible crop stress) may be affecting the crops at the Project site. Wetland delineation sample plots were taken at locations where the images indicated a potential wet signature.

3.2 Wetland Delineation

A total of five wetlands and one stream were identified within the limits of the Project site. The results of the completed wetland delineation are included in the following sections. A brief description of the various vegetative communities, soils types, hydrology, and major categories of delineated wetlands and streams is included.

3.2.1 Vegetation Communities

The Project site mostly consists of agricultural fields planted with alfalfa, corn, and soybeans. Weedy vegetation was present along the field edges and in fallow fields and included yellow bristle grass (*Setaria pumila*), Canadian goldenrod (*Solidago canadensis*), Queen Anne's-lace (*Daucus carota*), annual ragweed (*Ambrosia artemisiifolia*), velvetleaf (Abutilon theophrasti), henbit (*Lamium amplexicaule*), and cocklebur (*Xanthium strumarium*). Wetland communities within the Project site were typically dominated by common reed (*Phragmites australis*), broad-leaf cat-tail (*Typha latifolia*), black willow (*Salix nigra*), and eastern cottonwood (*Populus deltoides*).

3.2.2 Soils

Typical upland soils were very dark grayish brown (10YR 3/2) to dark yellowish brown (10YR 4/4) and brown (7.5YR 4/4) in color and ranged from silt loam to silty clay loam in texture. Wetland soils typically ranged in color from very dark brown (10YR 2/2) to dark grayish brown (10YR 4/2) with dark yellowish brown (10YR 4/4) or brown (7.5YR 4/4) redox concentrations within the soil matrix. Wetland soils typically had a silt loam or clay loam texture and were saturated.

3.2.3 Hydrology

Hydrology within the Project site has been highly altered to support agricultural practices. Natural stream courses have been altered or turned into swales to manage storm water runoff and maximize the farmable area in agricultural fields. The primary sources of hydrology in the area include precipitation, ground water, and overland flow. In areas where the ground water is near the surface or that include soils with slow infiltration or permeability rates, precipitation may cause ponding on the ground surface.

3.2.4 Delineated Wetlands

A total of 5 wetlands (15.08 acres) were delineated within the limits of the Project site. The wetlands are described below and their locations are shown on Figure A-5. Table 3-1 provides the types and size of each wetland delineated at the Project site. Sample plots were located in the wetlands and adjacent uplands. Wetland Determination Data Forms are provided in Appendix B. Photographs of the sample plots and wetlands are included in Appendix C. WDNR WRAM forms for the wetlands are provided in Appendix D.

Table 3-1: Wetlands Identified Within the Project Site

Wetland Number	Sample Plot	Wetland Classification*		Area in Project Limits (acres)
		Cowardin[a]	WWI[b]	
W-1	SP-2, SP-3, SP-24, SP-30, SP-31, SP-32	PEM	E2Hf	8.96
W-2	SP-25	PEM/PFO	E2/T3Ka	0.38
W-3	SP-12, SP-13, SP-15, SP-17	PEM	E2Kf	3.39
W-4	SP-10	PEM	E2Kf	0.24
W-5	SP-5, SP-22, SP-27, SP-28, SP-29	PEM	E2Kf	2.11
	Total Area:			**15.08**

(a) PEM = palustrine emergent and PFO = palustrine forested. Source: Based on Cowardin, L. M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. U.S. Fish and Wildlife Service, Washington, D.C.
(b) E2 = emergent/wet meadow, narrow-leaved persistent; T3 = forested, broad-leaved deciduous; H = standing water, palustrine; K = wet soil, palustrine; f = farmed; a = abandoned, historically cultivated. Source: Wisconsin Wetland Inventory Classification Guide (http://dnr.wi.gov/topic/wetlands/documents/WWI_Classification.pdf)

3.2.4.1 Wetland 1 (W-1)

W-1 is a PEM wetland that is located in the middle of the Project site (Figure A-5). W-1 contained hydric soils and hydrophytic vegetation and was inundated during the April and June site visits (Photographs C-2, C-3, C-24, C-30, and C-32, Appendix C). This wetland receives storm water runoff from the Fox Energy Center and adjacent crop fields. An intermittent tributary to Apple Creek (S-1) is located in the northern portion of this wetland. The bed and bank of S-1 begin north of a tractor crossing and north of the Fox Energy Center fence. Common reed is the dominant species found in W-1. Stands of broad-leaf cat-tail and eastern cottonwood and black willow trees and shrubs are present along a berm, which is northeast of the existing substation. The berm was constructed to direct storm water flow from the Fox Energy Center toward S-1. According to NAIP photography, the southern portion of W-1 (south of the Fox Energy Center fence) appeared after the Fox Energy Center was constructed; however, W-1 was neither purposely constructed nor encouraged to develop by WPS (Appendix E).

3.2.4.2 Wetland 2 (W-2)

W-2 is a forested wetland located between W-1, the Fox Energy Center fence, and an overhead electrical transmission line corridor (Figure A-5). According to NAIP photography, W-2 appeared after the Fox Energy Center was constructed (Appendix E). This isolated wetland depression, which was inundated during the April site visit (Photograph C-25), appears to only receive storm water runoff from the overhead electrical transmission line corridor to the south and west and crop fields to the north. W-2 contained hydric soils and hydrophytic vegetation (common reed and eastern cottonwood and ash-leaf maple trees).

3.2.4.3 Wetland 3 (W-3)

W-3 is a farmed PEM wetland located in a crop field (Figure A-5). Portions of W-3 were inundated during the April site visit (Photographs C-12, C-13, C-15, and C-17). This wetland is hydrologically connected to a roadside ditch along the south side of Wrightstown Road/Golf Course Drive and to W-1 and S-1. W-3 also contained hydric soils and hydrophytic vegetation (common reed, broad-leaf cat-tail, and spotted lady's-thumb [*Persicaria maculosa*]); however, hydrophytic vegetation was not consistently present throughout this farmed wetland. Portions of W-3 are visible on the NAIP photography (Appendix E).

3.2.4.4 Wetland 4 (W-4)

W-4, a farmed wetland in a crop field, was inundated during the April site visit (Figure A-5; Photograph C-10). This wetland is hydrologically connected to a roadside ditch along the south side of Wrightstown Road/Golf Course Drive. Except for soybeans, no other vegetation was present in this farmed wetland.

W-3, which is located west of W-4, contained hydrophytic vegetation (common reed, broad-leaf cat-tail, and spotted lady's-thumb). W-3 and W-4 have similar hydrology and soils, so it was assumed that W-4 would likely support hydrophytic vegetation if it was not regularly plowed and planted with corn and soybeans.

3.2.4.5 Wetland 5 (W-5)

W-5 is a PEM wetland located in a crop field (Figure A-5). W-5 contained hydric soils and hydrophytic vegetation, and was inundated during the April and June site visits (Photographs C-5, C-22, C-27, C-28, and C-29). Portions of W-5 are also visible on the NAIP photography (Appendix E). This wetland receives storm water runoff from adjacent crop fields and is hydrologically connected to S-1 by a roadside ditch along the adjacent landowner's private driveway and the south side of Wrightstown Road/Golf Course Drive. The dominant wetland plant species in W-5 include common reed, broad-leaf cat-tail, common spike-rush, dock-leaf smartweed (*Persicaria lapathifolia*), fox-tail barley and curly dock.

3.2.5 Delineated Streams

One stream was delineated within the limits of the Project site. The stream is described below and its location is shown on Figure A-5. Photographs of the stream are included in Appendix C. Table 3-2 provides the type and length of the stream delineated at the Project site.

Table 3-2: Streams Identified Within the Project Site

Stream Number	Stream Type	Stream Width (feet)	Length in Project Limits (feet)	Area in Project Limits (acres)
S-1	Intermittent	4-8	498	0.091
		Totals:	**498**	**0.091**

3.2.5.1 Stream 1 (S-1)

An intermittent tributary to Apple Creek, S-1 is located in the middle of the Project site (Figure A-5; Photographs C-2 and C-3). Approximately 498 feet of S-1 occur within the Project site. This stream conveys storm water runoff from the Fox Energy Center and adjacent crop fields to the northeast. S-1 is approximately 4 to 8 feet wide and begins north of a tractor crossing, north of the Fox Energy Center fence. Common Reed is present along the banks of S-1. Mallard ducks (*Anas platyrhynchos*) and great blue herons (*Ardea herodias*) were present along S-1 during the April 2014 site survey. In the crop fields adjacent to S-1, ring-billed gulls (*Larus delawarensis*) were observed during the April site survey and sandhill cranes (*Grus canadensis*) were observed during the June site survey. S-1, which flows through

part of W-1, contained flowing water during the April and June 2014 site visits. According to NAIP photography, S-1 was present before the Fox Energy Center was constructed (Appendix E).

3.3 Wetland Rapid Assessment Methodology (WRAM) Evaluation

Wetlands within the Project site were evaluated per the Wetland Rapid Assessment Methodology (WRAM). WRAM forms are provided in Appendix D. W-1 has a low-to-medium functional value for shore line protection because it is a relatively large wetland that conveys storm water runoff from the Fox Energy Center and surrounding crop fields to S-1. W-1, W-2, and W-5 have a low-to-medium functional value for water quality protection and storm and floodwater storage because they contain densely rooted emergent and woody vegetation and capture and store storm water runoff from the Fox Energy Center and surrounding crop fields. W-3 and W-4 have a low functional value because portions of these wetlands are regularly farmed. All of the wetlands at the Project site have a low human use value, low wildlife habitat value, low fish and aquatic life value, and low groundwater recharge value because they are farmed, dominated by invasive wetland species, only seasonally inundated, and located within crop fields and adjacent to the existing Fox Energy Center.

4.0 SUMMARY

WPS proposes to construct a natural gas fired electric generating facility in the Village of Wrightstown, Outagamie County. In April and June 2014, the Project site was surveyed to identify any wetlands or streams within the Project limits. Based on the field surveys, a total of 5 wetlands (15.08 acres) and 1 stream were delineated within the limits of the Project site. According to NAIP photography, the southern portion of W-1 (south of the Fox Energy Center fence) appeared after the Fox Energy Center was constructed (Appendix E). The southern portion of W-1, which is dominated by an invasive wetland plant species (common reed), developed after a berm was constructed to direct storm water flow from the Fox Energy Center toward S-1. According to the WRAM assessment, the wetlands that are within the Project site have low-to-medium functional values because they are dominated by invasive wetland plant species and occur within crop fields, along agricultural swales and along intermittent streams that have been modified to maximize the area that can be farmed (Appendix D).

APPENDIX A - FIGURES

Path: \\Espsrv\Data\Projects\WPS\76622_NatGasGenProj\GIS\DataFiles\ArcDocs\Wetlands\Report\Figure_A-1_Fox_Energy_Center_Location_v10.1.mxd t_barton 8/1/2014

