Appendix 9A Site Profiles

Site A (Petersburg)

Location

- Approximately seven miles north of the Michigan/Ohio State boundary.
- Four miles south of the town of Petersburg, four miles southeast of Deerfield, and eight miles southwest of Dundee.
- One mile east of the Lenawee County line, in Monroe County, Michigan.
- The site occupies Sections 28, 29, 32, and 33 of Township 7 South, Range 6 East in the Summerfield Township.
- Site is located outside the River Raisin floodplain in Zone X (minimal flood hazard).

Existing Facilities

- This is a greenfield site, currently used as agricultural land.
- There are approximately 25 residents/facilities onsite, including abandoned barns and new residences.
- Morocco Road crosses the site east-west and Payne Road crosses the site north-south.

Site Acreage/Topography

This site is approximately 1900 acres comprising 41 parcels privately owned by 32 individuals. Residences onsite are the nearest sensitive receptors, and the town of Deerfield is four miles northwest. Site topography is flat with little variation.

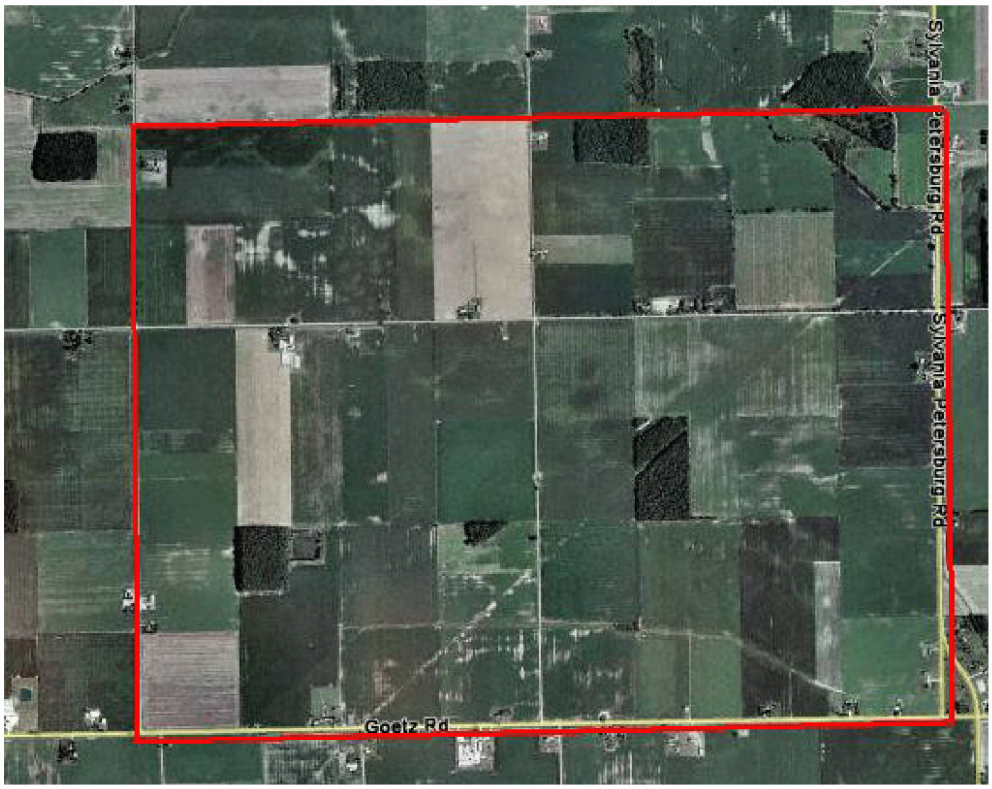
Transportation Access

- The site can be accessed from US 223, then two miles north on Lake Road. Minor local roads may require modification to support heavy truck traffic.
- The Canadian National North America line runs along the northern border of the site. The rail line runs southwest to northeast and is a 132 lb rail.

Transmission Interconnection

Both 345 kV and 120 kV transmission lines for Site A (as well as Site C) are approximately 1.2 miles north of Site A and run east to west. Transmission capacity/reliability in the area is good, with an open circuit and spare conductor on the nearby 345 kV line and more than one set of lines near the site.

Environmental conditions along the transmission line corridor are similar to the agricultural environment of the site.



Aerial Photograph of Site A

Water Source

Groundwater Supply

Existing wells in the area pump from the Silurian and Devonian bedrock aquifer, approximately 100 to 200 feet thick. The yield of existing wells in the area is approximately 100 to 280 gpm. Wells yielding 280 gpm were found about one mile east of the proposed site in Section 34 of Summerfield, Township 7 South, Range 6 East. These wells are used for irrigation purposes. These wells have static water levels in the range of 20 to 50 ft below the land surface. The feasibility of using wells to provide water is moderate to poor considering the recent general drop in groundwater levels in Monroe County and other factors such as drought.

According to the USGS and well records, groundwater quality in this aquifer is considered good to moderate for most uses with minimal levels of water treatment required.

Surface Water

The River Raisin is located approximately four miles north of the site; however, further investigation is needed into availability of this surface water. USGS records indicate that the daily average flow for the River Raisin near Adrian, Michigan, based on 46 years of record is 264 cubic feet per second or approximately 170 million gallons per day, which is more than adequate to support

maximum base load plant requirements. Water quality in the Raisin River is considered poor and high levels of water treatment are likely to be required. Flood potential at the site is minimal.

Wastewater Discharge

It is assumed that this site will work as a zero discharge facility; therefore, all wastewater will be collected and reused in the process. However if this is not the case, wastewater can either be treated to the correct standard and then discharged half a mile downstream from the intake, or it can be discharged to the closest wastewater treatment plant.

Environmentally Sensitive Areas

The nearest sensitive area to the site is Petersburg State Game Management Area, about 1.5 miles northeast of the site. About six miles southeast of the site, in Lambertville, are several small, local parks.

Cultural Resources

One National Register of Historic Places listed cultural resource, the Dundee Historic District, is located within about eight miles of the site.

Land Use/Ownership

The site and surrounding area is farmland. The site is zoned agricultural by the Summerfield Township of Monroe County. Maps, atlases, and county information indicate that the property is privately owned. The closest airport, Air Rahe (private), is about three miles east of the site.

Ecology

Vegetation

The site is composed primarily of cropland, including fields of wheat, corn, and soybeans. Section 33 contains an area of about 50 acres that is forested. Second growth ash (*Fraxinus* sp.), oak (*Quercus* sp.), cottonwood (*Populus* sp.), and maple (*Acer* sp.) appear to dominate the woodland. At least a portion of the forest is permanently wet according to USFWS National Wetland Inventory mapping. Other non-cropland areas are limited to disturbed roadside right-of-way dominated by tall fescue (*Festuca arundinacea*) or ditches (drains) where cattail (*Typha* sp.) or orchard grass (*Dactylis glomerata*) dominate depending on the amount of moisture available.

Existing Structure Onsite

Wildlife

The site and surrounding vicinity is mostly cropland and provides little more than a foraging area for wildlife. One area of wet forest is located in the southeast portion of the site that could provide habitat for a number of mammals, birds, amphibians, and reptiles. Whitetail deer represent the largest mammal in the area. Smaller mammals present in the area likely include opossum, raccoon, striped skunk, and a variety of rodents. Waterfowl (geese and ducks) and game birds feed in the fields after crops are harvested, taking advantage of the grain and other seeds that remain. It is unlikely that fish are present in the vicinity, but small amphibians and reptiles can be found in the local ditches.

Wetlands

The USFWS Wetland Inventory Map for the area identifies a small area of forested wetland present in Section 33. The area is estimated to cover less than 50 acres. The area is isolated and would not be regulated by the Corps of Engineers. One named drain is located in the southern portion of the site, Sunior Drain, and it is anticipated that the Corps would regulate the drain as a water of the US since it is connected to area streams.