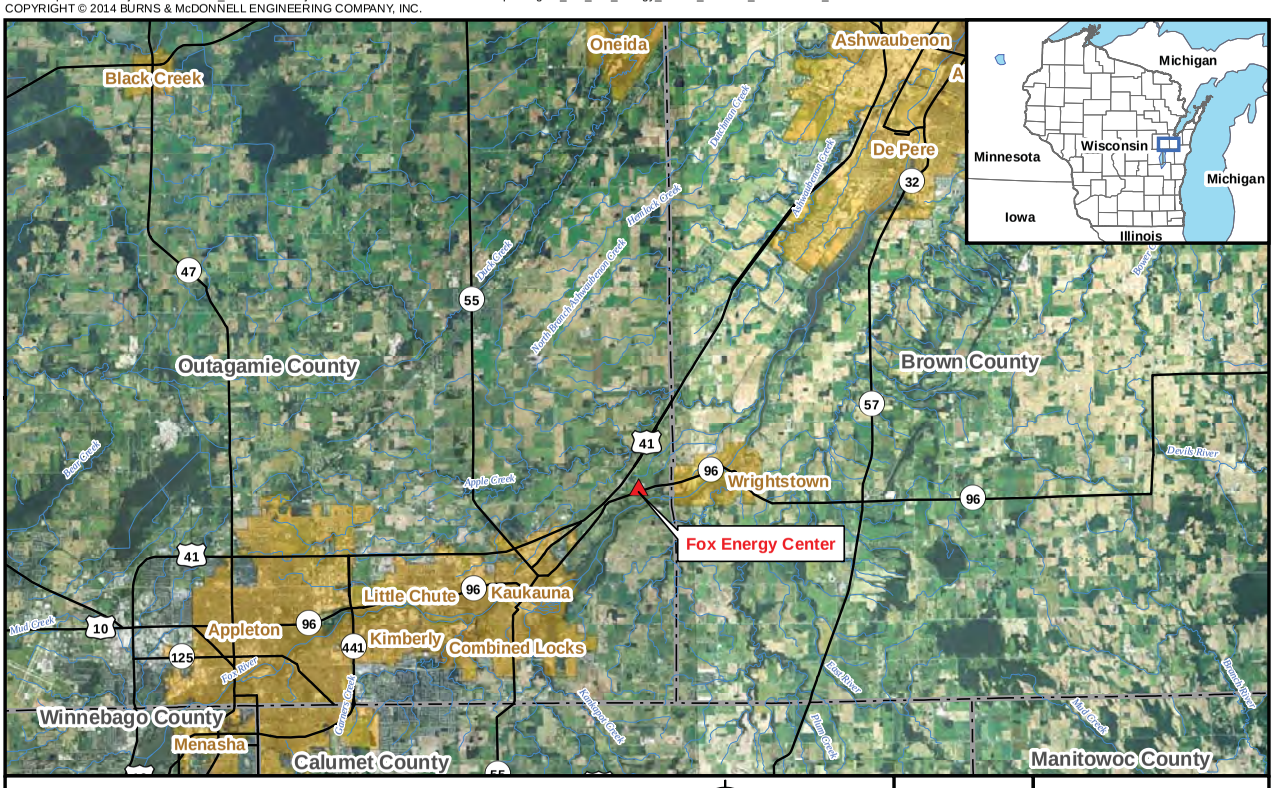

Figure A-1
Wisconsin Public Service
Fox Energy Center 3
Site Location

Source: ESRI, NAIP 2013 Aerial Photography, Burns & McDonnell

Issued: 8/1/2014

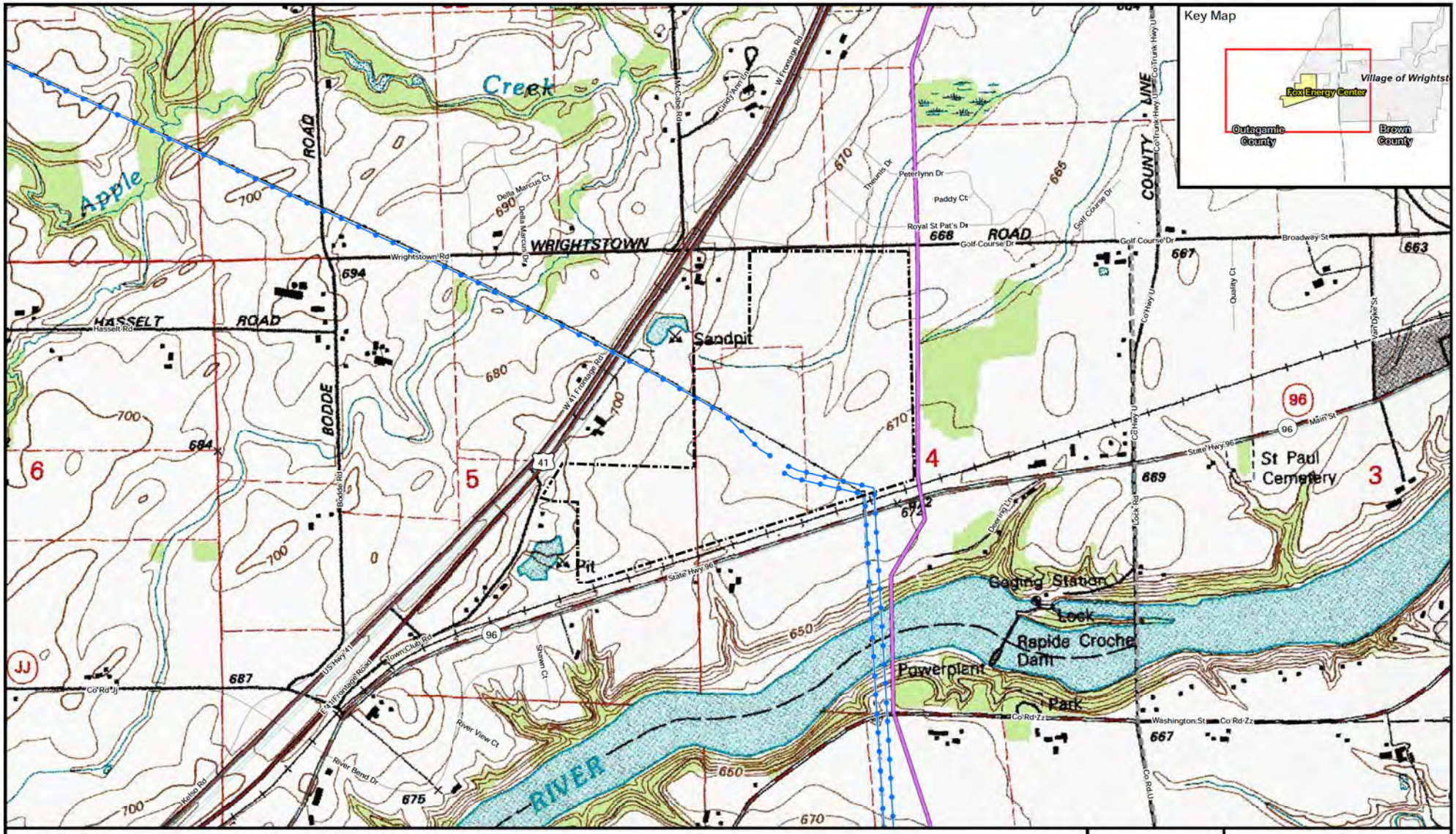

Figure A-2
Wisconsin Public Service
Fox Energy Center 3
7.5-Minute USGS
Topographic Maps

Source: USGS 7.5-Minutes Topographic Maps, USDA Data Gateway, Brown County, Outagamie County, FERC, ESRI and Burns & McDonnell Engineering.

Issued: November 19, 2014

Power Plant Site Boundary

Existing Electric Transmission

Existing Interstate Pipeline

ANR (30")

WDNR Wetland

Wetland too small to delineate

Regulatory Floodway

FEMA Floodplain with Zone (AE)

NORTH

500 250 0 500

Scale in Feet

WPS

Figure A-3
Wisconsin Public Service
Fox Energy Center 3
WDNR Mapped Wetlands
and FEMA Floodplains

Source: USDA NAIP Aerials (2013), USDA Data Gateway, Brown County, Outagamie County, FERC, FEMA, ESRI and Burns & McDonnell Engineering

Issued: November 19, 2014

Path: \\Gpsrv\Data\Projects\WPS\76822_NatGasGenProj\GIS\DataFiles\ArcDocs\Wetlands\Report\Figure_A-3_Fox_Energy_Center_WDNR_Wetland_floodplains_v10pt2.mxd

Figure A-4
Wisconsin Public Service
Fox Energy Center 3
NRCS Wisconsin
Soils

Path: \\Gpsrv\Data\Projects\WPS\76622_NatGasGenProj\GIS\DataFiles\ArcDocs\Wetlands\Report\Figure_A-4_Fox_Energy_Center_Soils_v10pt2.mxd

Source: USDA NAIP Aerials (2013), USDA Data Gateway, Brown County, Outagamie County, FERC, ESRI and Burns & McDonnell Engineering

Issued: November 19, 2014

Power Plant Site Boundary
Existing Electric Transmission
Existing Interstate Pipeline
ANR (30")
Sample Plot
Wetland Polygon
Stream
Roadside Ditch

500 250 0 500
Scale in Feet

NORTH

WPS

Figure A-5
Wisconsin Public Service
Fox Energy Center 3
Delineated Wetlands
on Aerial Photography

Source: USDA NAIP Aerials (2013), USDA Data Gateway, Brown County, Outagamie County, FERC, ESRI and Burns & McDonnell Engineering

Issued: November 19, 2014

Path: \\Gpsrv\Data\Projects\WPS\76822_NatGasGenProj\GIS\DataFiles\ArcDocs\Wetlands\Report\Figure_A-5_Fox_Energy_Center_Wetland_Aerials_v10pt2.mxd

APPENDIX B - WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 16, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-1

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.324292 Long: -88.205342 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation Yes, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 1 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-1 in Appendix C depicts the area in the vicinity of Sample Plot 1.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches):
Water Table Present?	Yes _____	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-1

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	50	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	= Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 1 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 1 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 1 would support an upland plant community.

SOIL

Sampling Point: SP-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10 YR 3/2	100					Silty Clay Loam	
14-20	7.5 YR 4/4	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 16, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-2

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): stream basin Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.324303 Long: -88.204852 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID: Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 2 is within a PEM fringe wetland along Stream 1. Photograph C-2 in Appendix C depicts Stream 1 and the area in the vicinity of Sample Plot 2.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 2
Water Table Present?	Yes X	No ___	Depth (inches): Surface
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-2

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Pharagmites australis (Common Reed)	90	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 90	x 2 = 180
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 90 (A)	180 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 2 occurs along the wetland fringe of Stream 1.

SOIL

Sampling Point: SP-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 3/1	85	7.5 YR 3/3	15	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 16, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-3

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): stream corridor Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.3243 Long: -88.204744 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

If yes, optional Wetland Site ID: Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 3 is within a PEM fringe wetland along Stream 1. Photograph C-3 in Appendix C depicts Stream 1 and the area in the vicinity of Sample Point 3.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches):

Water Table Present? Yes X No ___ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-3

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Pharagmites australis (Common Reed)	90	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	90	x 2 =	180
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	90 (A)		180 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

- [X] 1 - Rapid Test for Hydrophytic Vegetation
- [X] 2 - Dominance Test is >50%
- [ ] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 2.5/1	98	10 YR 4/6	2	C	M	Silty Clay Loam	
10-20	10 YR 4/2	85	10 YR 4/6	15	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [X] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (**LRR R, MLRA 149B**)
- [ ] Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- [ ] Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- [ ] Loamy Mucky Mineral (F1) (**LRR K, L**)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [X] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- [ ] 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- [ ] Coast Prairie Redox (A16) (**LRR K, L, R**)
- [ ] 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- [ ] Dark Surface (S7) (**LRR K, L, M**)
- [ ] Polyvalue Below Surface (S8) (**LRR K, L**)
- [ ] Thin Dark Surface (S9) (**LRR K, L**)
- [ ] Iron-Manganese Masses (F12) (**LRR K, L, R**)
- [ ] Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- [ ] Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- [ ] Red Parent Material (F21)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 16, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-4

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.324357 Long: -88.20451 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation Yes, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present? Yes ____ No X	
Wetland Hydrology Present? Yes ____ No X	If yes, optional Wetland Site ID: Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 4 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-4 in Appendix C depicts the area in the vicinity of Sample Plot 4.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes ____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches):

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: SP-4

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Zea mays (Corn)	50	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 4 is in a crop field. No other vegetation was present, except corn. Sample Plot 4 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 4 would support an upland plant community.

SOIL

Sampling Point: SP-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5 YR 2.5/3	100					Silty Clay Loam	
14-18	7.5 YR 3/1	100					Clay Loam	
18-20	7.5 YR 5/4	85	7.5 YR 4/4	15	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-5

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): Terrace Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.323801 Long: -88.202138 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** X **No**

If yes, optional Wetland Site ID: Wetland 5

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 5 is located in a PEM wetland in a crop field. Photograph C-5 in Appendix C depicts the area in the vicinity of Sample Plot 5.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 1

Water Table Present? Yes X No _____ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-5

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Pharagmites australis (Common Reed)	60	Yes	FACW
2. Eleocharis palustris (Common Spike-Rush)	20	Yes	OBL
3. Persicaria lapathifolia (Dock-Leaf Smartweed)	10	Yes	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	70	x 2 =	140
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	100 (A)		160 (B)

Prevalence Index = B/A = 1.6

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 3/1	95	7.5 YR 3/3	5	C	M	Silty Clay Loam	
16-20	7.5 YR 5/4	85	7.5 YR 4/4	15	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-6

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.32364 Long: -88.201814 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 6 is located in an upland area along the edge of a crop field. Photograph C-6 in Appendix C depicts the area in the vicinity of Sample Plot 6.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches):
Water Table Present?	Yes _____	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-6

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Setaria pumila (Yellow Bristle Grass)	40	Yes	FAC
2. Solidago canadensis (Canadian Goldenrod)	30	Yes	FACU
3. Daucus carota (Queen Anne's-Lace)	20	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species 40	x 3 =	120
FACU species 50	x 4 =	200
UPL species _____	x 5 =	_____
Column Totals: 90 (A)		320 (B)

Prevalence Index = B/A = 3.6

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5 YR 3/2	100					Silty Clay Loam	
14-18	7.5 YR 3/1	100					Clay Loam	
18-20	7.5 YR 5/4	85	7.5 YR 4/4	15	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-7

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.32581 Long: -88.202281 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation Yes, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 7 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-7 in Appendix C depicts the area in the vicinity of Sample Plot 7.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes ____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches):

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-7

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Zea mays (Corn)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 7 is in a crop field. No other vegetation was present, except corn. Sample Plot 7 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 7 would support an upland plant community.

SOIL

Sampling Point: SP-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10 YR 3/3	100					Silty Clay Loam	
14-20	10 YR 4/3	85	7.5 YR 4/4	15	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-8

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.325803 Long: -88.202767 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation Yes, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No X	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** X
Hydric Soil Present? Yes _____ No X	
Wetland Hydrology Present? Yes _____ No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 8 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-8 in Appendix C depicts the area in the vicinity of Sample Plot 8.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes _____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-8

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Zea mays (Corn)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 8 is within a corn field. No other vegetation was present, except corn. Sample Plot 8 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 8 would support an upland plant community.

SOIL

Sampling Point: SP-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10 YR 3/3	100					Silty Clay Loam	
14-20	7.5 YR 5/3	95	7.5 YR 5/6	5	C	M	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-9

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.327713 Long: -88.204763 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation Yes, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 9 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-9 in Appendix C depicts the area in the vicinity of Sample Plot 9.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes ____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches):

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-9

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Zea mays (Corn)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 9 is in a crop field. No other vegetation was present, except corn. Sample Plot 9 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 9 would support an upland plant community.

SOIL

Sampling Point: SP-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5 YR 2.5/2	100					Silt Loam	
16-20	7.5 YR 4/4	100					Silt Loam/Fine Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-10

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.32769 Long: -88.204737 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM (Farmed)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation Yes, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID: Wetland 4

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 10 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-10 in Appendix C depicts the area in the vicinity of Sample Plot 10.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ____ Depth (inches): 1

Water Table Present? Yes X No ____ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: SP-10

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 10 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 15, which is located approximately 600 feet to the southwest of Sample Plot 10, contained hydrophytic vegetation -- Phragmites australis (Common Reed - FACW) and Persicaria maculosa (Spotted Lady's-Thumb - FAC). Sample Plot 10 and Sample Plot 15 have similar hydrology and soils so it was assumed that Sample Plot 10 would likely be able to support hydrophytic vegetation if it was not regularly plowed and planted with corn and soybeans.

SOIL

Sampling Point: SP-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 2.5/2	100					Silty Clay Loam	
10-18	7.5 YR 4/3	85	7.5 YR 4/6	15	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-11

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.327839 Long: -88.205959 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation Yes, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No X

Hydric Soil Present? Yes _____ No X

Wetland Hydrology Present? Yes _____ No X

Is the Sampled Area within a Wetland? **Yes** _____ **No** X

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 11 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-11 in Appendix C depicts the area in the vicinity of Sample Plot 11.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes _____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches):

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-11

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 11 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 11 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 11 would support an upland plant community.

SOIL

Sampling Point: SP-11

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	10 YR 3/2	100					Silty Clay Loam	
15-20	7.5 YR 5/3	85	7.5 YR 4/6	15	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-12

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.327842 Long: -88.206349 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: (Farmed) PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation Yes, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID: Wetland 3

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 12 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-12 in Appendix C depicts the area in the vicinity of Sample Plot 12.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1
Water Table Present?	Yes X	No ___	Depth (inches): Surface
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): Surface

Wetland Hydrology Present? Yes X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-12

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 12 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 15, which is located approximately 400 feet to the south of Sample Plot 12, contained hydrophytic vegetation -- Phragmites australis (Common Reed - FACW) and Persicaria maculosa (Spotted Lady's-Thumb - FAC). Sample Plot 12 and Sample Plot 15 are hydrologically connected and have similar hydrology and soils so it was assumed that Sample Plot 12 would likely be able to support hydrophytic vegetation if it was not regularly plowed and planted with corn and soybeans.

SOIL

Sampling Point: SP-12

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 3/1	100					Silty Clay	
10-18	7.5 YR 5/4	85	7.5 YR 4/6	15	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-13

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.326826 Long: -88.207732 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

If yes, optional Wetland Site ID: Wetland 3

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 13 is in a PEM wetland. Photograph C-13 depicts the area in the vicinity of Sample Plot 13.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes X No ____ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-13

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	50	Yes	FACW
2. Typha latifolia (Broad-Leaf Cat-Tail)	50	Yes	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	50	x 2 =	100
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	100 (A)		150 (B)

Prevalence Index = B/A = 1.5

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-13

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 3/2	90	7.5 YR 3/4	10	C	M	Silty Clay Loam	
10-18	7.5 YR 4/3	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-14

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.32672 Long: -88.207764 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation Yes, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 14 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-14 in Appendix C depicts the area in the vicinity of Sample Plot 14.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches):
Water Table Present?	Yes _____	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-14

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 14 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 14 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 14 would support an upland plant community.