More Existing Structure and Example of Land Onsite

Threatened, Endangered, and Otherwise Protected Species

Seven species are known to occur or could potentially occur in Monroe County that are listed as threatened or endangered under the Endangered Species Act:

- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat occurs on the project site or in the immediate vicinity.
- Bald Eagle (*Haliaeetus leucocephalus*). Federally threatened. Bald eagles are known in the region, but the site is not appropriate for nesting or roosting due to the distance of the site from fishing areas.
- Northern Riffleshell (*Epioblasma torulosa rangiana*). Federally endangered. An inhabitant of swift, well-oxygenated streams with fine to coarse gravel substrates. Over the past 20 years, this mussel has only been found in Monroe and Wayne Counties. Suitable habitat does not exist on the project site.
- White Catspaw (*Epioblasma obliquata perobliqua*). Federally endangered. No specimens of this mussel have been confirmed in Michigan since 1930 and only a single extant population is known from Indiana. Suitable habitat does not exist at the project site or in the immediate vicinity.

- Karner Blue Butterfly (*Lycaeides melissa samuelis*). Federally endangered. Not seen in Monroe County since 1986 and otherwise known from the west-central portion of lower Michigan. Suitable habitat does not appear to exist at the project site or in the immediate vicinity.
- Mitchell's Satyr Butterfly (*Neonympha mitchellii mitchellii*). Federally endangered. Not previously reported from Monroe County, but the species has been recorded from Lenawee and Washtenaw counties to the west. However, suitable habitat does not appear to exist at the project site or in the immediate vicinity.
- Indiana Bat (*Myotis sodalis*). Federally endangered. Occurring in southern Michigan, although apparently absent in the winter due to lack of hibernacula. The bats generally require large trees (greater than nine inches diameter) with exfoliating bark for summer roosting. If the wooded areas of the site contain large trees, it may be necessary to do clearing during the winter months.

The potential for any protected species to affect the project appears to be minimal. Concerned federal and state agencies have not been contacted to date regarding protected species issues.

Buffer Area

Distance would be the main buffer between the site and nearby residents and the next nearest concentrations of receptors (towns of Petersburg, Deerfield, and Blissfield), as this is an open, agricultural area. In terms of visual impact, a power plant could be seen from a large area surrounding the site.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply. As the site is located in a rural area, there would be minimal impacts to traffic. Housing and demographics would not be noticeably affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- The site is located eight miles northwest of Toledo, Ohio, which has a population of approximately 305,000 (2000 data).
- The population of Monroe County is approximately 146,000 (2000 data).
- The nearest towns, Petersburg, Deerfield, and Dundee, have populations of 1157, 1005, and 3522 (all 2000 data), respectively.

Contamination

Contamination potential for the site is minimal based on its current use as agricultural land.

Security

This site would have good security during the construction phase due to its location in a rural area and the potential for visual monitoring of a large area around the site.

Waste Disposal

The Consumers Energy Company landfill is located approximately 15 miles southeast of the site and is the nearest potential waste disposal facility. From the Department of Environmental Quality website it appears that this facility accepts Type III Industrial waste.

Site Development

Construction Access

Construction access associated with Site A would be accomplished through the use of US 223, then two miles north on Lake Road. Lake Road may need to be widened and improved to be utilized by construction traffic. This will be determined during detailed design.

General Access

This site has flexibility from an access standpoint due to the fact that shipments could be received by rail from the Canadian National North America line located approximately half a mile northwest of the site.

Proximity to Major Cities/Labor Markets

The site is located approximately eight miles northwest of Toledo, Ohio, and 30 miles south of Ann Arbor. These cities would more than likely be major sources of labor. Toledo is the closest city for housing of workers; other towns such as Petersburg, Deerfield, Dundee, Blissfield, and Monroe (all within a 17 mile radius of the site) are additional potential housing areas for the site.

Site C (South Britton)

Location

- Approximately one mile southeast of the town of Britton and 6.5 miles west of Dundee.
- One mile west of the Monroe County line, in Lenawee County, Michigan.
- The site occupies Sections 1, 2, 11, and 12 of Township 6 South, Range 5 East.
- The site has not been mapped by FEMA for flood potential, but is assumed to be outside the River Raisin floodplain.

Existing Facilities

- This is a rural, greenfield site with heavy agricultural land use. Corn and wheat appear to be the prevailing crops.
- There are very few houses on the site, approximately 15 to 25 residents/facilities. The town of Britton can be seen from the site.
- Pocklington Road crosses the site east-west and Downing Highway crosses the site north-south.
- There is also a river tributary (South Branch of the Raisin River) that runs across the southern half of the site.
- The site is eight miles southwest of Dundee Cement Company; its stack is visible from the site.

Site Acreage/Topography

This site is approximately 1140 acres owned by approximately 14 private owners. There are several residences onsite, and the nearest aggregation of sensitive receptors is approximately 1.5 miles away in the town of Britton. Site topography is flat with little variability.

Transportation Access

- The site can be accessed from US 50, which borders the northeast section of the site. Minor local roads may require modification to support heavy truck traffic.
- Railroad access would be from a spur track of the Norfolk Southern mainline, approximately one mile northwest, between the site and Britton, MI.

Transmission Interconnection

According to EnergyVelocity database maps, there is a 345 kV double circuit transmission line one mile north of the site. Transmission capacity/reliability in the area is good, with an open circuit and spare conductor on the nearby 345 kV line and more than one set of lines south of Petersburg.

Environmental conditions along the transmission line corridor reflect the agricultural use of the area.

Aerial Photograph of Site C

Water Source

Groundwater Supply

This area contains wells that use either the surficial aquifer or the Silurian and Devonian bedrock aquifer. The thickness of the surficial aquifer is between 50 and 200 feet and the thickness Silurian/ Devonian bedrock aquifer is around 100 to 200 feet. The yield for existing wells that use the

surficial aquifer is 10 to 80 gpm, while wells that pump from the bedrock aquifer yield about 15 to 30 gpm. The maximum producing surficial well was found in the city of Britton, Michigan, and is about one mile northwest of the site in Section 3 of Ridgeway Township 6 South, Range 5 East. These wells have static water levels in the range of 5 to 80 ft below the land surface. The feasibility of using wells to provide water is moderate to poor considering the recent general drop in groundwater levels in Lenawee County.

According to the USGS, groundwater quality in this aquifer is considered good for most uses with minimal levels of water treatment required.

Surface Water

A tributary of the River Raisin is located on the site, however further investigation is needed into surface water availability. USGS records indicate that the daily average flow for the River Raisin near Adrian, Michigan, based on 46 years of record is 264 cubic feet per second or approximately 170 million gallons per day, which is more than adequate to support baseload plant requirements. Water quality in the Raisin River is considered poor and high levels of water treatment are likely to be required. Flood potential at the site has not been mapped, but is assumed to be minimal.

Wastewater Discharge

It is assumed that this site will work as a zero discharge facility; therefore, all wastewater will be collected and reused in the process. However if this is not the case, wastewater can either be treated to the correct standard and then discharged half a mile downstream from the intake, or it can be discharged to the closest wastewater treatment plant.

Environmentally Sensitive Areas

The nearest environmentally sensitive area to the site is the River Raisin, the main parts of which are five miles south and six miles west of the site. There are also three small, local parks in Adrian, about eight miles southwest of the site. The Hidden Lake Gardens, a nature preserve and conservatory that is managed by Michigan State University and open to the public, is present about 15 miles west-northwest.

Cultural Resources

One National Register of Historic Places listed cultural resource, the Lenawee County Courthouse, is located within about 12 miles of the site.

Land Use/Ownership

The site and the surrounding area is farmland. The site is zoned agricultural. Maps, atlases, and county information indicate that the property is privately owned. The closest airport, Brablec Farms (private), is about two miles north of the site.

Ecology

Vegetation

The site is composed primarily of cropland, including wheat, corn, and soybeans. At least three small areas (estimated less than 10 acres each) of second growth forest are scattered about the site. Note that second growth forest is that which has grown after the removal, (whether by cutting, fire, wind), of all or a large part of the previous stand. Ash (*Fraxinus* sp.), oak (*Quercus* sp.), cottonwood (*Populus* sp.), and maple (*Acer* sp.) appear to be the prevalent species in these woodlands. It is possible, but uncertain at this time, that one or more of these areas is wet, since some are in close proximity to a drain. Other non-cropland areas are limited to disturbed roadside right-of-way dominated by tall fescue (*Festuca arundinacea*) or ditches (drains) where cattail (*Typha* sp.) or orchard grass (*Dactylis glomerata*) dominate depending on the amount of moisture available.