SOIL

Sampling Point: SP-14

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	7.5 YR 3/2	100					Silt Loam	
14-20	7.5 YR 4/4	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-15

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.326785 Long: -88.206723 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: (Farmed) PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** X **No**

If yes, optional Wetland Site ID: Wetland 3

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 15 is in the farmed portion of a PEM wetland. Photograph C-15 depicts the area in the vicinity of Sample Plot 15.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes X No ____ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-15

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	66	Yes	FACW
2. Persicaria maculosa (Spotted Lady's-Thumb)	33	Yes	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	99 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	66	x 2 =	132
FAC species	33	x 3 =	99
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	99 (A)		231 (B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-15

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 3/1	100					Silt Loam	
10-18	7.5 YR 4/2	85	7.5 YR 4/4	15	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
X Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
X Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-16

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.326629 Long: -88.206377 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation Yes, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 16 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-16 in Appendix C depicts the area in the vicinity of Sample Plot 16.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches):
Water Table Present?	Yes _____	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-16

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybeans)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 16 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 16 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 16 would support an upland plant community.

SOIL

Sampling Point: SP-16

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	10 YR 3/2	100					Silty Loam	
15-20	10 YR 4/3	90	10 YR 4/6	10	C	M	Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-17

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.324097 Long: -88.207225 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM (FARMED)

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation Yes, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** X **No**

If yes, optional Wetland Site ID: Wetland 3

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 17 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-17 in Appendix C depicts the area in the vicinity of Sample Plot 17.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes X No ____ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-17

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = 2.3

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

X Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 17 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 2, which is located approximately 625 feet east of Sample Plot 17, contained hydrophytic vegetation -- Phragmites australis (Common Reed - FACW). Sample Plot 2 and 17 have similar hydrology and soils so it was assumed that Sample Plot 17 would likely be able to support hydrophytic vegetation if it was not regularly plowed and planted with corn and soybeans.

SOIL

Sampling Point: SP-17

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 3/1	100					Silty Loam	
10-18	7.5 YR 4/3	85	7.5 YR 4/4	15	C	M	Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
X Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
X Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-18

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRRK Lat: 44.324232 Long: -88.207266 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation Yes, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 18 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-18 in Appendix C depicts the area in the vicinity of Sample Plot 18.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches):
Water Table Present?	Yes _____	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-18

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybeans)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 18 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 18 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 18 would support an upland plant community.

SOIL

Sampling Point: SP-18

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-15	10 YR 3/2	100					Silt Loam	
15-20	7.5 YR 4/4	100					Fine Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-19

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR or MLRA): LRR K Lat: 44.325001 Long: -88.210431 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 19 is in an upland area. Photograph C-19 in Appendix C depicts the area in the vicinity of Sample Plot 19.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes ____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

The soils in the vicinity of Sample Plot 19 were saturated during the field survey. This may be due to water seeping from an adjacent landowners pond, septic system, or a buried drainage pipe that conveys water from the adjacent land owner's property to the north and west of Sample Plot 19 to a drainage ditch at the Fox Energy Facility. The saturated soils at Sample Plot 19 did not have a hydrogen sulfide odor but did have a "barnyard" or fecal odor. A pond is located west and livestock barns and paddocks are located north of Sample Plot 19. Overflow from the pond during storm events and/or precipitation runoff from the livestock barns and paddocks may be seeping or leaking from the buried drainage pipe.

VEGETATION – Use scientific names of plants.

Sampling Point: SP-19

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	30	Yes	NI
2. Ambrosia artemisiifolia (Annual Ragweed)	30	Yes	FACU
3. Abutilon theophrasti (Velvetleaf)	25	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species 55	x 4 = 220
UPL species	x 5 =
Column Totals: 55 (A)	220 (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

Because Glycine max was planted for agricultural production and is not and indicator species, it was not included in the Dominance Test.

SOIL

Sampling Point: SP-19

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10 YR 3/2	100					Silty Loam	
14-20	7.5 YR 5/3	85	7.5 YR 5/6	15	C	M	Fine Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 17, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-20

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR or MLRA): LRR K Lat: Long: Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation Yes, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present? Yes ____ No X	
Wetland Hydrology Present? Yes ____ No X	If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)

The vegetation at Sample Plot 20 was problematic because it is located within a crop field that is regularly plowed and planted with corn and soybeans. Photograph C-20 in Appendix C depicts the area in the vicinity of Sample Plot 20.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes ____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches):

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: SP-20

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Glycine max (Soybean)	30	Yes	NI
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
	____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

Sample Plot 20 is in a crop field. No other vegetation was present, except soybeans. Sample Plot 20 would not support hydrophytic vegetation because it lacks wetland hydrology and soils. Sample Plot 20 would support an upland plant community.

SOIL

Sampling Point: SP-20

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-14	10 YR 3/2	100					Silt Loam	
14-20	7.5 YR 5/4	80	7.5 YR 5/8	10	C	M	Fine Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 18, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-21

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR or MLRA): LRR K Lat: 44.323263 Long: -88.202187 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X

Hydric Soil Present? Yes ____ No X

Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? **Yes** ____ **No** X

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 21 is in an upland area. Photograph C-21 in Appendix C depicts the area in the vicinity of Sample Plot 21.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes ____ No X Depth (inches):

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches):

Wetland Hydrology Present? **Yes** ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-21

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Medicago sativa (Alfalfa)	30	Yes	UPL
2. Trifolium repens (White Clover)	20	Yes	FACU
3. Taraxacum officinale (Common Dandelion)	10	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	60 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species 30	x 4 =	120
UPL species 30	x 5 =	150
Column Totals: 60 (A)		270 (B)

Prevalence Index = B/A = 4.5

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-21

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-13	7.5 YR 3/2	100					Silty Clay Loam	
13-20	7.5 YR 4/4	100					Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 18, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-22

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.323397 Long: -88.202613 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: Wetland 5

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 22 is located in a PEM wetland. Photograph C-22 in Appendix C depicts the area in the vicinity of Sample Plot 22.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches):

Water Table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: SP-22

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	40	Yes	FACW
2. Typha latifolia (Broad-Leaf Cat-Tail)	25	Yes	OBL
3. Persicaria lapathifolia (Dock-Leaf Smartweed)	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	75 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 25	x 1 = 25
FACW species 50	x 2 = 100
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 75 (A)	125 (B)

Prevalence Index = B/A = 1.7

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-22

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5 YR 3/1	100					Silt Loam	
8-16	7.5 YR 4/2	75	7.5 YR 5/6	25	C	M	Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 18, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-23

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): convex Slope (%): 3

Subregion (LRR or MLRA): LRR K Lat: 44.323472 Long: -88.207359 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _____ No X

Hydric Soil Present? Yes _____ No X

Wetland Hydrology Present? Yes _____ No X

Is the Sampled Area within a Wetland? Yes _____ No X

If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 23 is located in an upland area. Photograph C-23 in Appendix C depicts the area in the vicinity of Sample Plot 23.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-23

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Setaria pumila (Yellow Bristle Grass)	30	Yes	FAC
2. Solidago canadensis (Canadian Goldenrod)	25	Yes	FACU
3. Taraxacum officinale (Common Dandelion)	20	Yes	FACU
4. Daucus carota (Queen Anne's-Lace)	15	No	FACU
5. Cirsium arvense (Canadian Thistle)	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species		x 2 =	
FAC species	30	x 3 =	90
FACU species	70	x 4 =	280
UPL species		x 5 =	
Column Totals:	100 (A)		370 (B)

Prevalence Index = B/A = 3.7

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-23

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10 YR 3/2	100					Silt Loam	
18-22	7.5 YR 4/4	100					Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
__ Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
__ Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: ____

Depth (inches): ____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 18, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-24

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR or MLRA): LRR K Lat: 44.323049 Long: -88.207508 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area within a Wetland?** **Yes X No**
Hydric Soil Present?	Yes X No	
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 24 is located within a PEM wetland. Photograph C-24 in Appendix C depicts the area in the vicinity of Sample Plot 24.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes X No ____ Depth (inches): 3

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: SP-24

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	85	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 85	x 2 = 170
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 85 (A)	170 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes X No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-24

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	7.5 YR 3/1	90	7.5 YR 3/4	10	C	M	Silty Clay	
10-20	10 YR 4/4	90	7.5 YR 4/6	10	D	M	Sand	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ____

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: April 18, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-25

Investigator(s): Brian Roh Section, Township, Range: NW 1/4 of Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR or MLRA): LRRK Lat: 44.323355 Long: -88.208803 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** X **No**

If yes, optional Wetland Site ID: Wetland 2

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 25 is located in a small PFO wetland. Photograph C-25 in Appendix C depicts the area in the vicinity of Sample Plot 25.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes X No ____ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-25

Tree Stratum (Plot size: 30-foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus deltoides (Eastern Cottonwood)	50	Yes	FAC
2. Acer negundo (Ash-Leaf Maple)	10	Yes	FAC
3.			
4.			
5.			
6.			
7.			
	60	= Total Cover	

Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	20	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	20	= Total Cover	

Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	20	x 2 =	40
FAC species	60	x 3 =	180
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	80 (A)		220 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-25

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-11	7.5 YR 3/1	100					Silt Loam	
11-20	7.5 YR 4/3	90	7.5 YR 4/6	10	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: June 19, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-26

Investigator(s): Brian Roh Section, Township, Range: Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): none Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.321331 Long: -88.203545 Datum: NAD83

Soil Map Unit Name: WnA—Winneconne silty clay loam, 0 to 2 percent slopes NWI classification: Upland

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 26 is located on the Fox Energy Center property and also occurs along the proposed natural gas pipeline corridor. Photograph C-26 in Appendix C depicts the area in the vicinity of Sample Plot 26.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- __ High Water Table (A2)
- __ Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- __ Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- __ Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes _____	No X	Depth (inches):
Water Table Present?	Yes _____	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes _____	No X	Depth (inches):

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-26

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Medicago sativa (Alfalfa)	90	Yes	UPL
2. Taraxacum officinale (Common Dandelion)	10	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species _____	x 1 =	_____
FACW species _____	x 2 =	_____
FAC species _____	x 3 =	_____
FACU species 10	x 4 =	40
UPL species 90	x 5 =	450
Column Totals: 100 (A)		490 (B)

Prevalence Index = B/A = 4.9

Hydrophytic Vegetation Indicators:

- __ 1 - Rapid Test for Hydrophytic Vegetation
- __ 2 - Dominance Test is >50%
- __ 3 - Prevalence Index is ≤3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-26

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 3/3	100					Silt Loam	
10-20	7.5 YR 4/4	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- __ Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Outagamie Sampling Date: June 19, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-27

Investigator(s): Brian Roh Section, Township, Range: Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.322188 Long: -88.204084 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? **Yes** X **No**

If yes, optional Wetland Site ID: Wetland 5

Remarks: (Explain alternative procedures here or in a separate report.)

Sampling Plot 27 is located within a drainage corridor in an alfalfa field. Photograph C-27 in Appendix C depicts the area in the vicinity of Sampling Plot 27.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches):

Water Table Present? Yes X No ____ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ____ Depth (inches): Surface

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-27

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Trifolium repens (White Clover)	20	Yes	FACU
2. Hordeum jubatum (Fox-Tail Barley)	20	Yes	FAC
3. Poa pratensis (Kentucky Blue Grass)	15	Yes	FACU
4. Cyperus esculentus (Chufa)	15	Yes	FACW
5. Scirpus cyperinus (Cottongrass Bulrush)	10	No	OBL
6. Rumex crispus (Curly Dock)	5	No	FAC
7.			
8.			
9.			
10.			
11.			
12.			
	85 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	15	x 2 =	30
FAC species	25	x 3 =	75
FACU species	35	x 4 =	140
UPL species		x 5 =	
Column Totals:	85 (A)		255 (B)

Prevalence Index = B/A = 3.0

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-27

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 2/2	95	7.5 YR 3/3	5	C	M	Silt Loam	
10-16	10 YR 4/3	90	7.5 YR 4/6	10	C	M	Clay Loam	
16-20	10 YR 4/3	90	7.5 YR 4/6	10	C	M	Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: June 19, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-28

Investigator(s): Brian Roh Section, Township, Range: Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.323057 Long: -88.203123 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID: Wetland 5

Remarks: (Explain alternative procedures here or in a separate report.)

Sampling Plot 28 is located within a drainage swale in an alfalfa field. Photograph C-28 in Appendix C depicts the area in the vicinity of Sampling Plot 28.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 0.5

Water Table Present? Yes X No _____ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-28

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Eleocharis palustris (Common Spike-Rush)	40	Yes	OBL
2. Hordeum jubatum (Fox-Tail Barley)	30	Yes	FAC
3. Rumex crispus (Curly Dock)	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species 40	x 1 = 40
FACW species _____	x 2 = _____
FAC species 40	x 3 = 120
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 80 (A)	160 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-28

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 2/1	100					Silt Loam	
10-18	10 YR 4/3	90	7.5 YR 4/6	10	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: June 19, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-29

Investigator(s): Brian Roh Section, Township, Range: Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.323171 Long: -88.204253 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

If yes, optional Wetland Site ID: Wetland 5

Remarks: (Explain alternative procedures here or in a separate report.)

Sample Plot 29 is located within a drainage in an alfalfa field. Photograph C-29 in Appendix C depicts the area in the vicinity of Sample Plot 29.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- __ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes X No _____ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-29

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Cyperus esculentus (Chufa)	30	Yes	FACW
2. Trifolium repens (White Clover)	25	Yes	FACU
3. Hordeum jubatum (Fox-Tail Barley)	20	Yes	FAC
4. Poa pratensis (Kentucky Blue Grass)	10	No	FACU
5. Rumex crispus (Curly Dock)	5	No	FAC
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	30	x 2 =	60
FAC species	25	x 3 =	75
FACU species	35	x 4 =	140
UPL species		x 5 =	
Column Totals:	90 (A)		255 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-29

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 3/2	95	7.5 YR 3/4	5	C	M	Silt Loam	
8-18	10 YR 4/3	90	7.5 YR 4/6	10	C	M	Sand Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

__ Histosol (A1)
__ Histic Epipedon (A2)
__ Black Histic (A3)
X Hydrogen Sulfide (A4)
__ Stratified Layers (A5)
__ Depleted Below Dark Surface (A11)
__ Thick Dark Surface (A12)
__ Sandy Mucky Mineral (S1)
__ Sandy Gleyed Matrix (S4)
__ Sandy Redox (S5)
__ Stripped Matrix (S6)
__ Dark Surface (S7) (**LRR R, MLRA 149B**)
__ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
__ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
__ Loamy Mucky Mineral (F1) (**LRR K, L**)
__ Loamy Gleyed Matrix (F2)
__ Depleted Matrix (F3)
X Redox Dark Surface (F6)
__ Depleted Dark Surface (F7)
__ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

__ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
__ Coast Prairie Redox (A16) (**LRR K, L, R**)
__ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
__ Dark Surface (S7) (**LRR K, L, M**)
__ Polyvalue Below Surface (S8) (**LRR K, L**)
__ Thin Dark Surface (S9) (**LRR K, L**)
__ Iron-Manganese Masses (F12) (**LRR K, L, R**)
__ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
__ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
__ Red Parent Material (F21)
__ Very Shallow Dark Surface (TF12)
__ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: June 19, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-30

Investigator(s): Brian Roh Section, Township, Range: Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.323044 Long: -88.20708 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID: Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Photograph C-30 in Appendix C depicts the area in the vicinity of Sampling Plot 30.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 1

Water Table Present? Yes X No _____ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants. Sampling Point: SP-30

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: 15-foot radius)			
1. Populus deltoides (Eastern Cottonwood)	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
	5 = Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	85	Yes	FACW
2. Populus deltoides (Eastern Cottonwood)	5	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species 85	x 2 = 170
FAC species 10	x 3 = 30
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: 95 (A)	200 (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-30

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10 YR 2/1	100					Silt Loam	
6-18	10 YR 4/2	90	7.5 YR 4/4	10	C	M	Very Silty Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
- ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- ___ Dark Surface (S7) (**LRR K, L, M**)
- ___ Polyvalue Below Surface (S8) (**LRR K, L**)
- ___ Thin Dark Surface (S9) (**LRR K, L**)
- ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: June 19, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-31

Investigator(s): Brian Roh Section, Township, Range: Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.322618 Long: -88.206792 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ___ (If no, explain in Remarks.)

Are Vegetation ___, Soil ___, or Hydrology ___ significantly disturbed? Are "Normal Circumstances" present? Yes X No ___

Are Vegetation ___, Soil ___, or Hydrology ___ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No

Hydric Soil Present? Yes X No

Wetland Hydrology Present? Yes X No

Is the Sampled Area within a Wetland? Yes X No

If yes, optional Wetland Site ID: Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Photograph C-31 in Appendix C depicts the area in the vicinity of Sample Plot 31.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 0.5

Water Table Present? Yes X No ___ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-31

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 = Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	= Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species		x 1 =	
FACW species	100	x 2 =	200
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	100 (A)		200 (B)

Prevalence Index = B/A = 2.0

Hydrophytic Vegetation Indicators:

- [X] 1 - Rapid Test for Hydrophytic Vegetation
- [X] 2 - Dominance Test is >50%
- [X] 3 - Prevalence Index is ≤3.0[1]
- [ ] 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- [ ] Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: SP-31

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-8	10 YR 2/1	100					Silt Loam	
8-18	10 YR 4/3	90	10 YR 4/6	10	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- [ ] Histosol (A1)
- [ ] Histic Epipedon (A2)
- [ ] Black Histic (A3)
- [X] Hydrogen Sulfide (A4)
- [ ] Stratified Layers (A5)
- [ ] Depleted Below Dark Surface (A11)
- [ ] Thick Dark Surface (A12)
- [ ] Sandy Mucky Mineral (S1)
- [ ] Sandy Gleyed Matrix (S4)
- [ ] Sandy Redox (S5)
- [ ] Stripped Matrix (S6)
- [ ] Dark Surface (S7) (**LRR R, MLRA 149B**)
- [ ] Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- [ ] Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- [ ] Loamy Mucky Mineral (F1) (**LRR K, L**)
- [ ] Loamy Gleyed Matrix (F2)
- [ ] Depleted Matrix (F3)
- [X] Redox Dark Surface (F6)
- [ ] Depleted Dark Surface (F7)
- [ ] Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- [ ] 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- [ ] Coast Prairie Redox (A16) (**LRR K, L, R**)
- [ ] 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- [ ] Dark Surface (S7) (**LRR K, L, M**)
- [ ] Polyvalue Below Surface (S8) (**LRR K, L**)
- [ ] Thin Dark Surface (S9) (**LRR K, L**)
- [ ] Iron-Manganese Masses (F12) (**LRR K, L, R**)
- [ ] Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- [ ] Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- [ ] Red Parent Material (F21)
- [ ] Very Shallow Dark Surface (TF12)
- [ ] Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? Yes X No

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fox Energy Center - Fox Unit 3 Project Site City/County: Wrightstown/Outagamie Sampling Date: June 19, 2014

Applicant/Owner: WPSC State: WI Sampling Point: SP-32

Investigator(s): Brian Roh Section, Township, Range: Sec. 4, T 21 N; R 19 E

Landform (hillslope, terrace, etc.): plain Local relief (concave, convex, none): concave Slope (%): 1

Subregion (LRR or MLRA): LRR K Lat: 44.322016 Long: -88.207453 Datum: NAD83

Soil Map Unit Name: ShA—Shiocton silt loam, 0 to 3 percent slopes NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** Yes X No
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID: Wetland 1

Remarks: (Explain alternative procedures here or in a separate report.)

Photograph C-32 in Appendix C depicts the area in the vicinity of Sample Plot 32.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- __ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- __ Water Marks (B1)
- __ Sediment Deposits (B2)
- __ Drift Deposits (B3)
- __ Algal Mat or Crust (B4)
- __ Iron Deposits (B5)
- __ Inundation Visible on Aerial Imagery (B7)
- __ Sparsely Vegetated Concave Surface (B8)
- __ Water-Stained Leaves (B9)
- __ Aquatic Fauna (B13)
- __ Marl Deposits (B15)
- X Hydrogen Sulfide Odor (C1)
- __ Oxidized Rhizospheres on Living Roots (C3)
- __ Presence of Reduced Iron (C4)
- __ Recent Iron Reduction in Tilled Soils (C6)
- __ Thin Muck Surface (C7)
- __ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- __ Surface Soil Cracks (B6)
- __ Drainage Patterns (B10)
- __ Moss Trim Lines (B16)
- __ Dry-Season Water Table (C2)
- __ Crayfish Burrows (C8)
- __ Saturation Visible on Aerial Imagery (C9)
- __ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- __ Shallow Aquitard (D3)
- __ Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches):

Water Table Present? Yes X No _____ Depth (inches): Surface

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): Surface

Wetland Hydrology Present? Yes X No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-32

Tree Stratum (Plot size: 30-foot radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. Salix nigra (Black Willow)	20	Yes	OBL
2.			
3.			
4.			
5.			
6.			
7.			
	20	= Total Cover	

Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
		= Total Cover	

Herb Stratum (Plot size: 5-foot radius)			
1. Phragmites australis (Common Reed)	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	

Woody Vine Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
		= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	100	x 2 =	200
FAC species		x 3 =	
FACU species		x 4 =	
UPL species		x 5 =	
Column Totals:	120 (A)		220 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

- X 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- __ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- __ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes X No

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL Sampling Point: SP-32

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-10	10 YR 2/1	100					Silt Loam with some Gravel	
10-20	10 YR 4/2	90	10 YR 4/4	10	C	M	Silt Loam with some Gravel	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- __ Histosol (A1)
- __ Histic Epipedon (A2)
- __ Black Histic (A3)
- X Hydrogen Sulfide (A4)
- __ Stratified Layers (A5)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) (**LRR R, MLRA 149B**)
- __ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- __ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- __ Loamy Mucky Mineral (F1) (**LRR K, L**)
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- __ Coast Prairie Redox (A16) (**LRR K, L, R**)
- __ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- __ Dark Surface (S7) (**LRR K, L, M**)
- __ Polyvalue Below Surface (S8) (**LRR K, L**)
- __ Thin Dark Surface (S9) (**LRR K, L**)
- __ Iron-Manganese Masses (F12) (**LRR K, L, R**)
- __ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- __ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

It was assumed that the dark soil color and saturated conditions masked redox features. Therefore, a redox dark surface was assumed to be present.

APPENDIX C - SITE PHOTOGRAPHS

Photograph C-1: View of Sample Point 1 located in an upland area, looking east.

Photograph C-2: View of Sample Point 2 looking north. Sample Point 2 is located in a PEM wetland (W-1) adjacent to Stream 1.

Photograph C-3: Sample Point 3 located in a PEM wetland (W-1) adjacent to Stream 1. View is looking south.

Photograph C-4: View west of Sample Point 4 located in an upland area.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Fox Unit 3 Project Site Ground Photographs April and June 2014 Site Visit

Photograph C-5: Sample Point 5 located in a PEM wetland (W-5). View is looking southwest.

Photograph C-6: Sample Point 6 located in an upland area. View is looking west.

Photograph C-7: Sample Point 7 located in an upland area. View is looking south

Photograph C-8: Sample Point 8 located in an upland area. View is looking north.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Fox Unit 3 Project Site Ground Photographs April and June 2014 Site Visit

Photograph C-9: Sample Point 9 located in an upland area. View is looking south.

Photograph C-10: Sample Point 10 located in farmed PEM wetland (W-4) that is in the middle of a crop field. View is looking south.

Photograph C-11: Sample Point 11 located in an upland area. View is looking south.

Photograph C-12: Sample Point 12 located in a farmed PEM wetland (W-3) that is in the middle of a crop field. View is looking south.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Fox Unit 3 Project Site Ground Photographs April and June 2014 Site Visit

Photograph C-13: Sample Point 13 located in a PEM wetland (W-3). View is looking west.

Photograph C-14: Sample Point 14 located in an upland area. View is looking east.

Photograph C-15: Sample Point 15 located in a farmed PEM wetland (W-3) that is in the middle of a crop field. View is looking south.

Photograph C-16: Sample Point 16 located in an upland area. View is looking south.

Photograph C-17: Sample Point 17 located in farmed PEM wetland (W-3) that is in the middle of a crop field. View is looking east.

Photograph C-18: Sample Point 18 located in an upland area. View is looking east.

Photograph C-19: Sample Point 19 located in an upland area. View is looking east.

Photograph C-20: Sample Point 20 located in an upland area. View is looking east.

Photograph C-21: Sample Point 21 located in an upland area. View is looking west.

Photograph C-22: Sample Point 22 located in a PEM wetland (W-5). View is looking west.

Photograph C-23: Sample Point 23 located in an upland area. View is looking south.

Photograph C-24: Sample Point 24 located in a PEM wetland (W-1). View is looking south.

Photograph C-25: Sample Point 25 located in a PFO wetland (W-2). View is looking south.

Photograph C-26: Sample Point 26 located in an upland area. View is looking north.

Photograph C-27: Sample Point 27 located in a PEM wetland (W-5). View is looking southwest.

Photograph C-28: Sample Point 28 located in a PEM wetland (W-5). View is looking north.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Fox Unit 3 Project Site Ground Photographs April and June 2014 Site Visit

Photograph C-29: Sample Point 29 located in a PEM wetland (W-5). View is looking east.

Photograph C-30: Sample Point 30 located in a PEM wetland (W-1). View is looking south.

Photograph C-31: Sample Point 31 located in a PEM Wetland (W-1). View is looking east.

Photograph C-32: Sample Point 32 in a PEM/PSS wetland (W-1). View is looking north.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Fox Unit 3 Project Site Ground Photographs April and June 2014 Site Visit

APPENDIX D - WETLAND RAPID ASSESSMENT METHODOLOGY (WRAM) FORMS

Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION	
Project name: Fox Energy Center -- Fox Unit 3 Project Site Wetland 1	Evaluator(s): Brian Roh
File #:	Date of visit(s): April 16-18, 2014 and June 17-19, 2014
Location: North of Fox Energy Center and along Stream 1 PLSS: Sec. 4, T 21 N; R 19 E	Ecological Landscape: Central Lake Michigan Coastal
Lat: 44.324303 Long: -88.204852	Watershed: Apple and Ashwaubenon Creeks (LF02)
County: Outagamie Town/City/Village: Wrightstown	

SITE DESCRIPTION		
Soils: ShA-Shiocton silt loam, 0 to 3 percent slopes Mapped Type(s): Somewhat poorly drained; coarse-silty, mixed Aquic Haploborolls Field Verified: Yes	WWI Class: Unmapped	
	Wetland Type(s): Shallow Marsh PEM Wetlands	
	Wetland Size: 8.96 acres	Wetland Area Impacted 4.19 ac. Option 1; 4.28 ac. Option 2
Hydrology: Source is seasonal storm water runoff from the existing Fox Energy Center and adjacent crop fields. Indicators observed include inundation (observed April and June 2014), saturated surface soils, and a high water table at the soil surface.	Vegetation: Plant Community Description(s): Area of potential direct impact is a shallow marsh PEM wetland dominated by Common Reed (Phragmites australis) and Broad-Leaf Cat-Tail (Typha latifolia) and Farmed PEM Wetlands.	

SITE MAP

See Figure A-5 in Appendix A.

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	**Human Use Values: recreation, culture, education, science, natural scenic beauty**
1	N		Used for recreation (hunting, birding, hiking, etc.). List:
2	N		Used for educational or scientific purposes
3	N		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N		In or adjacent to RED FLAG areas List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7	N		In or adjacent to archaeological or cultural resource site
WH			**Wildlife Habitat**
1	N		Wetland and contiguous habitat >10 acres
2	N		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	Y		Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present ≥ 45 days
10	Y		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		Seasonally exposed mudflats present
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			**Fish and Aquatic Life Habitat**
1	N		Wetland is connected or contiguous with perennial stream or lake
2	Y		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y		Vegetation is inundated in spring
SP			**Shoreline Protection**
1	Y		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	Y		Densely rooted emergent or woody vegetation
ST			**Storm and Floodwater Storage**
1	Y		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y/N		Water flow through wetland is NOT channelized
3	Y		Dense, persistent vegetation
4	N		Evidence of flashy hydrology
5	Y		Point or non-point source inflow
6	Y		Impervious surfaces cover >10% of land surface within the watershed
7	Y		Within a watershed with ≤10% wetland
8	Y		Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			**Water Quality Protection**
1	Y		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland or constricted outlet
3	Y/N		Water flow through wetland is NOT channelized
4	Y		Vegetated wetland associated with a lake or stream
5	Y		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Y		Stormwater or surface water from agricultural land is major hydrology source
8	Y		Discharge to surface water
9	N		Natural land cover in 100m buffer area < 50%
GW			**Groundwater Processes**
1	N		Springs, seeps or indicators of groundwater present
2	N		Location near a groundwater divide or a headwater wetland
3	Y		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic
5	N		Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

Wetland 1 has a medium functional value for shore line protection because it is a relatively large wetland that conveys storm water runoff from the Fox Energy Center and surrounding crop fields to Stream 1. Wetland 1 has a medium functional value for water quality protection and storm and floodwater storage because they contain densely rooted emergent vegetation (Common Reed and Broad-Leaf Cat-Tail) and capture and store storm water runoff from the Fox Energy Center and surrounding crop fields. The wetlands within the footprint of the Fox Unit 3 have a low human use value, low wildlife habitat value, low fish and aquatic life value, and low groundwater recharge value because they are farmed, dominated by invasive wetland species, only seasonally inundated, and located within crop fields and adjacent to the existing Fox Energy Center.

Wildlife Habitat and Species Observation (including amphibians and reptiles)
List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
June 19		Direct observation of Red-winged Blackbird (Agelaius phoeniceus) nesting in the cattail
		marsh in the middle of Wetland 1 and adjacent to the existing substation.
June 19		Direct observation of Western Chorus Frog (Pseudacris triseriata) along the shore of the
		cattail marsh in the middle of Wetland 1 and adjacent to the existing substation.
June 19		Direct observation of Northern Leopard Frog (Rana pipiens) along the shore of the cattail
		marsh in the middle of Wetland 1 and adjacent to the existing substation.
June 19		Direct observation of Sandhill Cranes (Grus canadensis) in crop fields along Stream 1 in
		the North portion of Wetland 1. Project site likely serves as migratory stopover and foraging
		habitat.
April 17		Direct observation of Ring-billed Gull (Larus delawarensis) in crop fields along Stream 1 in
		the north portion of Wetland 1. Project site likely serves as migratory stopover and foraging
		habitat.
April 17		Direct observation of Mallard Ducks (Anas platyrhynchos) along Stream 1 in the north
		portion of Wetland 1. Stream 1 likely serves as foraging and nesting habitat.
April 17		Direct observation of Great Blue Heron (Ardea herodias) along Stream 1 in the north
		Portion of Wetland 1. Stream 1 and surrounding crop fields likely serve as foraging habitat.
		With the exception of the Red-winged Blackbird and Mallard Duck, all the other bird species
		are likely temporary visitors to Stream 1, Wetland 1, and the surrounding crop fields.