Wildlife

The site and surrounding vicinity is mostly cropland with a few scattered and small second growth islands of forest. The small forested areas provide daytime shelter for large mammals such as whitetail deer, nesting areas for birds, and other habitat needs for smaller mammals. Small mammals present in the area likely include opossum, raccoon, striped skunk, and a variety of rodents. Waterfowl (geese and ducks) and game birds presumably feed in the fields after crops are harvested, taking advantage of the grain and other seeds that remain. It is unlikely that fish are present in vicinity, but small amphibians and reptiles can be found in the local ditches.

Example of Land Onsite

Wetlands

The USFWS Wetland Inventory Map for the area does not identify any wetlands on the site. However, there are several small areas of second growth forest on the site that could contain small wetlands. If the wetlands are adjacent to drains or creeks, the Corps would probably regulate the wetland as well as the several drains on the site.

Threatened, Endangered, and Otherwise Protected Species

Six species are known to occur or could potentially occur in Lenawee County that are listed as threatened or endangered under the Endangered Species Act:

- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat occurs on the project site or in the immediate vicinity.
- Bald Eagle (*Haliaeetus leucocephalus*). Federally threatened. Bald eagles are known in the region, but the site is not appropriate for nesting or roosting due to the distance of the site from fishing areas.
- Indiana Bat (*Myotis sodalis*). Federally endangered. Occurring in southern Michigan, although apparently absent in the winter due to lack of hibernacula. The bats generally require large trees (greater than nine inches diameter) with exfoliating bark for summer roosting. If the wooded areas of the site contain large trees, it may be necessary to do clearing during the winter months.
- White Catspaw (*Epioblasma obliquata perobliqua*). Federally endangered. No specimens of this mussel have been confirmed in Michigan since 1930 (in neighboring Wayne and Monroe counties) and only a single extant population is known from Indiana. Suitable habitat does not appear to exist at the project site or in the immediate vicinity.
- Karner Blue Butterfly (*Lycaeides melissa samuelis*). Federally endangered. The species was recorded from neighboring Monroe County in 1986, but is otherwise known from the west-central portion of lower Michigan. Suitable habitat does not appear to exist at the project site or in the immediate vicinity.
- Mitchell's Satyr Butterfly (*Neonympha mitchellii mitchellii*). Federally endangered. The species has been recorded from Lenawee County. However, suitable habitat does not appear to exist at the project site or in the immediate vicinity.

The potential for any protected species to affect the project appears to be minimal. No agencies have been contacted to date regarding protected species issues.

<u>Buffer Area</u>

Distance would be the main buffer between the site and nearby residents and the next nearest concentrations of receptors (town of Britton), as this is an open, agricultural area. In terms of visual impact, a power plant could be seen from a large area surrounding the site.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply (due to the fact that additional power to the grid produces a more reliable power supply). As the site is located in a rural area, there would be minimal impacts to traffic. Housing and demographics would not be affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- This site is located approximately 17.5 miles north of Toledo, Ohio, which has a population of approximately 305,000 (2000 data).
- The population of Lenawee County is approximately 99,000 (2000 data).
- The nearest towns, Britton and Dundee, have populations of 700 and 3522 (all 2000 data), respectively.

Contamination

Contamination potential for the site is minimal based on its current use as agricultural land.

Security

This site would have good security during the construction phase due to its location in a rural area and the potential for visual monitoring of a large area around the site.

Waste Disposal

The Jefferson Smurfit Corporation landfill facility is located 22 miles southeast of the site and this is the nearest waste disposal facility. From the Department of Environmental Quality website it appears that this facility accepts Type III Industrial waste, however further investigation is required as to the number of years of capacity this facility has remaining.

Site Development

Construction Access

Construction access associated with the Site C would be accomplished through the use of US 50, which borders the northeast section of the site. A dedicated site exit off this route will need to be constructed. US 50 may also have to be improved/adapted to be accessible by construction traffic. This will be determined during detailed design.

General Access

This site has flexibility from an access standpoint due to the fact that shipments could be received by rail from the Norfolk Southern, approximately one mile north-west of the site.

Proximity to Major Cities/Labor Markets

The site is located approximately 17.5 miles north of Toledo, Ohio, 20 miles south of Ann Arbor and Livonia. These cities will more than likely be major sources of labor. Toledo is the closest city for housing of workers; other towns such as Britton and Dundee (six miles east of the site) are additional potential housing areas for the site.

Site F (Greenwood Energy Center)

Location

- Within an existing site, currently used as the Greenwood Energy Center.
- The site is three miles west of Port Huron State Game Area, in St. Clair County, Michigan.
- The site occupies part of Section 21, Sections 22 and 27, and part of Section 28 of Township 8 North, Range 15 East.
- The site has not been mapped by FEMA for flood hazard, but is assumed to be outside the Black River floodplain.

Existing Facilities

- There is an 800 MW oil fired peaking unit along with three gas combustion turbines onsite.
- There were no residents onsite or within two miles of the site.
- Kilgore Road crosses the site north-south and serves as the main plant entrance road.
- Two large areas of high quality wetlands exist on this site.

Site Acreage/Topography

The entire site is approximately 1280 acres and is owned by Detroit Edison. The proposed site for the new facilities is 60 acres, located in the southern part of the existing site. The site is two miles from the nearest aggregation of sensitive receptors in the town of Avoca. Site topography is relatively flat with little variation.

Transportation Access

- The site can be accessed from State Route 136, which runs one mile south of the site in an east-west direction. Since this road already provides access to the existing facility, it would not likely require modification to support heavy truck traffic.
- Railroad access would be from a spur track of the CSX Transportation mainline, which is half a mile southwest of the site. However, this rail line would need a significant upgrade.

Aerial Photograph of Site F

Transmission Interconnection

A 345 kV transmission line comes into the site from the south. The transmission line appeared to have an open circuit. Transmission capacity/reliability is assumed to be not as good as the system is islanded.

Environmental conditions along the transmission line corridor are similar to those of the site, with a mixture of cropland, wooded areas, and some wetlands.

Water Source

Groundwater Supply

Wells in the vicinity of Site F pump from the surficial aquifer. The surficial aquifer in this area ranges from 200 to 400 feet thick. The wells around the site yield between 50 and 100 gpm. Maximum yielding wells lie on the western boundary of Site F on Kilgore Road and in the southwest corner of the proposed site at the intersection of Metcalf and Kilgore Roads. The wells in the west are owned by Bethel Power Corporation; those in the southwest are owned by Kuhlman Concrete Company. These wells have static water levels in the range of six to 60 ft below the land surface.

The feasibility of using wells to provide water is moderate to poor. Groundwater quality in this aquifer is considered moderate with moderate levels of water treatment required.

Surface Water

Surface water could be provided by a 10 mile water pipeline from Lake Huron. The existing circulating water system has 40 mgd of excess capacity. The water supply from Lake Huron would be more than adequate to support baseload plant requirements. Water quality in Lake Huron is considered moderate among the Great Lakes, with moderate levels of water treatment required for water withdrawn nearer to shore and less treatment for water withdrawn farther from shore.

Wastewater Discharge

It is assumed that this site will work as a zero discharge facility; therefore, all wastewater will be collected and reused in the process. However if this is not the case, wastewater can either be treated to the correct standard and then discharged half a mile downstream from the intake, or it can be discharged to the closest wastewater treatment plant.

Environmentally Sensitive Areas

There are a few areas of high quality wetlands on the site to the south and southeast of the existing plant facilities. In the area surrounding the site, the nearest sensitive area is the Port Huron State Game Area and the Black River, about three miles east of the site. Lake Huron, as well as Lakeport State Park and Beach, are about seven miles east. Several parks and swimming beaches line the coast of Lake Huron. State game areas are present about 25 miles west, and there is a cluster of state parks and wildlife areas about 27 miles south near Anchor Bay in Lake St. Clair.