Fish and Aquatic Life Habitat and Species Observations
List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
	Yes	Although not directly observed, crayfish and aquatic insects such as dragonflies and
		damselflies would likely occur in Stream 1 and the cattail marsh in the middle of Wetland 1
		and adjacent to the existing substation. However, fish are not likely to occur within Wetland
		1 or Stream 1 because they are seasonally inundated and intermittent, respectively.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

***Note: separate plant communities are described independently**

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Wetland 1				
Phragmites australis*	Common Reed			
Populus deltoides	Eastern Cottonwood			
Typha latifolia*	Broad-Leaf Cat-Tail			
Salix nigra	Black Willow			
Lemna minor	Common Duckweed			

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Wetland 1 is dominated by Common Reed (Phragmites australis) and Broad-Leaf Cat-Tail (Typha latifolia). Both species can be invasive. Wetland 1 is located adjacent to crop fields and portions of Wetland 1 may periodically be farmed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
X			L	UC	Filling, berms (non-impounding)
X	X	X	M	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
X			M	C	Point source or stormwater discharge
					Polluted runoff
					Pond construction
X	X	X	H	C	Agriculture – row crops
X	X		H	C	Agriculture – hay
					Agriculture – pasture
X	X	X	L	UC	Roads or railroad
X	X	X	H	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
X	X		M	C	Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X			H	C	Cover of non-native and/or invasive species
					Residential land use
X	X		M	C	Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

The wetlands within the proposed Fox Unit 3 footprint are of low quality due to the adjacent crop fields, dominance of invasive species within the wetland, and the amount of adjacent development (Fox Energy Center and overhead electrical transmission line corridor).

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	X				
Human Use Values	X				
Wildlife Habitat	X				
Fish and Aquatic Life Habitat	X				
Shoreline Protection		X			
Flood and Stormwater Storage		X			
Water Quality Protection		X			
Groundwater Processes	X				

FUNCTION	RATIONALE
Floristic Integrity	Low; Wetland 1 has low species diversity and is dominated by invasive wetland species. The areas adjacent to Wetland 1 consist of crop fields, an overhead transmission line corridor, and the existing Fox Energy Center.
Human Use Values	Low; Wetland 1 is located within crop fields. A portion of Wetland 1 is within the fenced property of the existing Fox Energy Center.
Wildlife Habitat	Low; Wetland 1 is located in crop fields and are adjacent to the existing Fox Energy Center. Portions of Wetland 1 provide nesting habitat for Red-winged Blackbirds and Mallard Ducks; all other bird species are expected to be temporary visitors.
Fish and Aquatic Life Habitat	Low; Western Chorus Frogs and Leopard Frogs observed. Crayfish and aquatic insects such as dragonflies and damselflies likely occur in Stream 1 and the cattail marsh in the middle of Wetland 1. However, fish are not likely to occur within Wetland 1 or Stream 1 because they are seasonally inundated and intermittent.
Shoreline Protection	Medium; Wetland 1 contains densely rooted emergent vegetation, is located along Stream 1, and conveys storm water runoff from the Fox Energy Center to Stream 1. Wetlands 1 also intercepts storm water runoff and sediment from the surrounding crop fields before it reaches Stream 1.
Flood and Stormwater Storage	Medium; Wetland 1 is a seasonally inundated wetland with persistent wetland plant species that is capable of storing storm water runoff from the Fox Energy Center and surrounding crop fields. Captured storm water runoff in Wetland 1 is conveyed to Stream 1.
Water Quality Protection	Medium; Wetland 1 is a seasonally inundated wetland with persistent wetland plant species that is capable of storing storm water runoff from the Fox Energy Center and surrounding crop fields. Captured storm water runoff in Wetland 1 is conveyed to Stream 1.
Groundwater Processes	Low; Wetland 1 may remain saturated for an extended time period with no additional water inputs but its primary function appears to be storm water runoff storage.

Section 4: Project Impact Assessment

Brief Project Description

WPSC proposes to construct a natural gas fired electric generating facility in the Village of Wrightstown, Outagamie County.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	A portion of Wetland 1will be filled to construct the new facility. The proposed layout will maintain flow through Wetland 1 and Stream 1.	Medium; the flow through Wetland 1 and along Stream 1 will be maintained.
Secondary Impacts (including impacts which are indirectly attributable to the project)	Portions of Wetland 1 will be temporarily disturbed during construction.	Low; disturbance that will result from construction will be temporary and localized. Appropriate Best Management Practices will be implemented to minimize construction related impacts. Temporarily impacted areas will be restored and re-vegetated.
Cumulative Impacts	None Anticipated.	
Spatial/Habitat Integrity	The size of Wetland 1 will be reduced.	Low; other emergent wetlands occur in the area.
Rare Plant/Animal Communities/ Natural Areas	None located within Wetland 1.	

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WETLAND IDENTIFICATION		
Project name: Fox Energy Center -- Fox Unit 3 Project Site Wetland 2	Evaluator(s): Brian Roh	
File #:	Date of visit(s): April 16-18, 2014 and June 19, 2014	
Location: North of Fox Energy Center PLSS: NW 1/4 Sec. 4, T 21 N; R 19 E	Ecological Landscape: Central Lake Michigan Coastal	
Lat: 44.323355 Long: -88.208803 County: Outagamie Town/City/Village: Wrightstown	Watershed: Apple and Ashwaubenon Creeks (LF02)	
SITE DESCRIPTION		
Soils: ShA-Shiocton silt loam, 0 to 3 percent slopes Mapped Type(s): Somewhat poorly drained; coarse-silty, mixed Aquic Haploborolls Field Verified: Yes	WWI Class: Unmapped	
	Wetland Type(s): Mixed PEM/PFO Wetland	
	Wetland Size: 0.37 acres	Wetland Area Impacted 0.07 ac. Option 1; none Option 2
Hydrology: Source is seasonal storm water runoff from the existing Fox Energy Center and adjacent crop fields. Indicators observed include inundation (observed April and June 2014), saturated surface soils, and a high water table at the soil surface.	Vegetation: Plant Community Description(s): Area of potential direct impact is a mixed PEM/PFO wetland dominated by eastern cottonwood (Populus deltoides), ash-leaf maple (Acer negundo), and common reed (Phragmites australis).	

SITE MAP

See Figure A-5 in Appendix A.

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	**Human Use Values: recreation, culture, education, science, natural scenic beauty**
1	N		Used for recreation (hunting, birding, hiking, etc.). List:
2	N		Used for educational or scientific purposes
3	N		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N		In or adjacent to RED FLAG areas List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7	N		In or adjacent to archaeological or cultural resource site
WH			**Wildlife Habitat**
1	N		Wetland and contiguous habitat >10 acres
2	N		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	Y		Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present ≥ 45 days
10	Y/N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		Seasonally exposed mudflats present
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			**Fish and Aquatic Life Habitat**
1	N		Wetland is connected or contiguous with perennial stream or lake
2	Y/N		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y		Vegetation is inundated in spring
SP			**Shoreline Protection**
1	N		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	Y		Densely rooted emergent or woody vegetation
ST			**Storm and Floodwater Storage**
1	N		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y		Water flow through wetland is NOT channelized
3	Y		Dense, persistent vegetation
4	N		Evidence of flashy hydrology
5	Y		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	Y		Within a watershed with ≤10% wetland
8	Y		Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			**Water Quality Protection**
1	Y		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland or constricted outlet
3	Y		Water flow through wetland is NOT channelized
4	N		Vegetated wetland associated with a lake or stream
5	Y		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Y		Stormwater or surface water from agricultural land is major hydrology source
8	N		Discharge to surface water
9	N		Natural land cover in 100m buffer area < 50%
GW			**Groundwater Processes**
1	N		Springs, seeps or indicators of groundwater present
2	N		Location near a groundwater divide or a headwater wetland
3	Y		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic
5	N		Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

Wetland 2 has a low human use value, low wildlife habitat value, low fish and aquatic life value, and low groundwater
recharge value because it is dominated by invasive wetland species, only seasonally inundated, and located adjacent
to crop fields, an existing transmission line corridor, and the existing Fox Energy Center.

Wildlife Habitat and Species Observation (including amphibians and reptiles)
List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
April & June	Minimal	No wildlife species were observed within Wetland 2. Minimal habitat for wildlife occurs
		within Wetland 2 because it is only seasonally inundated and located adjacent to crop
		fields, an existing transmission line corridor, and the Fox Energy Center.

Fish and Aquatic Life Habitat and Species Observations
List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
April & June	Minimal	No wildlife species were observed within Wetland 2. Minimal habitat for wildlife occurs
		within Wetland 2 because it is only seasonally inundated and located adjacent to crop
		fields, an existing transmission line corridor, and the Fox Energy Center.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

***Note: separate plant communities are described independently**

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Wetland 2				
Populus deltoides*	Eastern Cottonwood			
Acer negundo*	Ash-Leaf Maple			
Phragmites australis*	Common Reed			

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Wetland 2 contains common reed (Phragmites australis), which can be invasive. Portions of Wetland 2 are located
within a transmission line corridor.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
	X		L	UC	Filling, berms (non-impounding)
	X		M	C	Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
	X		M	C	Point source or stormwater discharge
					Polluted runoff
					Pond construction
		X	H	C	Agriculture – row crops
X	X	X	H	C	Agriculture – hay
					Agriculture – pasture
X	X		L	UC	Roads or railroad
X	X		H	C	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		H	C	Cover of non-native and/or invasive species
					Residential land use
X	X		M	C	Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Wetland 2 is of low quality due to the adjacent crop fields, dominance of invasive species within the wetland, and the amount of adjacent development (Fox Energy Center and overhead electrical transmission line corridor).

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	X				
Human Use Values	X				
Wildlife Habitat	X				
Fish and Aquatic Life Habitat	X				
Shoreline Protection	X				
Flood and Stormwater Storage	X				
Water Quality Protection	X				
Groundwater Processes	X				

FUNCTION	RATIONALE
Floristic Integrity	Low; Wetland 2 has low species diversity and is dominated by invasive wetland species. Portions of Wetland 2 are located within an overhead transmission line corridor.
Human Use Values	Low; Wetland 2 is located adjacent to crop fields and the existing Fox Energy Center. Wetland 2 occurs within the fenced Fox Energy Center and is not accessible by the public.
Wildlife Habitat	Low; Wetland 2 is located in a previously disturbed area adjacent to crop fields and the existing Fox Energy Center. Portions of Wetland 2 are within an overhead transmission line corridor.
Fish and Aquatic Life Habitat	Low; Wetland 2 appears to only be seasonally inundated.
Shoreline Protection	Low; Wetland 2 is not directly connected to Stream 1.
Flood and Stormwater Storage	Low; Wetland 2 is a seasonally inundated wetland with persistent wetland plant species that are capable of storing storm water runoff from the Fox Energy Center and surrounding crop fields.
Water Quality Protection	Low; Wetland 2 is a seasonally inundated wetland with persistent wetland plant species that are capable of storing storm water runoff from the Fox Energy Center and surrounding crop fields.
Groundwater Processes	Low; Wetland 2 is a seasonally inundated wetland.

Section 4: Project Impact Assessment

Brief Project Description

WPSC proposes to construct a natural gas fired electric generating facility in the Village of Wrightstown, Outagamie County. To serve the new facility, WPSC proposes to construct an approximately 4-mile-long natural gas supply pipeline between the new facility in Outagamie County and a Guardian II natural gas pipeline in Brown County.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	A portion of Wetland 2 may be temporarily filled for a temporary construction access road. Areas disturbed during construction would be restored.	Low; the temporary impact would be approximately 0.01 acre.
Secondary Impacts (including impacts which are indirectly attributable to the project)	Wetland 2 is located adjacent to crop fields, an existing overhead transmission line, and the existing Fox Energy Center.	Low; Appropriate Best Management Practices will be implemented to minimize construction related impacts.
Cumulative Impacts	None Anticipated.	
Spatial/Habitat Integrity	None Anticipated.	
Rare Plant/Animal Communities/ Natural Areas	None located within Wetland 2.	

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WETLAND IDENTIFICATION	
Project name: Fox Energy Center -- Fox Unit 3 Project Site Wetlands 3	Evaluator(s): Brian Roh
File #:	Date of visit(s): April 16-18, 2014 and June 19, 2014
Location: North of Fox Energy Center, West of Stream 1 PLSS: NW 1/4 of Sec. 4, T 21 N; R 19 E	Ecological Landscape: Central Lake Michigan Coastal
Lat: 44.326785 Long: -88.206723 County: Outagamie Town/City/Village: Wrightstown	Watershed: Apple and Ashwaubenon Creeks (LF02)
SITE DESCRIPTION	
Soils: ShA-Shiocton silt loam, 0 to 3 percent slopes Mapped Type(s): Somewhat poorly drained; coarse-silty, mixed Aquic Haploborolls Field Verified: Yes	WWI Class: Unmapped
	Wetland Type(s): Shallow Marsh and Farmed PEM Wetlands
	Wetland Size: 3.38 acres Wetland Area Impacted 0.78 ac. Option 1; 0.16 ac. Option 2
Hydrology: Source is seasonal storm water runoff from the existing Fox Energy Center and adjacent crop fields. Indicators observed include inundation (observed April and June 2014), saturated surface soils, and a high water table at the soil surface.	Vegetation: Plant Community Description(s): Area of potential direct impacts consists of farmed and shallow marsh PEM wetlands dominated by common reed (Phragmites australis) spotted lady's thumb (Persicaria maculosa) and broad-leaf cat-tail (Typha latifolia).

SITE MAP

See Figure A-5 in Appendix A.

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	**Human Use Values: recreation, culture, education, science, natural scenic beauty**
1	N		Used for recreation (hunting, birding, hiking, etc.). List:
2	N		Used for educational or scientific purposes
3	N		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N		In or adjacent to RED FLAG areas List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7	N		In or adjacent to archaeological or cultural resource site
WH			**Wildlife Habitat**
1	N		Wetland and contiguous habitat >10 acres
2	N		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	Y		Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present ≥ 45 days
10	Y/N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		Seasonally exposed mudflats present
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			**Fish and Aquatic Life Habitat**
1	N		Wetland is connected or contiguous with perennial stream or lake
2	Y/N		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y		Vegetation is inundated in spring
SP			**Shoreline Protection**
1	N		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	Y		Densely rooted emergent or woody vegetation
ST			**Storm and Floodwater Storage**
1	Y		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y/N		Water flow through wetland is NOT channelized
3	Y/N		Dense, persistent vegetation
4	N		Evidence of flashy hydrology
5	Y		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	Y		Within a watershed with ≤10% wetland
8	Y		Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			**Water Quality Protection**
1	Y		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland or constricted outlet
3	Y/N		Water flow through wetland is NOT channelized
4	N		Vegetated wetland associated with a lake or stream
5	Y/N		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Y		Stormwater or surface water from agricultural land is major hydrology source
8	Y		Discharge to surface water
9	N		Natural land cover in 100m buffer area < 50%
GW			**Groundwater Processes**
1	N		Springs, seeps or indicators of groundwater present
2	N		Location near a groundwater divide or a headwater wetland
3	Y		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic
5	N		Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

Wetland 3 has a low human use value, low wildlife habitat value, low fish and aquatic life value, and low groundwater
recharge value because most of Wetland 3 is farmed, dominated by invasive wetland species, only seasonally
inundated, and located within crop fields and adjacent to the existing Fox Energy Center.

Wildlife Habitat and Species Observation (including amphibians and reptiles)
List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	**Potential**	**Species/Habitat/Comments**
April & June	Minimal	No wildlife species were observed within Wetland 3. Minimal habitat for wildlife occurs within
		Wetland 3 because portions of this wetland are regularly farmed.

Fish and Aquatic Life Habitat and Species Observations
List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	**Potential**	**Species/Habitat**
April & June	Minimal	Although not directly observed, aquatic insects such as dragonflies and damselflies could
		occur in portions of Wetland 3 when seasonally inundated.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

***Note: separate plant communities are described independently**

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Wetland 3				
Phragmites australis*	Common Reed			
Typha latifolia*	Broad-Leaf Cat-Tail			
Persicaria maculosa*	Spotted Lady's-Thumb			

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Wetland 3 is dominated by Common Reed (Phragmites australis) and Broad-Leaf Cat-Tail (Typha latifolia). Both species can be invasive. Portions of Wetland 3 are farmed and lacked wetland vegetation.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
	X		M	C	Point source or stormwater discharge
					Polluted runoff
					Pond construction
X	X	X	H	C	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X	X	L	C	Roads or railroad
	X	X	L	UC	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		M	C	Cover of non-native and/or invasive species
					Residential land use
	X		L	C	Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Wetland 3 is of low quality due to it being regularly farmed and its proximity to adjacent crop fields, dominance of invasive species within the wetland, and the amount of adjacent development (neighboring farm to the west and Fox Energy Center to the south).

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	X				
Human Use Values	X				
Wildlife Habitat	X				
Fish and Aquatic Life Habitat	X				
Shoreline Protection	X				
Flood and Stormwater Storage	X				
Water Quality Protection	X				
Groundwater Processes	X				

FUNCTION	RATIONALE
Floristic Integrity	Low; Wetland 3 has low species diversity and is dominated by invasive wetland species. Portions of Wetland 3 are farmed and lacked wetland species.
Human Use Values	Low; Wetland 3 is located within crop fields and adjacent to the existing Fox Energy Center.
Wildlife Habitat	Low; Wetland 3 is located in crop fields and adjacent to the existing Fox Energy Center. Portions of Wetland 3 are regularly farmed.
Fish and Aquatic Life Habitat	Low; Although not directly observed, aquatic insects such as dragonflies and damselflies could occur in Wetland 3 when seasonally inundated.
Shoreline Protection	Low; Wetland 3 is not directly connected to Stream 1.
Flood and Stormwater Storage	Low; Wetland 3 is a seasonally inundated wetland capable of storing storm water runoff from surrounding crop fields. Captured storm water runoff in Wetland 3 is eventually conveyed to Stream 1 by way of a ditch along Wrightstown Road.
Water Quality Protection	Low; Wetland 3 is a seasonally inundated wetland capable of storing storm water runoff from surrounding crop fields. Captured storm water runoff in Wetland 3 is eventually conveyed to Stream 1 by way of a ditch along Wrightstown Road.
Groundwater Processes	Low; Wetland 3 is a seasonally inundated wetland.

Section 4: Project Impact Assessment

Brief Project Description

WPSC proposes to construct a natural gas fired electric generating facility in the Village of Wrightstown, Outagamie County.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	A portion of Wetland 3 may be filled to construct the new facility and an earthen berm. Flow through Wetland 3 would be maintained by culverts.	Medium; the flow through Wetland 3 will be maintained.
Secondary Impacts (including impacts which are indirectly attributable to the project)	Portions of Wetland 3 will be temporarily disturbed during construction.	Low; disturbance that will result from construction will be temporary and localized. Appropriate Best Management Practices will be implemented to minimize construction related impacts.
Cumulative Impacts	None Anticipated.	
Spatial/Habitat Integrity	The size of Wetland 3 will be reduced.	Low; other emergent wetlands occur in the area.
Rare Plant/Animal Communities/ Natural Areas	None located within Wetland 3	

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WETLAND IDENTIFICATION	
Project name: Fox Energy Center -- Fox Unit 3 Project Site Wetland 4	Evaluator(s): Brian Roh
File #:	Date of visit(s): April 16-18, 2014 and June 19, 2014
Location: North of Fox Energy Center, West of Stream 1 PLSS: NW 1/4 of Sec. 4, T 21 N; R 19 E	Ecological Landscape: Central Lake Michigan Coastal
Lat: 44.32769 Long: -88.204737 County: Outagamie Town/City/Village: Wrightstown	Watershed: Apple and Ashwaubenon Creeks (LF02)
SITE DESCRIPTION	
Soils: ShA-Shiocton silt loam, 0 to 3 percent slopes Mapped Type(s): Somewhat poorly drained; coarse-silty, mixed Aquic Haploborolls Field Verified: Yes	WWI Class: Unmapped
	Wetland Type(s): Farmed PEM Wetland
	Wetland Size: 0.24 acres / Wetland Area Impacted 0.12 ac. Option 1; 0.12 ac. Option 2
Hydrology: Source is seasonal storm water runoff from adjacent crop fields. Indicators observed include inundation (observed April 2014), saturated surface soils, and a high water table at the soil surface.	Vegetation: Plant Community Description(s): Area of potential direct impact is a farmed wetland.

SITE MAP

See Figure A-5 in Appendix A.

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	**Human Use Values: recreation, culture, education, science, natural scenic beauty**
1	N		Used for recreation (hunting, birding, hiking, etc.). List:
2	N		Used for educational or scientific purposes
3	N		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N		In or adjacent to RED FLAG areas List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7	N		In or adjacent to archaeological or cultural resource site
WH			**Wildlife Habitat**
1	N		Wetland and contiguous habitat >10 acres
2	N		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	Y		Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present ≥ 45 days
10	N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		Seasonally exposed mudflats present
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			**Fish and Aquatic Life Habitat**
1	N		Wetland is connected or contiguous with perennial stream or lake
2	N		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	N		Vegetation is inundated in spring
SP			**Shoreline Protection**
1	N		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	N		Densely rooted emergent or woody vegetation
ST			**Storm and Floodwater Storage**
1	Y		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y		Water flow through wetland is NOT channelized
3	N		Dense, persistent vegetation
4	N		Evidence of flashy hydrology
5	Y		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	Y		Within a watershed with ≤10% wetland
8	Y		Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			**Water Quality Protection**
1	Y		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland or constricted outlet
3	Y		Water flow through wetland is NOT channelized
4	N		Vegetated wetland associated with a lake or stream
5	N		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	N		Stormwater or surface water from agricultural land is major hydrology source
8	N		Discharge to surface water
9	N		Natural land cover in 100m buffer area < 50%
GW			**Groundwater Processes**
1	N		Springs, seeps or indicators of groundwater present
2	N		Location near a groundwater divide or a headwater wetland
3	Y		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic
5	N		Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

Wetland 4 has a low human use value, low wildlife habitat value, low fish and aquatic life value, and low groundwater
recharge value because it is farmed, only seasonally inundated, and located within crop fields adjacent to the existing
Fox Energy Center.

Wildlife Habitat and Species Observation (including amphibians and reptiles)
List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
April & June	None	No wildlife species or wildlife habitat observed within Wetland 4.

Fish and Aquatic Life Habitat and Species Observations
List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
April & June	None	Aquatic species are not likely to occur within Wetland 4 because it is a farmed wetland and
		appears to only be seasonally inundated.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

***Note: separate plant communities are described independently**

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Wetland 4 is a Farmed PEM Wetland - No Wetland Vegetation Present				

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Wetland 4 lacked any wetland vegetation because it is regularly farmed.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
X	X	X	H	C	Agriculture – row crops
					Agriculture – hay
					Agriculture – pasture
	X	X	L	C	Roads or railroad
	X	X	L	UC	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
	X		M	C	Cover of non-native and/or invasive species
					Residential land use
	X		L	C	Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Wetland 4 is of low quality due to it being regularly farmed and its proximity to adjacent crop fields and a public road corridor.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	X				
Human Use Values	X				
Wildlife Habitat	X				
Fish and Aquatic Life Habitat	X				
Shoreline Protection	X				
Flood and Stormwater Storage	X				
Water Quality Protection	X				
Groundwater Processes	X				

FUNCTION	RATIONALE
Floristic Integrity	Low; Wetland 4 is a farmed wetland that lacked wetland species.
Human Use Values	Low; Wetland 4 is located within crop fields and adjacent to the existing Fox Energy Center.
Wildlife Habitat	Low; Wetland 4 is located in crop fields and are adjacent to the existing Fox Energy Center.
Fish and Aquatic Life Habitat	Low; Wetland 4 is regularly farmed and only seasonally inundated.
Shoreline Protection	Low; Wetland 4 is not directly connected to Stream 1.
Flood and Stormwater Storage	Low; Wetland 4 is a seasonally inundated wetland capable of storing storm water runoff from surrounding crop fields. Captured storm water runoff in Wetland 4 is eventually conveyed to Stream 1 by way of a ditch along Wrightstown Road/Golf Course Drive.
Water Quality Protection	Low; Wetland 4 is a seasonally inundated wetland capable of storing storm water runoff from surrounding crop fields. Captured storm water runoff in Wetland 4 is eventually conveyed to Stream 1 by way of a ditch along Wrightstown Road/Golf Course Drive.
Groundwater Processes	Low; Wetland 4 is a seasonally inundated wetland.

Section 4: Project Impact Assessment

Brief Project Description

WPSC proposes to construct a natural gas fired electric generating facility in the Village of Wrightstown, Outagamie County.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	A portion of Wetland 4 will be filled to construct a berm for the new facility. The berm will include culverts to maintain flow through Wetland 4.	Low; the flow through Wetland 4 will be maintained.
Secondary Impacts (including impacts which are indirectly attributable to the project)	Portions of Wetland 4 may be temporarily disturbed during construction.	Low; disturbance that will result from construction will be temporary and localized. Appropriate Best Management Practices will be implemented to minimize construction related impacts.
Cumulative Impacts	None Anticipated.	
Spatial/Habitat Integrity	The size of Wetland 4 will be reduced.	Low; other emergent wetlands occur in the area.
Rare Plant/Animal Communities/ Natural Areas	None located within Wetland 4	

Wisconsin Department of Natural Resources
Wetland Rapid Assessment Methodology – version 2.0

WETLAND IDENTIFICATION	
Project name: Fox Energy Center -- Fox Unit 3 Project Site Wetland 5	Evaluator(s): Brian Roh
File #:	Date of visit(s): April 16-18, 2014 and June 19, 2014
Location: North of Fox Energy Center, West of Stream 1 PLSS: NW 1/4 of Sec. 4, T 21 N; R 19 E	Ecological Landscape: Central Lake Michigan Coastal
Lat: 44.323397 Long: -88.202613 County: Outagamie Town/City/Village: Wrightstown	Watershed: Apple and Ashwaubenon Creeks (LF02)
SITE DESCRIPTION	
Soils: ShA-Shiocton silt loam, 0 to 3 percent slopes Mapped Type(s): Somewhat poorly drained; coarse-silty, mixed Aquic Haploborolls Field Verified: Yes	WWI Class: Unmapped
	Wetland Type(s): Shallow Marsh and Farmed PEM Wetlands
	Wetland Size: 2.11 acres / Wetland Area Impacted 0.0 ac. Option 1; 0.85 ac. Option 2
Hydrology: Source is seasonal storm water runoff from the existing Fox Energy Center and adjacent crop fields. Indicators observed include inundation (observed April and June 2014), saturated surface soils, and a high water table at the soil surface.	Vegetation: Plant Community Description(s): Area of potential direct impacts consists of farmed and shallow marsh PEM wetlands dominated by common reed (Phragmites australis) broad-leaf cat-tail (Typha latifolia) and Dock-leaf smartweed (Persicaria lapathifolia)

SITE MAP

See Figure A-5 in Appendix A.

SECTION 1: Functional Value Assessment

HU	Y/N	Potential	**Human Use Values: recreation, culture, education, science, natural scenic beauty**
1	N		Used for recreation (hunting, birding, hiking, etc.). List:
2	N		Used for educational or scientific purposes
3	N		Visually or physically accessible to public
4	N		Aesthetically pleasing due to diversity of habitat types, lack of pollution or degradation
5	N		In or adjacent to RED FLAG areas List:
6	N		Supports or provides habitat for endangered, threatened or special concern species
7	N		In or adjacent to archaeological or cultural resource site
WH			**Wildlife Habitat**
1	N		Wetland and contiguous habitat >10 acres
2	N		3 or more strata present (>10% cover)
3	N		Within or adjacent to habitat corridor or established wildlife habitat area
4	N		100 m buffer – natural land cover ≥50%(south) 75% (north) intact
5	Y		Occurs in a Joint Venture priority township
6	N		Interspersion of habitat structure (hemi-marsh,shrub/emergent, wetland/upland complex,etc.)
7	N		Supports or provides habitat for SGCN or birds listed in the WI All-Bird Cons. Plan, or other plans
8	N		Part of a large habitat block that supports area sensitive species
9	N		Ephemeral pond with water present ≥ 45 days
10	Y/N		Standing water provides habitat for amphibians and aquatic invertebrates
11	N		Seasonally exposed mudflats present
12	N		Provides habitat scarce in the area (urban, agricultural, etc.)
FA			**Fish and Aquatic Life Habitat**
1	N		Wetland is connected or contiguous with perennial stream or lake
2	Y/N		Standing water provides habitat for amphibians and aquatic invertebrates
3	N		Natural Heritage Inventory (NHI) listed aquatic species within aquatic system
4	Y		Vegetation is inundated in spring
SP			**Shoreline Protection**
1	N		Along shoreline of a stream, lake, pond or open water area (≥1 acre) - if no, not applicable
2	N		Potential for erosion due to wind fetch, waves, heavy boat traffic, erosive soils, fluctuating water levels or high flows – if no, not applicable
3	Y		Densely rooted emergent or woody vegetation
ST			**Storm and Floodwater Storage**
1	Y		Basin wetland, constricted outlet, has through-flow or is adjacent to a stream
2	Y/N		Water flow through wetland is NOT channelized
3	Y/N		Dense, persistent vegetation
4	N		Evidence of flashy hydrology
5	Y		Point or non-point source inflow
6	N		Impervious surfaces cover >10% of land surface within the watershed
7	Y		Within a watershed with ≤10% wetland
8	Y		Potential to hold >10% of the runoff from contributing area from a 2-year 24-hour storm event
WQ			**Water Quality Protection**
1	Y		Provides substantial storage of storm and floodwater based on previous section
2	Y		Basin wetland or constricted outlet
3	Y/N		Water flow through wetland is NOT channelized
4	N		Vegetated wetland associated with a lake or stream
5	Y/N		Dense, persistent vegetation
6	N		Signs of excess nutrients, such as algae blooms, heavy macrophyte growth
7	Y		Stormwater or surface water from agricultural land is major hydrology source
8	N		Discharge to surface water
9	N		Natural land cover in 100m buffer area < 50%
GW			**Groundwater Processes**
1	N		Springs, seeps or indicators of groundwater present
2	N		Location near a groundwater divide or a headwater wetland
3	Y		Wetland remains saturated for an extended time period with no additional water inputs
4	N		Wetland soils are organic
5	N		Wetland is within a wellhead protection area

Section 1 Comments (Refer to Section 1 numbers)

Wetland 5 has a low human use value, low wildlife habitat value, low fish and aquatic life value, and low groundwater
recharge value because most of Wetland 5 is farmed, dominated by invasive wetland species, only seasonally
inundated, and located within crop fields and adjacent to the existing Fox Energy Center.