Cultural Resources

One NRHP listed cultural resource, the James McColl House, is located approximately 4 miles northwest of the site in the town of Yale. Ruby United Methodist Church, about seven miles south in Clyde Township, is state register listed.

Land Use/Ownership

The area of the site surrounding the existing power plant is farmland with areas of woodlands and wetlands. Most of the site is zoned industrial. The property is owned by Detroit Edison. The closest airport, Tackaberry (public), is about 2.5 miles southwest of the site. Fasel Field, a private airport, is about three miles south.

Ecology

Vegetation

Grassland, shrub, and woodland communities are present on the site and in the immediate vicinity. Based on historic aerial photography, nearly the entire proposed site was cleared and graded in the past. No undisturbed natural communities remain in the area. The grassland is dominated by tall fescue (*Festuca arundinacea*) and orchard grass (*Dactylis glomerata*) and many native and

introduced weedy or early succession species of forbs are present. A portion of these areas may be wetlands. Shrubs present include rose (*Rosa* sp.), willow (*Salix* sp.), sumac (*Rhus* sp.) and blackberry (*Rubus* sp.). The wooded areas are mostly dominated by cottonwood *(Populus deltoides*) and ash (*Fraxinus pensylvancia*).

Wildlife

With the site and surrounding vicinity being a mosaic of fields, woods, and cropland, the area can support a variety of wildlife. Whitetail deer are the largest mammal in the vicinity. Coyote are probably in the area along with a variety of smaller mammals, such as eastern cottontail, opossum, striped skunk, and mice. Amphibians and reptiles should also be expected, especially with the presence of local wetlands. The habitat variety also provides for a diversity of birds, from waterfowl and songbirds to raptors.

Wetlands

According to USFWS National Wetland Inventory mapping, no wetlands occur on the project site. Plum Creek passes west to east across the site and would be regulated as a water of the US by the Corps of Engineers. Staff at the Greenwood facility provided recent wetland studies by private consultants suggesting that portions of the site and surrounding vicinity are occupied by regulated wetlands, some of which were determined to be high quality.

Threatened, Endangered, and Otherwise Protected Species

Three species are known to occur or could potentially occur in St. Clair County that are listed as threatened or endangered under the Endangered Species Act:

- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat occurs on the project site or in the immediate vicinity.
- Indiana Bat (*Myotis sodalis*). Federally endangered. Occurring in southern Michigan, although apparently absent in the winter due to lack of hibernacula. This site is at the northernmost potential distribution of the bat. The bats generally require large trees (greater than nine inches diameter) with exfoliating bark for summer roosting. If the wooded areas of the site contain large trees, it may be necessary to do clearing during the winter months.
- Bald Eagle (*Haliaeetus leucocephalus*). Federally threatened. Bald eagles are known in the region, but the site is not appropriate for nesting or roosting due to the distance of the site from fishing areas.

The potential for any protected species to affect the project appears to be minimal. To date, no agencies have been contacted regarding protected species issues.

<u>Buffer Area</u>

Distance from the nearest town of Avoca as well as the wooded areas around the site would be the main buffers between the site and nearest concentrations of receptors. In terms of visual impact, a

power plant could be seen from a large area surrounding the site, though much of the plant except the stack would be concealed by surrounding vegetation.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply. As the site is located in a rural area and receives traffic for the existing plant, there would be minimal impacts to traffic from a new addition to the plant. Housing and demographics would not be affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- This site is located approximately 11 miles northwest of Port Huron, which has a population of approximately 32,300 (2000 data).
- The population of St. Clair County is approximately 164,200 (2000 data).
- The nearest town, Yale, has a population of 2000 (2000 data).

Contamination

Detroit Edison indicated that it expected no significant onsite contamination other than that typical of industrial facilities.

Security

This site would have good security during the construction phase due to its location in a rural area and the potential for visual monitoring of a large area around the site.

Waste Disposal

The Detroit Edison Company has an ash disposal landfill close to the Belle River site. This is 25 miles southeast of Site F and is the nearest waste disposal facility.

Site Development

Construction Access

Construction access associated with the Site F would be accomplished through the use of State Route 136, which runs one mile south of the site, then Duce Road. Duce Road may need to be widened and improved to be useable by construction traffic. This will be determined during detailed design.

General Access

This site has flexibility from an access standpoint due to the fact that shipments could be received by rail from the CSX Transportation if the rail line is upgraded, which is 0.5 mile southwest of the site.

Proximity to Major Cities/Labor Markets

The site is located approximately 11 miles northwest of Port Huron and 50 miles north of Detroit. These cities will more than likely be major sources of labor. Port Huron is the closest city for housing of workers; other towns such as Yale are additional potential housing areas for the site.

Site M (Fermi)

Location

- Approximately 12 miles north of the Michigan/Ohio State boundary.
- Eight miles northeast of the town of Monroe.
- Located in Monroe County, Michigan.
- The site occupies Sections 16 and 17 of Township 6 South, Range 10 East in the Frenchtown Township.
- Site is located partially inside the Swan Creek/Lake Erie floodplain.

Existing Facilities

- This site is the existing Fermi II Power Plant.
- This site has large amounts of woodland areas and wetland areas and includes the largest parcel of the Detroit International Wildlife Refuge, about 600 acres, on which the US Fish and Wildlife Service will protect and manage fish and wildlife populations.
- From site aerial photos and boundary information provided by Detroit Edison, there do not appear to be any residents on this site. There are some residences within two miles of the site.
- A number of roads run through the site, which are mostly used for access to the Fermi Plant; these include Lagoona Boulevard and Doxy Road.

Site Acreage/Topography

The entire site is approximately 1260 acres and is owned by the Detroit Edison Company. The proposed site for the new nuclear facilities is 20 acres, located in the northern part of the existing site. The site is two miles from the nearest aggregation of sensitive receptors. Site topography is flat with very little variation.

Transportation Access

- The site can be accessed from US 75. Since this is an existing plant already served by surrounding roads, no road modifications would be required.
- The Conrail America runs two miles west of the site.

Transmission Interconnection

There is a 345 kV transmission line running through the site. For adding an additional unit, the transmission capacity/reliability is considered good. Environmental conditions along the transmission line corridor are not significant.

Aerial Photograph of Site M

Water Source

Groundwater Supply

Well records for this site were investigated from Sections 16 and 17 of Frenchtown Township 6 South, Range 10 East. Wells in these sections use the Silurian/Devonian bedrock aquifer, which is between 100 to 200 feet deep in this area. Existing wells yielding between 650 to 850 gallons per minute (gpm) were found in both Section 16 and 17 and were used for domestic purposes. These wells had static water levels in the range of 6 to 20 ft below the land surface. No evidence of surficial aquifer yield was found in the well records. Further investigation is needed into whether this water source is available for use in power production.

The feasibility of using wells to provide water is moderate to poor. Groundwater quality in this aquifer is considered moderate with moderate levels of water treatment required.

Surface Water

The site is approximately one mile inland from Lake Erie; which is currently used for Fermi's water supply. The Lake Erie water supply is more than adequate to support baseload plant requirements, but will require higher levels of water treatment.

Wastewater Discharge

It is assumed that this site will work as a zero discharge facility; therefore, all wastewater will be collected and reused in the process. However if this is not the case, wastewater can either be treated to the correct standard and then discharged half a mile downstream from the intake, or it can be discharged to the closest wastewater treatment plant.

Environmentally Sensitive Areas

A large portion (about 600 acres) of the site is part of the Detroit International Wildlife Refuge, in accordance with a cooperative agreement with the US Fish and Wildlife Service. The Detroit River International Wildlife Refuge is located along the lower Detroit River and western shoreline of Lake Erie. It was established in 2001 as the first International Wildlife Refuge in North America. The authorized refuge boundary includes islands, coastal wetlands, marshes, shoals, and waterfront lands along 48 miles of shoreline. It is one of only a few refuges situated in a major metropolitan area. The Detroit River International Wildlife Refuge will conserve, protect, and restore habitat for 29 species of waterfowl, 65 fish species, and 300 species of migratory birds.

The next nearest sensitive area to the site is Point Mouillee State Game Area, about 1.5 miles northeast of the site. Sterling State Park is about 2.5 miles south. Across Lake Erie on the Ohio shore are Maumee Bay State Park, Cedar Point and Ottawa National Wildlife Refuges, Crane Creek State Park, and several other designated areas further east.