Wildlife Habitat and Species Observation (including amphibians and reptiles)
List: direct observation, tracks, scat, other sign; type of habitat: nesting, migratory, winter, etc.

Observed	Potential	Species/Habitat/Comments
June 19	Minimal	No wildlife species were observed within Wetland 5. Minimal habitat for wildlife occurs within
		Wetland 5 because portions of this wetland are regularly farmed.
April 17		Direct observation of Great Blue Heron (Ardea herodias) in Wetland 5. Project site likely
		serves as foraging habitat.
April 17		Direct observation of Ring-billed Gull (Larus delawarensis) in the in the crop field adjacent
		to Wetland 5. Project site likely serves as migratory stopover and foraging habitat.

Fish and Aquatic Life Habitat and Species Observations
List: direct observation, other sign; type of habitat: nesting, spawning, nursery areas, etc.

Observed	Potential	Species/Habitat
April & June	Minimal	Although not directly observed, aquatic insects such as dragonflies and damselflies could
		occur in portions of Wetland 5 when seasonally inundated.

SECTION 2: Floristic Integrity

Plant Community Integrity (circle)*

	Low	Medium	High	Exceptional
Invasive species cover	> 50%	20-50%	10-20%	<10%
Strata	Missing stratum(a) or bare due to invasive species	All strata present but reduced native species	All strata present and good assemblage of native species	All strata present, conservative species represented
NHI plant community ranking	S4	S3	S2	S1-S2 (S2 high quality)
Relative frequency of plant community in watershed	Abundant	Common	Uncommon	Rare
FQI (optional)	<13	13-23	23-32	>32
Mean C (optional)	<2.4	2.4-4.2	4.3-4.7	>4.7

***Note: separate plant communities are described independently**

Plant Species List (* dominant species) attach list of additional species

Scientific Name	Common Name	C of C	Plant communities	Comments (Estimate of % Cover, Abundance)
Wetland 5				
Phragmites australis*	Common Reed			
Typha latifolia*	Broad-Leaf Cat-Tail			
Persicaria lapathifolia*	Dock-leaf Smartweed			
Eleocharis palustris*	Common Spike-Rush			
Cyperus esculentus*	Chufa			
Rumex crispus*	Curly Dock			
Hordeum jubatum*	Fox-Tail Barley			
Trifolium repens	White Clover			
Scirpus cyperinus	Cottongrass Bulrush			
Medicago sativa	Alfalfa			

SUMMARY OF FLORISTIC INTEGRITY (Include general comments on plant communities)

Wetland 5 is dominated by Common Reed (Phragmites australis), Broad-Leaf Cat-Tail (Typha latifolia), and Chufa (Cyperus esculentus). All three species can be invasive. A portion of Wetland 5 is farmed and lacked wetland vegetation.

SECTION 3: Condition Assessment of Wetland Assessment Area (AA) and Buffer (100 m)

Assessment Area (AA)	Buffer	Historic	Impact Level*	Relative Frequency**	Stressor
					Filling, berms (non-impounding)
					Drainage – tiles, ditches
					Hydrologic changes - high capacity wells, impounded water, increased runoff
					Point source or stormwater discharge
					Polluted runoff
					Pond construction
X	X	X	H	C	Agriculture – row crops
X	X	X	H	C	Agriculture – hay
					Agriculture – pasture
	X	X	L	C	Roads or railroad
	X	X	L	UC	Utility corridor (above or subsurface)
					Dams, dikes or levees
					Soil subsidence, loss of soil structure
					Sediment input
					Removal of herbaceous stratum – mowing, grading, earthworms, etc.
					Removal of tree or shrub strata – logging, unprescribed fire
					Human trails – unpaved
					Human trails – paved
					Removal of large woody debris
X	X		M	C	Cover of non-native and/or invasive species
					Residential land use
	X		L	C	Urban, commercial or industrial use
					Parking lot
					Golf course
					Gravel pit
					Recreational use (boating, ATVs, etc.)
					Excavation or soil grading
					Other (list below):

* L= Low, M = Medium, H = High
**Relative frequency of the impact in comparison to the general condition of wetlands and buffer areas in the region or watershed (C=Common, UC=Uncommon)

SUMMARY OF CONDITION ASSESSMENT (Include general description and comments)

Wetland 5 is of low quality due to it being regularly farmed and its proximity to adjacent crop fields, dominance of invasive species within the wetland, and its proximity to a residence to the east and the Fox Energy Center to the west.

SUMMARY OF FUNCTIONAL VALUES

FUNCTION	SIGNIFICANCE				
	Low	Medium	High	Exceptional	NA
Floristic Integrity	X				
Human Use Values	X				
Wildlife Habitat	X				
Fish and Aquatic Life Habitat	X				
Shoreline Protection	X				
Flood and Stormwater Storage	X				
Water Quality Protection	X				
Groundwater Processes	X				

FUNCTION	RATIONALE
Floristic Integrity	Low; Wetland 5 has low species diversity and is dominated by invasive wetland species. Portions of Wetland 5 are farmed and lacked wetland species.
Human Use Values	Low; Wetland 5 is located within crop fields and adjacent to the existing Fox Energy Center.
Wildlife Habitat	Low; Wetland 5 is located in crop fields and adjacent to the existing Fox Energy Center. Portions of Wetland 5 are regularly farmed.
Fish and Aquatic Life Habitat	Low; Although not directly observed, aquatic insects such as dragonflies and damselflies could occur in Wetland 5 when seasonally inundated.
Shoreline Protection	Low; Wetland 5 is not directly connected to Stream 1.
Flood and Stormwater Storage	Low; Wetland 5 is a seasonally inundated wetland capable of storing storm water runoff from surrounding crop fields. Captured storm water runoff in Wetland 5 is eventually conveyed to Stream 1 by way of a ditch along Wrightstown Road/Golf Course Drive.
Water Quality Protection	Low; Wetland 5 is a seasonally inundated wetland capable of storing storm water runoff from surrounding crop fields. Captured storm water runoff in Wetland 5 is eventually conveyed to Stream 1 by way of a ditch along Wrightstown Road/Golf Course Drive.
Groundwater Processes	Low; Wetland 5 is a seasonally inundated wetland.

Section 4: Project Impact Assessment

Brief Project Description

WPSC proposes to construct a natural gas fired electric generating facility in the Village of Wrightstown, Outagamie County.

Expected Project Impacts

IMPACT: describe (+ or -)	Permanence/Reversibility	Significance (Low, Medium, High)
Direct Impacts	A portion of Wetland 5 may be filled to construct the new facility.	Medium; most of Wetland 5 would be avoided.
Secondary Impacts (including impacts which are indirectly attributable to the project)	Portions of Wetland 5 will be temporarily disturbed during construction.	Low; disturbance that will result from construction will be temporary and localized. Appropriate Best Management Practices will be implemented to minimize construction related impacts.
Cumulative Impacts	None Anticipated.	
Spatial/Habitat Integrity	The size of Wetland 5 will be reduced.	Low; other emergent wetlands occur in the area.
Rare Plant/Animal Communities/ Natural Areas	None located within Wetland 5	

APPENDIX E - USDA FIELD OFFICE CLIMATE DATA AND NAIP AERIAL PHOTOGRAPHY

USDA FIELD OFFICE CLIMATE DATA MONTHLY AND YEARLY AVERAGES FOR APPLETON, WI

USDA Field Office Climate Data

WETS Station : APPLETON, WI0265 Creation Date: 07/23/2014
Latitude: 4417 Longitude: 08826 Elevation: 00792
State FIPS/County(FIPS): 55087 County Name: Outagamie
Start yr. - 1971 End yr. - 2000

	Temperature (Degrees F.)			Precipitation (Inches)			
				30% chance will have		avg # of days w/.1 or more	avg total snow fall
Month	avg daily max	avg daily min	avg	avg	less than	more than	
January	24.1	7.8	16.0	1.19	0.70	1.45	4	12.5
February	29.4	12.7	21.1	1.04	0.58	1.27	3	8.1
March	40.2	22.8	31.5	2.05	1.12	2.49	5	7.7
April	54.4	34.6	44.5	2.84	2.02	3.35	6	2.5
May	68.3	46.5	57.4	3.10	1.84	3.76	6	0.2
June	77.1	56.2	66.7	3.56	2.23	4.30	7	0.0
July	81.4	61.7	71.6	3.31	2.29	3.94	6	0.0
August	78.7	60.0	69.4	3.90	2.41	4.71	8	0.0
September	70.2	51.2	60.7	3.23	1.78	3.94	6	0.0
October	57.5	39.7	48.6	2.29	1.49	2.76	5	0.2
November	41.9	27.3	34.6	2.27	1.27	2.76	5	4.2
December	28.9	14.4	21.7	1.38	0.80	1.68	4	10.4
Annual	-----	-----	-----	------	27.63	32.34	--	----
Average	54.3	36.2	45.3	------	------	------	--	----
Average	-----	-----	-----	30.16	------	------	62	45.3

GROWING SEASON DATES

	Temperature		
Probability	24 F or higher	28 F or higher	32 F or higher
	Beginning and Ending Dates Growing Season Length		
50 percent *	4/ 7 to 10/30 206 days	4/22 to 10/19 179 days	5/ 3 to 10/ 6 155 days
70 percent *	4/ 3 to 11/ 3 214 days	4/17 to 10/24 189 days	4/28 to 10/11 165 days

* Percent chance of the growing season occurring between the Beginning and Ending dates.

total 1893-2014 prcp

Station : WI0265, APPLETON
Unit = inches

yr	jan	feb	mar	apr	may	jun	jul	aug	sep	oct	nov	dec	annl
93	M1.19	M1.41	M1.38	M5.09	2.05	M1.65							12.77
94													
95													
96													
97													
98													
99													
0													
1				0.20	1.57	3.73	5.27	1.18	3.09	2.26	0.44	0.78	18.52
2	M0.55	1.54	1.72	1.58	5.20	3.27	6.37	1.99	1.36	1.58	1.44	2.81	29.41
3	M1.27	2.27	3.64	2.31	3.56	1.24	6.75	4.36	3.47	2.85	M1.23	0.46	33.41
4	0.57	M0.93	3.49	2.42	5.96	1.23	7.06	1.08	3.65	3.48	0.06	1.74	31.67
5	1.31	0.93	1.96	1.31	4.35	6.38	6.23	5.02	3.80	1.35	M1.58	1.18	35.40
6	1.77	M0.59	1.86	2.01	1.87	5.36			3.73	1.90	4.19	1.64	24.92
7	2.05	0.06	1.98	3.74	3.46	2.66	4.03	4.20	3.45	0.49	1.53	1.54	29.19
8	0.87	2.30	2.58	2.99	5.39	3.10	2.37	1.64	1.82	1.30	1.89	2.18	28.43
9	1.05	1.64	1.78	4.77	2.48	3.02	1.40	2.24	2.09	0.84	M2.37	2.85	26.53
10	0.51	0.88	0.33	3.40	2.31	0.78	0.88	4.10	6.12	1.14	2.44	0.81	23.70
11	0.47	2.33	1.51	1.16	5.04	4.38	1.85	2.64	6.30	6.34	2.59	2.04	36.65
12	0.73	0.50	0.41	2.13	4.94	0.17	M5.37	6.07	2.88	1.79	1.24	0.92	27.15
13	1.48	1.18	5.35	2.48	7.63	2.04	7.02	1.62	3.40	2.80	1.59	0.49	37.08
14	0.82	0.67	1.48	3.56	3.69	8.50	4.87	4.62	3.46	1.81	1.57	0.77	35.82
15	1.13	1.42	0.60	0.21	M3.18	3.20	2.71	2.01	7.77	1.79	3.78	0.62	28.42
16	1.98	1.74	1.63	2.11	5.64	4.88	0.40	1.63	5.35	5.23	2.43	0.93	33.95
17	2.02	0.52	2.52	2.62	M1.53	M5.02	3.70	1.51	3.71	4.10	0.20	0.53	27.98
18	M3.01	1.02	1.20	0.95	6.78	2.31	2.16	2.81	1.64	1.94	2.70	2.14	28.66
19	0.86	1.09	0.74										2.69
20													
21													
22													
23													
24													
25													
26											3.34	2.75	6.09
27	1.15	0.12	2.00	2.37	4.72	1.47	3.46	0.94	5.90	2.17	2.82	1.10	28.22
28	0.32	3.34	2.55	2.07	2.01	4.05	2.74	4.19	4.12	3.38	1.68	1.48	31.93
29	M4.35	1.44	1.88	6.64	2.67	4.49	2.76	1.60	3.08	1.74	0.98	1.42	33.05
30	1.76	1.12	2.37	1.10	3.52	3.59	2.60	1.38	1.72	2.03	0.72	0.36	22.27
31	0.85	0.97	1.72	0.72	1.45	3.09	1.11	1.10	7.05	2.57	3.88	1.03	25.54
32	1.86	1.19	0.95	1.12	3.89	2.77	2.67	1.82	0.71	1.65	1.23	1.93	21.79
33	1.15	1.12	2.16	2.19	3.69	2.28	2.92	3.35	2.22	2.73	0.74	1.01	25.56
34	0.71	0.24	1.50	1.26	1.91	5.33	2.64	3.16	2.84	1.19	5.93	0.91	27.62
35	1.17	M0.80	0.71	2.60	1.76	6.27	2.04	1.82	3.79	1.64	1.97	0.97	25.54
36	1.41	1.35	1.27	1.04	2.54	2.90	0.92	M6.10	3.12	2.17	0.80	1.83	25.45
37	2.50	2.39	0.24	3.35	2.49	2.40	0.91	1.61	1.83	3.69	1.68	1.03	24.12
38	2.50	3.10	1.83	2.22	2.10	2.86	3.73	4.24	8.50	0.98	1.80	2.28	36.14
39	1.62	1.15	0.77	1.14	1.59	5.48	2.46	3.00	4.67	1.91	M0.51	M0.57	24.87
40	1.30	0.50	0.88	2.89	3.61	4.98	2.13	5.53	1.27	2.78	3.23	1.76	30.86
41	1.42	0.74	0.76	2.44	4.32	3.18	2.08	2.72	5.44	3.12	1.57	1.74	29.53
42	0.53	0.87	1.73	3.04	8.79	5.54	3.05	3.06	5.29	1.37	M1.11	2.38	36.76

43	1.25	0.91	1.95	1.95	4.55	5.37	2.46	3.39	1.72	0.96	2.24	0.21	26.96
44	0.82	1.30	1.77	2.19	2.21	8.52	1.40	3.07	2.47	0.67	3.57	0.78	28.77
45	0.41	1.73	1.11	3.98	2.68	4.64	0.96	2.60	6.54	0.94	3.78	M1.11	30.48
46	1.82	0.55	2.29	0.55	3.54	5.27	1.14	3.19	2.60	1.39	M3.18	2.08	27.60
47	2.04	0.30	2.16	4.39	4.09	3.98	2.21	3.41	3.13	1.79	1.76	1.37	30.63
48	0.65	2.16	2.37	3.05	1.80	6.04	3.61	1.96	1.67	0.96	4.72	1.95	30.94
49	2.15	0.92	3.07	2.53	0.80	2.43	4.74	1.44	1.36	1.26	1.08	1.20	22.98
50	2.30	1.49	2.93	2.95	1.07	2.46	6.56	1.93	3.06	0.93	1.32	2.16	29.16
51	0.85	M1.78	3.05	4.70	0.91	2.56	4.35	3.37	2.38	4.04	1.56	1.29	30.84
52	2.53	0.98	2.17	1.64	3.46	3.04	5.04	2.26	0.38	0.09	2.25	1.65	25.49
53	1.08	3.56	1.99	5.45	1.40	2.55	4.26	2.80	1.61	0.41	0.28	1.78	27.17
54	0.55	1.40	1.42	4.56	4.13	4.21	3.30	2.19	6.07	4.71	1.11	0.82	34.47
55	0.59	1.40	1.64	2.78	2.82	4.21	3.37	1.13	0.98	3.98	1.40	1.33	25.63
56	0.75	0.77	3.18	1.83	3.92	4.84	6.95	4.01	1.89	0.75	2.93	0.97	32.79
57	0.62	0.49	1.22	3.56	5.63	3.98	2.51	2.01	1.95	1.39	3.98	1.72	29.06
58	0.54	0.24	0.52	3.01	1.52	2.83	4.19	4.08	3.67	1.90	1.65	0.17	24.32
59	1.61	2.47	3.26	3.74	3.90	1.68	3.62	3.89	5.52	4.37	1.79	3.12	38.97
60	1.35	1.19	1.01	4.21	6.96	2.69	3.22	5.37	6.77	2.49	0.86	0.17	36.29
61	0.26	1.31	3.05	2.12	1.70	7.05	7.29	4.85	5.68	3.12	3.24	1.31	40.98
62	1.30	2.64	1.71	2.94	2.77	4.24	2.91	4.43	2.84	2.38	0.64	1.13	29.93
63	0.42	0.52	3.07	1.78	2.82	4.14	3.72	2.13	3.58	0.72	1.71	0.53	25.14
64	0.97	0.18	1.31	2.71	5.24	1.67	5.47	2.41	3.77	0.50	2.47	0.80	27.50
65	0.90	1.04	3.03	4.29	2.61	3.19	2.35	3.94	7.71	1.95	1.92	2.72	35.65
66	1.69	2.38	3.28	1.57	1.35	2.06	2.49	5.08	1.10	0.64	1.29	2.22	25.15
67	2.62	0.80	1.11	3.24	2.81	7.67	1.84	2.44	0.32	6.41	1.47	1.36	32.09
68	0.85	0.30	0.67	4.74	3.51	9.06	2.63	3.39	3.73	1.49	0.98	3.32	34.67
69	2.45	0.04	0.97	3.13	3.54	5.90	4.49	1.96	2.02	3.67	0.48	0.99	29.64
70	0.30	0.12	0.89	1.58	4.84	1.04	3.62	1.00	6.51	3.19	2.42	1.39	26.90
71	1.63	2.71	2.18	1.36	1.96	2.37	2.18	4.36	3.95	2.20	3.58	3.13	31.61
72	0.47	0.94	2.21	1.84	1.81	1.97	3.16	6.81	5.27	2.22	1.32	2.32	30.34
73	1.69	0.94	3.08	3.77	7.83	2.62	2.05	2.57	2.54	3.51	1.53	1.86	33.99
74	1.35	0.83	1.53	2.71	4.77	5.21	1.73	1.33	1.53	2.10	1.92	1.63	26.64
75	1.29	1.56	2.88	2.78	3.37	3.89	3.37	7.70	2.47	0.44	3.29	0.88	33.92
76	1.32	1.51	4.19	3.73	1.99	0.64	4.72	0.50	0.45	0.89	0.04	0.35	20.33
77	0.35	1.39	4.28	3.02	3.99	2.34	2.38	2.60	3.18	1.88	2.96	1.80	30.17
78	1.26	0.19	0.14	3.91	5.21	2.21	5.10	2.06	6.29	2.28	3.32	1.24	33.21
79	1.33	0.98	4.70	1.78	3.13	3.26	1.74	5.21	0.65	2.89	1.82	1.20	28.69
80	2.18	0.42	1.08	2.54	2.06	4.99	3.01	6.76	3.25	2.35	1.31	0.76	30.71
81	0.04	3.66	0.38	5.54	0.39	2.50	1.69	6.10	3.98	3.59	0.98	1.29	30.14
82	2.57	0.20	2.14	2.82	3.22	1.99	3.45	5.12	1.19	1.79	4.34	3.01	31.84
83	0.99	1.75	1.57	1.91	6.08	1.79	3.17	6.01	4.81	2.56	2.25	1.01	33.90
84	0.49	1.08	1.92	3.95									7.44
85		1.69	2.78	3.60	1.79	2.77	3.50	5.67	5.71	2.68	5.87	1.59	37.65
86	0.63	1.41	2.11	1.93	1.31	5.89	6.18	1.66	9.15	2.12	1.50	0.65	34.54
87	0.76	0.27	1.71	2.72	3.28	2.04	1.83	4.51	2.22	1.55	2.99	1.81	25.69
88	1.19	0.43	1.23	3.09	0.22	1.01	1.94	3.26	5.41	2.68	3.15	1.12	24.73
89	0.70	0.52	2.29	0.80	5.06	1.67	2.99	1.62	0.73	3.29	1.55	0.34	21.56
90	0.71	0.61	3.72	1.50	4.26	9.07	2.06	2.90	4.18	2.65	1.99	2.21	35.86
91	0.53	0.70	2.58	2.70	2.34	2.12	5.22	2.29	2.66	4.28	3.16	1.53	30.11
92	0.87	0.59	2.35	3.46	1.42	2.08	3.04	2.15	7.03	1.29	5.20	2.61	32.09
93	1.63	0.31	0.75	4.85	3.46	8.04	5.91	2.67	2.61	1.84	2.26	0.31	34.64
94	1.48	1.34	1.12	4.09	1.79	2.48	8.21	5.39	2.29	1.23	1.98	0.15	31.55
95	0.74	0.37	1.80	2.64	3.12	2.54	2.09	10.30	1.62	4.42	2.49	1.20	33.33
96	1.69	1.05	1.02	3.65	1.43	6.22	3.27	1.34	1.23	2.90	0.80	1.47	26.07
97	1.66	1.36	1.82	0.47	3.81	5.34	4.31	4.06	1.88	1.08	0.47	0.57	26.83
98	1.90	0.85	2.77	2.93	2.33	7.38	0.60	2.44	2.03	1.49	1.56	0.41	26.69
99	2.50	1.00	0.16	2.76	3.90	5.22	4.63	2.85	0.66	0.79	1.17	0.91	26.55
0	0.82	M0.52	0.85	2.19	4.70	3.20	3.00	2.99	4.74	0.50	1.59	2.05	27.15
1	0.70	1.15	0.54	2.63	3.64	5.77	1.07	3.32	1.75	1.44	1.75	1.16	24.92
2	0.60	1.01	2.32	3.80	2.29	5.09	1.85	2.28	2.37	3.54	0.27	1.02	26.44

3	0.61	0.76	2.59	2.64	3.86	3.36	6.50	3.74	4.32	1.39	4.66	1.61	36.04
4	1.10	1.21	4.04	1.06	9.04	4.22	1.78	2.20	0.57	3.38	2.00	2.22	32.82
5	1.34	1.49	1.18	1.72	2.66	2.30	2.79	4.34	3.27	1.24	3.27	1.19	26.79
6	1.92	1.09	1.40	2.63	5.68	1.75	2.28	1.54	2.55	3.08	1.27	2.53	27.72
7	1.23	1.02	2.45	2.13	2.62	3.69	2.80	5.43	3.05	4.11	0.20	3.15	31.88
8	2.96	2.06	1.00	6.45	1.92	5.55	4.54	3.39	1.85	2.07	1.22	3.78	36.79
9	0.57	1.22	3.09	3.22	3.39	2.97	1.26	4.91	1.43	5.23	1.27	2.46	31.02
10	0.51	0.78	0.83	4.40	4.02	6.55	13.23	3.64	4.30	2.38	1.61	1.34	43.59
11	0.94	1.59	2.86	6.38	2.77	5.89	4.12	1.78	4.62	1.69	3.89	1.28	37.81
12	1.01	1.08	2.67	2.74	4.36	2.32	2.79	3.21	0.98	5.88	0.98	2.09	30.11
13	2.75	1.99	1.99	3.83	3.42	5.84	3.66	1.43	2.09	2.95	4.04	1.57	35.56
14	1.18	1.24	1.17	5.00	3.91	7.79	M1.34						21.63

Product generated by ACIS - NOAA Regional Climate Centers.

USDA FIELD OFFICE CLIMATE DATA
APRIL 2014 DATA FOR APPLETON, WI

USDA Field Office Climate Data

APPLETON (470265)
Observed Daily Data
Month: Apr 2014

Day	Max Temp	Min Temp	Avg Temp	GDD B50	GDD B40	Total Prcpn	New Snow	Snow Depth
1	57	31	44.0	0	4	0.00	0.0	0
2	34	24	29.0	0	0	0.00	0.0	0
3	44	26	35.0	0	0	T	T	0
4	37	29	33.0	0	0	0.10	T	0
5	34	21	27.5	0	0	0.16	0.4	T
6	51	24	37.5	0	0	0.00	0.0	0
7	57	31	44.0	0	4	0.00	0.0	0
8	61	40	50.5	1	11	0.07	0.0	0
9	56	29	42.5	0	3	0.00	0.0	0
10	60	34	47.0	0	7	0.00	0.0	0
11	62	35	48.5	0	9	0.00	0.0	0
12	59	37	48.0	0	8	0.00	0.0	0
13	47	38	42.5	0	3	1.51	0.0	0
14	48	32	40.0	0	0	1.61	2.8	3
15	33	13	23.0	0	0	0.03	0.4	2
16	33	17	25.0	0	0	T	T	1
17	43	24	33.5	0	0	0.01	T	0
18	54	29	41.5	0	2	0.00	0.0	0
19	52	31	41.5	0	2	0.00	0.0	0
20	56	36	46.0	0	6	0.01	0.0	0
21	58	49	53.5	4	14	0.09	0.0	0
22	69	37	53.0	3	13	T	0.0	0
23	52	26	39.0	0	0	0.00	0.0	0
24	51	31	41.0	0	1	T	0.0	0
25	44	39	41.5	0	2	0.46	0.0	0
26	62	34	48.0	0	8	T	0.0	0
27	49	32	40.5	0	1	0.02	0.0	0
28	49	32	40.5	0	1	0.06	0.0	0
29	49	37	43.0	0	3	0.68	0.0	0
30	45	37	41.0	0	1	0.19	0.0	0
Smry	50.2	31.2	40.7	8	103	5.00	3.6	0.2

USDA FIELD OFFICE CLIMATE DATA
JUNE 2014 DATA FOR APPLETON, WI

USDA Field Office Climate Data

APPLETON (470265)
Observed Daily Data
Month: Jun 2014

Day	Max Temp	Min Temp	Avg Temp	GDD B50	GDD B40	Total Prcpn	New Snow	Snow Depth
1	85	63	74.0	24	34	0.06	0.0	0
2	84	66	75.0	25	35	2.31	0.0	0
3	79	61	70.0	20	30	0.48	0.0	0
4	77	57	67.0	17	27	0.00	0.0	0
5	75	52	63.5	14	24	0.00	0.0	0
6	77	61	69.0	19	29	0.00	0.0	0
7	81	61	71.0	21	31	0.00	0.0	0
8	81	54	67.5	18	28	0.17	0.0	0
9	73	46	59.5	10	20	0.00	0.0	0
10	73	49	61.0	11	21	0.00	0.0	0
11	70	59	64.5	15	25	0.00	0.0	0
12	68	57	62.5	13	23	0.06	0.0	0
13	76	51	63.5	14	24	0.00	0.0	0
14	73	46	59.5	10	20	0.00	0.0	0
15	74	50	62.0	12	22	0.00	0.0	0
16	79	59	69.0	19	29	0.10	0.0	0
17	86	63	74.5	25	35	1.56	0.0	0
18	83	66	74.5	25	35	1.36	0.0	0
19	74	61	67.5	18	28	0.31	0.0	0
20	75	57	66.0	16	26	0.34	0.0	0
21	68	57	62.5	13	23	0.01	0.0	0
22	71	62	66.5	17	27	0.00	0.0	0
23	73	61	67.0	17	27	0.06	0.0	0
24	81	64	72.5	23	33	0.47	0.0	0
25	84	60	72.0	22	32	0.19	0.0	0
26	70	54	62.0	12	22	0.00	0.0	0
27	74	57	65.5	16	26	0.04	0.0	0
28	85	67	76.0	26	36	0.00	0.0	0
29	86	67	76.5	27	37	0.24	0.0	0
30	85	69	77.0	27	37	0.03	0.0	0
Smry	77.3	58.6	68.0	546	846	7.79	0.0	0.0

Product generated by ACIS - NOAA Regional Climate Centers.

USDA NAIP AERIAL PHOTOGRAPHY

NAIP aerial photograph from 2013 depicting the Project site. According to the USDA, 2013 was wetter than average.

NAIP aerial photograph from 2010 depicting the Project site. According to the USDA, 2010 was wetter than average.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Project Site NAIP Aerial Photographs

NAIP aerial photograph from 2008 depicting the Project site. According to the USDA, 2008 was wetter than average.

NAIP aerial photograph from 2006 depicting the Project site. According to the USDA, 2006 was drier than average.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Project Site NAIP Aerial Photographs

NAIP aerial photograph from 2005 depicting the Project site. According to the USDA, 2005 was drier than average.

NAIP aerial photograph from 2004 depicting the Project site. According to the USDA, 2004 was wetter than average.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Project Site NAIP Aerial Photographs

NAIP aerial photograph from 2003 depicting the Project site. According to the USDA, 2003 was wetter than average.

NAIP aerial photograph from 2002 depicting the Project Site. According to the USDA, 2002 was drier than average.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Project Site NAIP Aerial Photographs

NAIP aerial photograph from 2001 depicting the Project site. According to the USDA, 2001 was drier than average.

Fox Energy Center Unit 3 Village of Wrightstown Outagamie County, Wisconsin	Burns & McDonnell SINCE 1898	Project Site NAIP Aerial Photographs

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