Cultural Resources

No NRHP and/or state listed cultural resources were identified within a mile of the site. The nearest cultural resource is the national register listed Edward Loranger House about five miles northwest, and there are several properties listed in Monroe, about six miles south of the site.

Land Use/Ownership

The site and surrounding area is farmland. The site is zoned agricultural by the Summerfield Township of Monroe County. The closest airport, Newport Woods (private), is three miles west of the site.

Ecology

Vegetation

The project site is mostly cleared and lacks vegetation, with the possible exception of utility ponds that may have been abandoned and have developed wetland vegetation, mostly cattail (*Typha* sp.) and common reed (*Phragmites australis*).

Wildlife

Small wildlife populations can be found onsite, although habitat availability is limited. Wildlife in the form of mammals (fox, coyote, deer), birds, amphibians, and reptiles does occur in the surrounding wildlife conservation areas.

Wetlands

The project area does not appear to contain regulated wetlands as the area has been previously cleared or otherwise disturbed. Wetlands and other regulated waters (e.g., Lake Erie) do surround the existing facility and it is expected that any new development would need to demonstrate that construction and operation would have no effect on these regulated areas or be prepared to provide compensatory mitigation.

Threatened, Endangered and Otherwise Protected Species

Seven species are known to occur or could potentially occur in Monroe County that are listed as threatened or endangered under the Endangered Species Act:

- Indiana Bat (*Myotis sodalis*). Federally endangered. Occurring in southern Michigan, although apparently absent in the winter due to lack of hibernacula. The bats generally require large trees (over nine inches diameter) with exfoliating bark for summer roosting. Site development would require no tree clearing and there appear to be no woodlands containing large trees in the immediate vicinity. Therefore the potential for the project at this site to affect the Indiana bat appears remote.
- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat appears to exist at the site occurs on the project site or in the immediate vicinity.
- White Catspaw (*Epioblasma obliquata perobliqua*). Federally endangered. No specimens of this mussel have been confirmed in Michigan since 1930 and but a single extant population is known from Indiana. Suitable habitat does not appear to exist at the project site or in the immediate vicinity.
- Northern Riffleshell (*Epioblasma torulosa rangiana*). Federally endangered. An inhabitant of swift, well-oxygenated streams with fine to coarse gravel substrates. Over the past 20 years this mussel has only been found in Monroe and Wayne counties. Suitable habitat does not exist on the project site.
- Bald Eagle (*Haliaeetus leucocephalus*). Federally threatened. Bald eagles are known in the region but the site is not appropriate for nesting or roosting due to the lack of large trees on site.
- Karner Blue Butterfly (*Lycaeides melissa samuelis*). Federally endangered. Not seen in Monroe County since 1986 and otherwise known from the west central portion of lower Michigan. Suitable habitat does not appear to exist at the project site or in the immediate vicinity.

- Mitchell's Satyr Butterfly (*Neonympha mitchellii mitchellii*). Federally endangered. Not previously reported from Monroe County but the species has been recorded from Lenawee and Washtenaw counties to the west. However, suitable habitat does not appear to exist at the project site or in the immediate vicinity.

The project site is entirely disturbed. As such, there is a low probability that any of these species would occur on the site. It would be prudent to consult the managers of adjacent conservation areas to be certain that no unusual species use those habitats.

Buffer Area

Distance would be the main buffer between the site and nearest concentrations of receptors. The site has a substantial buffer.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply. As the site is located in a relatively developed area, there would be some impacts to traffic during construction. Housing and demographics would not be affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- The site is located 25 miles northeast of Toledo, Ohio, which has a population of approximately 313,600 (2000 data).
- The population of Monroe County is approximately 146,000 (2000 data).
- The nearest town, Monroe, has a population of 22,000 (2000 data).

Contamination

Detroit Edison has indicated that no significant contamination would be expected at the site other than that typical of industrial facilities.

Security

This site can be accessed from Lake Erie and, as it is also an existing nuclear plant, there is a high level of security risk during the construction phase.

Site Development

Construction Access

As Site M is the existing Fermi 2 Power Plant, access to the site is good; therefore, construction access would be accomplished through the use of Interstate 75.

General Access

This site has some flexibility from an access standpoint due to its proximity to a state/interstate highway system and a natural gas pipeline that runs through the site. A rail line comes into the site, but security concerns in light of onsite nuclear operations would prevent its use.

Proximity to Major Cities/Labor Markets

The site is located approximately 25 miles northeast of Toledo, Ohio. This city is likely to provide the additional source of labor. The city of Monroe could also be used to house workers.

Site N (Belle River/St. Clair)

Location

- Approximately one mile west of the United States/Canada border.
- 4 miles north of Marine City and 4 miles south of St. Clair.
- 15 miles east of the Macomb County line, in St. Clair County, Michigan.
- The site occupies Sections 13, 18, 19, 30, and 31 of Township 4 North, Ranges 16 East and 17 East in the China and East China Townships.
- Site does have several scattered areas inside the 100 year Belle River floodplain.

Existing Facilities

- This site is shared by the existing Belle River and St. Clair Power Plants.
- This site appears to have large amounts of agricultural land and some woodland areas.
- From site aerial photos and boundary information provided by Detroit Edison, there do not appear to be any residents on this site, although there are some (five or less) within two miles of the site. All the facilities onsite are assumed to be associated with the power plants.
- River Road runs through the site, north-south. State Route 29 runs northeast to southwest and divides the St. Clair plant on the east from the rest of the property.

Site Acreage/Topography

Belle River and St. Clair cover areas of 1860 and 226 acres, respectively. Both of these sites are owned by the Detroit Edison Company. The proposed site for the new facility is 1200 acres, located in the northwestern part of the existing site.

The site is two miles from the nearest aggregation of sensitive receptors. Site topography is flat with very little variation.

Transportation Access

- The site can be accessed from State Route 29, which runs through the site. Since this is an existing power plant served by local roads, no road modifications would be needed.
- The CSX Transportation line runs along the eastern border of the site one mile west of the site; its capacity is unknown.
- The site can also be accessed from the St. Clair River via barge.

Aerial Photograph of Site N

Transmission Interconnection

There is a 345 kV transmission line running through the site. The line is fairly congested, partly because of the recent loss of a critical double-circuit tower. Considering these factors, transmission capacity/reliability in the area is considered fair. However, a load flow study of the transmission line is recommended.

Environmental conditions along the transmission line corridor are not significant.

Water Source

Groundwater Supply

Well records in the area, from Sections 13, 18, 19, and 30 of China Township 4 North, Ranges 16 and 17 East were analyzed. Wells in these sections use the surficial aquifer, which is between 200 to 400 feet deep in the area. Wells in the four sections yield between 10 to 15 gpm and were used

for domestic purposes. These wells have static water levels in the range of 12 to 60 ft below the land surface. The feasibility of using wells to provide water is poor. Groundwater quality in this aquifer is considered moderate with moderate levels of water treatment required.

Surface Water

The site is approximately two miles west of the St. Clair River. The river is an adequate source for plant needs since it supplies the existing Belle River and St. Clair Power Plants.

The daily average flow for the St. Clair River based on navigational records is 188,000 cubic feet per second or approximately 121 billion gallons per day, which is more than adequate to support maximum baseload plant requirements. The quality of the St. Clair River has been affected by the large number of recreational boaters using the river as well as industry and increasing development of the surrounding area. Water quality in the St. Clair River is considered moderate to poor with corresponding levels of water treatment required.

Wastewater Discharge

It is assumed that this site will work as a zero discharge facility; therefore, all wastewater will be collected and reused in the process. However if this is not the case, wastewater can either be treated to the correct standard and then discharged half a mile downstream from the intake, or it can be discharged to the closest wastewater treatment plant.

Environmentally Sensitive Areas

The nearest sensitive area to the site is East China Township Park, just south of the site and southwest of the intersection of Recor and River Roads. A few other small, local parks are present in the surrounding area. Algonac State Park is about eight miles south of the site.

Cultural Resources

One state listed cultural resource, the East China Fractional District No. 2 School, is located about 1.5 miles southeast of the site. There are several properties with dual national and state listing in Marine City and St. Clair, about four miles south and north of the site, respectively.

Land Use/Ownership

The site is owned by Detroit Edison and supports two existing power generating facilities. It is zoned industrial. The closest airport, Wenning Landing Area (private), is two miles west of the site.

Ecology

Vegetation

Site development areas are mostly cleared and contain no vegetation or are young woodlands or brush communities that have grown up over previously disturbed ground. Cottonwoods (*Populus deltoides*) and green ash (*Fraxinus pensylvanica*) are common in the wooded areas. Species

diversity in the understory and more open areas is low and composed largely of weedy, non-native plants.

Wildlife

Wildlife in the project vicinity is limited by habitat diversity and the proximity of the site to industrial development. Expected species of mammals include those typical of partially urbanized areas in the region: whitetail deer, raccoon, striped skunk, opossum, and various rodents. Various songbirds use the area as do raptors such as the red-tailed hawk and game birds, such as ring-necked pheasant. Some amphibians and reptiles are probably present, but unusual species would not be expected due to the disturbed character of the area.

Wetlands

National Wetland Inventory mapping of the area does not identify wetlands on the project site, but there are several utility ponds that may have been abandoned for a sufficient period to be considered waters of the US. These are dominated by cattail and common reed and these could be regulated if they have been abandoned for more than five years. If there are drainage connections to the St. Clair River (a navigable water under Section 10) that would be disturbed, these also could be regulated.

Threatened, Endangered and Otherwise Protected Species

Three species are known to occur or could potentially occur in St. Clair County that are listed as threatened or endangered under the Endangered Species Act:

- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat occurs on the project site or in the immediate vicinity.
- Indiana Bat (*Myotis sodalis*). Federally endangered. Occurring in southern Michigan, although apparently absent in the winter due to lack of hibernacula. The bats generally require large trees (over nine inches diameter) with exfoliating bark for summer roosting. If large trees are present it may be necessary to do the clearing during the winter months.
- Bald Eagle (*Haliaeetus leucocephalus*). Federally threatened. Bald eagles are known in the region but the site is not appropriate for nesting or roosting due to the distance of the site from fishing areas.

The potential for any protected species to affect the project appears to be minimal due to the type of habitat present. No agencies have been contacted to date regarding protected species issues.

<u>Buffer Area</u>

Distance would be the main buffer between the site and nearest concentrations of receptors. Belle River has substantial buffer areas, while St. Clair has somewhat less since it is on the river and lacks the large areas of farmland and woods that surround Belle River.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply. There would be minor impacts to traffic during construction. Housing and demographics would not be affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- The site is located 50 miles northeast of Detroit, which has a population of approximately 900,000 (2004 data).
- The population of St. Clair County is approximately 164,200 (2000 data).
- The nearest towns, St. Clair and Marine City, have a population of 5800 and 4650 respectively (2000 data).

Contamination

Detroit Edison indicated that it expected no significant onsite contamination other than that typical of industrial facilities.

Security

Although this is an existing facility, Belle River would not have a high level of security risk during construction because of its large vegetative buffer area and the potential for visual monitoring of a large area around the site. St. Clair would be more at risk because of the possibility of direct access to the plant from the river.

Site Development

Construction Access

As Site N is the existing Belle River and St. Clair Power Plants, access to the site is good; therefore, construction access would be accomplished through the use of State Route 29, which runs through the site, or King Road, which is west of the site.

General Access

This site has flexibility from an access standpoint due to the fact that shipments could be received by rail from the CSX Transportation Line that runs along the eastern border of the site. Not only could the rail line be used for construction, but also for outgoing product/waste. The St. Clair portion of the site is readily accessible by vessel.

Proximity to Major Cities/Labor Markets

The site is located approximately 50 miles northeast of Detroit. This city is likely to provide the additional source of labor. St. Clair and Marine City could also be used to house workers.

Site W1 (Port Austin)

Location

- Approximately half a mile east of Lake Huron and two miles southwest of Port Austin.
- State Road 53 borders the eastern side of the site.
- The site is located in Huron County, Michigan.
- The site occupies Sections 1, 2, 11, 12, 13, 14, 15, 22, 23, 24, 31 and 36 of Township 18 North, Range 12-13 East, and Township 19 North, Range 12-14 East.
- The site has not been mapped by FEMA for flood hazard, but is assumed to be at least partially within the floodplains of Bird Creek and other nearby small creeks.

Existing Facilities

- This is a greenfield site, currently used as farmland with areas of woodland. Corn is the major crop grown on the site.
- There are approximately 85 landowners.
- All the roads leading into this site are gravel roads.
- State Route 53 runs north-south along the eastern side of the site.
- Port Austin Air Force Station is located a quarter mile north of the site.
- There is a golf course half a mile to the east of the site.
- The soil is more sandy than clay.

Site Acreage/Topography

This site is approximately 6557 acres with 85 private owners. There is an aggregation of sensitive receptors onsite. Site topography is flat with very little variation.

Transportation Access

- The site can be accessed from US 53, which runs through the site. Some minor roads would require modification to support heavy truck traffic.
- Railroad access would be from a spur track from the Huron and Eastern mainline that borders the northern side of the site.

Transmission Interconnection

There is no 345 kV transmission line in Huron County. Environmental conditions along the corridor of the line connecting to the existing 120 kV line would not be significant.

Aerial Photograph of Site W1

Environmentally Sensitive Areas

The nearest environmentally sensitive area is Port Crescent State Park adjacent to the southwest. Lake Huron is about a quarter mile west, and several county parks line the Saginaw Bay shore west of the site. Rush Lake State Game Area and Albert E. Sleeper State Park are located five miles southwest. Several recreational fishing and boating areas are present along the tip of the thumb, as well as two lighthouses - Port Austin Reef Light three miles north and Point Aux Barques Light about nine miles east. Grindstone City historic site is five miles northeast, and the Thumb Area Bottomland Preserve historic site is about eight miles northeast. Farther away are Wildfowl Bay State Wildlife Area 15 miles southwest in Saginaw Bay of Lake Huron, Fish Point State Wildlife Area about 25 miles southwest, and several additional state game areas to the south and southeast.

Port Crescent State Park, Rush Lake State Game Area, and Fish Point State Wildlife Area are important stops for migratory birds in the spring and fall. The major bat areas in Michigan are much farther north in the Upper Peninsula.

Cultural Resources

One state listed cultural resource, the Port Crescent Ghost Town (part of Port Crescent State Park) is located within 1/4 mile of the southwest portion of the site. Three NRHP listed properties, two houses and the Winsor and Snover Bank Building, are located within about a mile northeast of the site in Port Austin.

Land Use/Ownership

The site and the surrounding area is farmland. The site is zoned agricultural. Huron County zoning is controlled by different governing bodies depending on location, but the majority of zoning authority rests with the townships/cities/villages. Maps, atlases, and county information indicate that the property is privately owned. The closest airport, Grindstone Air Harbor (public), is two miles north of the site in Port Austin.

Existing Structure Onsite

Ecology

Vegetation

The site is predominantly cultivated farmland used for corn, wheat, sugar beets, or other row crops. Several small woodlots of about 10 to 35 acres are scattered on the site. These dry to wet woodlands are dominated by bigtooth poplar (*Populus grandidentata*), ash (*Fraxinus* sp.), and red maple (*Acer rubrum*), but contain a number of other tree species common to the region. It appears that these areas have a relatively healthy understory as well. The open ditches are dominated by tall fescue (*Festuca arundinacea*) and orchard grass (*Dactylis glomerata*).

Wildlife

Although much of the site is cultivated land and of little value to wildlife, the site is in close proximity to Lake Huron, sand dune habitat, and forested wetlands. As such, the potential for wildlife to frequent the project site is significant. In addition, onsite woodlands are attractive areas as wildlife

shelters. Common wildlife to the area presumably includes species such as whitetail deer, woodchucks, raccoons, striped skunks, red-winged blackbirds, American crows, and others.

Example of Land Onsite

Wetlands

USFWS National Wetland Inventory mapping identifies the presence of six forested wetlands on the site varying from about 10 to 30 acres each. Most of the wetlands are associated with the coastal zone of Lake Huron or drainage features on the property. As such, it should be expected that these would be regulated under Section 404 of the Clean Water Act. Given the scattered nature of the sites on the property, these can most likely be avoided during development, which would eliminate the need for 404 permitting. Lastly, it is noted that forested wetlands lie along most of the western edge of the property and impacts to these areas should also be avoided.

Threatened, Endangered, and Otherwise Protected Species

Two species occur in Huron County, Michigan, that are listed as threatened or endangered under the Endangered Species Act, which is implemented by the US Fish and Wildlife Service. These species are:

- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat appears to exist at the site or in the immediate vicinity.

- Pitcher's thistle (*Cirsium pitcheri*). Federally threatened. Pitcher's thistle is endemic to sandy shoreline dunes along the Great Lakes. This habitat is not present on the project site or in the immediate vicinity.

The project should have no effect on the continued existence of either species. No agencies have been contacted to date regarding protected species issues.

Buffer Area

The site would have a moderate buffer.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply. As the site is located in a rural area, there would be minimal impacts to traffic. Housing and demographics would not be affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- This site is located approximately 42 miles northeast of Bay City, which has a population of approximately 36,800 (2000 data).
- The population of Huron County is approximately 36,100 (2000 data).
- The nearest town, Port Austin, has a population of 740 (2000 data).

Site Development

Construction Access

Construction access associated with the Site W1 would be accomplished through the use of US 53, which runs along the eastern border of the site.

General Access

Even though the site has access via rail (the Huron and Eastern Line borders the northern side of site), it is unlikely that this will be used to transport materials during the construction phase as the road access is adequate.

Proximity to Major Cities/Labor Markets

The site is located 45 miles northeast of Bay City and two miles south of Port Austin. These cities are likely to be the major sources of construction labor.

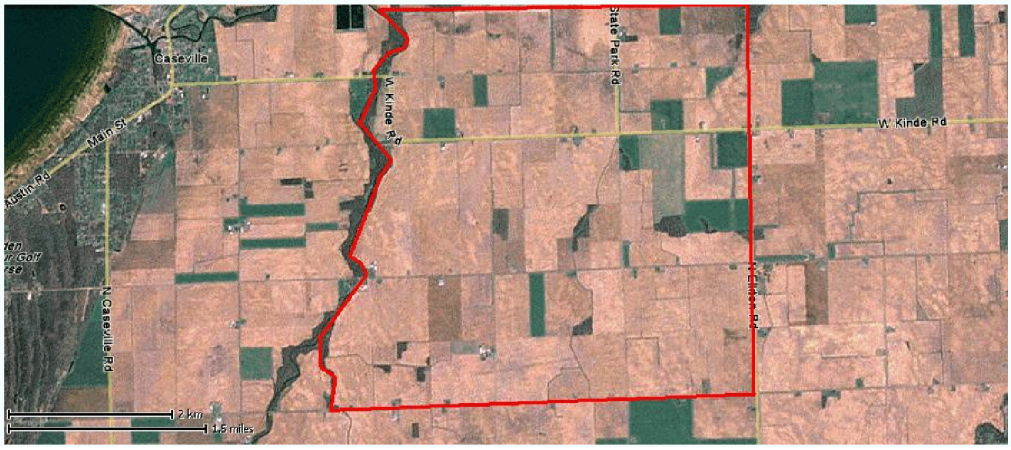
Site W2 (Caseville)

Location

- Approximately 2.5 miles south of Lake Huron, two miles east of the town of Caseville, in Huron County, Michigan.
- Rush State Lake and Game Area is located one mile north east of the site
- The site borders Rush Lake drain to the west of the site.
- A very small portion of the western edge of the site along the Pigeon River is in Zone A, the 100 year floodplain, but the remainder of the site is in the zone of minimal flooding, Zone C.
- The site occupies Sections 31, 32 and 33 of Township 18 North, Range 11 East, Section 12 of Township 17 North, Range 10 East, and Sections 4, 5, 6, 7, 8 and 9 of Township 17 North, Range 11 East.

Existing Facilities

- This is a greenfield site, currently used as farmland.
- There are approximately 90 landowners in the area.
- Kinde Road and Dufty Road cross the site east-west and Maxwell Road crosses north-south.



Aerial Photograph of Site W2

Site Acreage/Topography

This site is approximately 5757 acres of land with 90 private owners. There is a aggregation of sensitive receptors on site. Site topography is flat with very little variation.

Transportation Access

- The site can be accessed from State Route 25, which runs 2.5 miles north of the site along the coast. Some minor roads would require modification to support heavy truck traffic.
- Railroad access would be from a spur track of the Huron and Eastern mainline which runs 1.5 miles to the west of the site.

Transmission Interconnection

There is no 345 kV transmission line in Huron County. Environmental conditions along the corridor of the line connecting to the existing 120 kV line would not be significant.

Environmentally Sensitive Areas

The nearest environmentally sensitive areas are Rush Lake State Game Area and Albert E. Sleeper State Park, about one mile northeast of the site. Several county parks line the shore on Saginaw Bay in Lake Huron about 2.5 miles north of the site. Port Crescent State Park is about two miles northeast. About seven miles southwest is Wildfowl Bay State Wildlife Area; Fish Point State Wildlife Area is about 15 miles southwest, and there are several additional state game areas to the south and southeast.

Port Crescent State Park, Rush Lake State Game Area, Wildfowl Bay State Wildlife Area, and Fish Point State Wildlife Area are important stops for migratory birds in the spring and fall. The areas in Michigan known to be frequented by bats are much farther north in the Upper Peninsula.

Cultural Resources

No NRHP and/or state listed cultural resources are located within one mile of the site.

Land Use/Ownership

The site and the surrounding area is farmland. The site is zoned agricultural by Huron County. According to staff at Huron County offices, the village of Caseville, two miles west of the site, is one of the 11 cities/villages that controls its own zoning. Maps, atlases, and county information indicate that the property is privately owned. The closest airport, Farver Field (private), is three miles west of the site, in Caseville.

Example of Land Onsite

Ecology

Vegetation

The project site is dominated by cropland used to produce wheat, corn, and other row crops. Ditch areas are dominated by non-native orchard grass (*Dactylis glomerata*) and thickets of poison ivy (*Toxicodendron radicans*). On the west boundary of the site is a forested riverine corridor along the Pigeon River. This appears to be an area of minimal disturbance and dominated by native flora.

Wildlife

The majority of the site is of little value to wildlife since it is almost entirely cropland. Wildlife diversity is the greatest along the west side of the site within the wooded Pigeon River corridor. The riverine area likely supports an array of mammals, birds, amphibians, and reptiles common to the region by providing foraging areas and shelter. The corridor is probably especially attractive because of the foraging opportunities provided by the nearby cropland. Common wildlife to the area presumably includes species such as whitetail deer, woodchucks, raccoons, striped skunks, red-winged blackbirds, American crows, and others.

Wetlands

The Pigeon River lies along the west boundary of the project area. The river corridor is regulated by the Corps of Engineers as a water of the US under Section 404 of the Clean Water Act. Fisher Drain crosses the southeast corner of the site and may also be regulated by the Corps. Both watercourses are mapped as forested or shrubby wetlands by the USFWS National Wetland Inventory.

Threatened, Endangered, and Otherwise Protected Species

Two species occur in Huron County, Michigan, that are listed as threatened or endangered under the Endangered Species Act, which is regulated by the US Fish and Wildlife Service. These species are:

- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat appears to exist at the site or in the immediate vicinity.
- Pitcher's thistle (*Cirsium pitcheri*). Federally threatened. Pitcher's thistle is endemic to sandy shoreline dunes along the Great Lakes. This habitat is not present on the project site or in the immediate vicinity.

The project should have no effect on the continued existence of either species. Concerned agencies have not been contacted to date regarding protected species issues.

Buffer Area

The site would have a moderate buffer.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply. As the site is located in a rural area, there would be minimal impacts to traffic. Housing and demographics would not be affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- This site is located approximately 37.5 miles northeast of Bay City, which has a population of approximately 36,800 (2000 data).
- The population of Huron County is approximately 36,100 (2000 data).
- The nearest town, Caseville, has a population of 888 (2000 data).

Site Development

Construction Access

Construction access associated with the Site W2 would be accomplished through the use of State Route 25, which runs 2.5 miles north of the site.

General Access

Even though the site has access via rail (the Huron and Eastern Line runs 1.5 miles to the west of the site), it is unlikely that this will be used to transport materials during the construction phase as the road access is adequate.

Proximity to Major Cities/Labor Markets

The site is located 40 miles northeast Bay City and two miles west of Caseville. These cities are likely to be the major sources of construction labor.

Site W3 (Bay Port)

Location

- Approximately 4 miles east of Saginaw Bay, 1.5 miles northwest of the town of Pigeon, in Huron County, Michigan.
- The site has not been mapped by FEMA for flood hazard. The largest area of the site lies between Wasserman Creek and the Pigeon River, which is unlikely to be in a floodplain because of its higher elevation. The eastern and western portions of the site adjacent to the creek and river may be in the floodplain.
- The site occupies Sections 10, 15, 16, 20, 21, 22, 27, 28, 29, 33, and 34 of Township 17 North, Range 10 East and parts of Sections 3 and 4 of Township 16 North, Range 10 East. The location of this site currently crosses two townships.

Existing Facilities

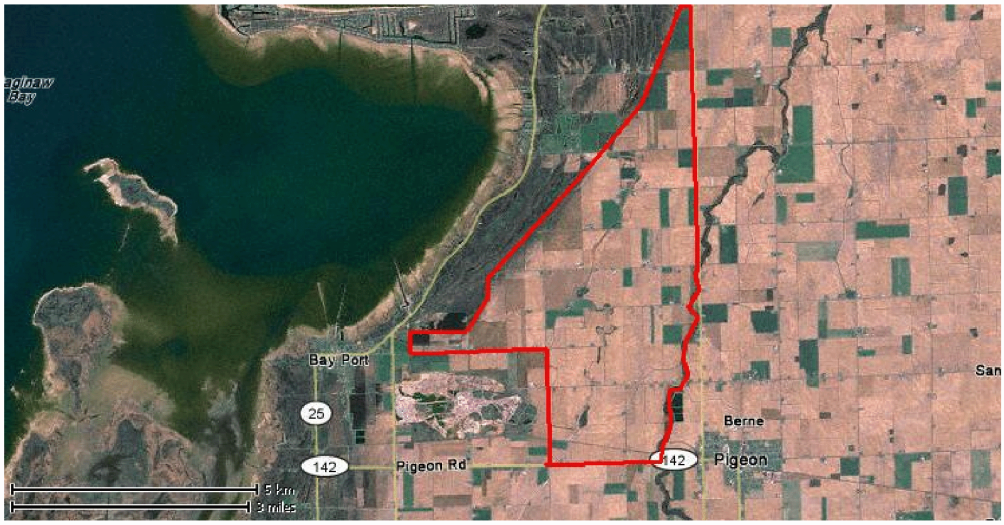
- This is a greenfield site, currently used as farmland. The majority of the crops grown here are wheat and corn.
- There are approximately 120 landowners. The homes and farmsteads are well maintained and fairly significant in size. Campbell Road is a paved road running east-west, Brown Road is gravel, and the site has a cemetery on the western portion within Section 33
- The site is flat, with an approximate five foot drop in elevation across it.
- A number of roads cross the site: Henne Road and Berne Road run east-west and Brown Road and Smith Road run north-south.
- Pigeon River, Mud Creek, and Wasserman Creek all cross the site.
- The site is about one mile east of a quarry.
- The soil is sandy clay.

Site Acreage/Topography

This site is approximately 5743 acres of privately (120 owners) owned parcels. There is an aggregation of sensitive receptors on site. Site topography is flat with very little variation.

Transportation Access

- The site can be accessed from State Route 142, which runs half a mile south of the site and State Route 25, which runs 1.5 miles to the northwest of the site. Some minor roads would require modification to support heavy truck traffic.
- Railroad access would be from a spur track of the Huron and Eastern mainline, which runs one mile south of the site.



Aerial Photograph of Site W3

Transmission Interconnection

There is no 345 kV transmission line in Huron County. Environmental conditions along the corridor of the line connecting to the existing 120 kV line would not be significant.

Environmentally Sensitive Areas

The nearest environmentally sensitive area to the site is the Wildfowl Bay State Wildlife Area 4 miles west in Saginaw Bay of Lake Huron. Fish Point State Wildlife Area is about nine miles southwest. About six miles northeast is Rush Lake State Game Area/Albert E. Sleeper State Park, followed by Port Crescent State Park seven miles northeast. There are also several state game areas about 18 miles south and southeast.

Wildfowl Bay State Wildlife Area, Port Crescent State Park, Rush Lake State Game Area, and Fish Point State Wildlife Area are important stops for migratory birds in the spring and fall. Well known bat habitat areas occur much farther north in Michigan's Upper Peninsula.

Cultural Resources

Two state register listed cultural resources are located within about six miles of the site; the Pigeon Depot about two miles southeast and the Saginaw, Tuscola, and Huron Railroad Elkton Depot about six miles southeast.

Land Use/Ownership

The site and the surrounding area is farmland. The site is zoned agricultural by the McKinley Township of Huron County. Maps, atlases, and county information indicate that the property is privately owned. The closest airport, Farver Field (private), is five miles north of the site, in Caseville.

Existing Properties Onsite

Ecology

Vegetation

The project site is dominated by cropland used to produce wheat, corn, and other row crops. Two narrow riparian corridors flow south to north across the site: Wasserman Creek in the west half of the site and Pigeon River on the east side. These corridors are wooded, mostly cottonwood (*Populus deltoids*) and green ash (*Fraxinus pensylvanica*), and there appears to be good understory and ground cover to provide plant community diversity. Ditch areas are present, and these are dominated by non-native orchard grass (*Dactylis glomerata*) and red clover (*Trifolium pratense*) with occasional thickets of poison ivy (*Toxicodendron radicans*).

Wildlife

Areas of the site that would presumably be developed are of little value to wildlife since a large portion of the site is cropland. Wildlife diversity would be greatest along the two watercourses. These forested riparian corridors likely support an array of mammals, birds, amphibians, and reptiles common to the region by providing foraging areas and shelter. In addition, these corridors may be especially attractive to wildlife because of the foraging opportunities provided by the nearby cropland. Common wildlife to the area presumably includes species such as whitetail deer, woodchucks, raccoons, striped skunks, red-winged blackbirds, American crows, and others.

Example of Land Onsite

Wetlands

Two wetland corridors cross the project site: Wasserman Creek and Pigeon River. Both corridors would be regulated as waters of the US under Section 404 of the Clean Water Act and are mapped by the USFWS National Wetland Inventory program.

Threatened, Endangered, and Otherwise Protected Species

Two species occur in Huron County, Michigan, that are listed as threatened or endangered under the Endangered Species Act, which is implemented by the US Fish and Wildlife Service. These species are:

- Prairie White-fringed Orchid (*Platanthera leucophaea*). Federally endangered. The plant is known mostly from lakeplain prairies around Saginaw Bay and western Lake Erie. No such habitat appears to exist at the site or in the immediate vicinity.
- Pitcher's thistle (*Cirsium pitcheri*). Federally threatened. Pitcher's thistle is endemic to sandy shoreline dunes along the Great Lakes. This habitat is not present on the project site or in the immediate vicinity.

The project should have no effect on the continued existence of either species. Concerned agencies have not been contacted to date regarding protected species issues.

Buffer Area

The site would have a moderate buffer.

Socioeconomics

Power plant development at the site would have a beneficial effect on the surrounding area through the creation of employment opportunities in construction and operation of the plant as well as providing a more reliable power supply. As the site is located in a rural area, there would be minimal impacts to traffic. Housing and demographics would not be affected since workers would likely stay in nearby cities or commute from the surrounding area.

Population

- This site is located approximately 31 miles northeast of Bay City, which has a population of approximately 36,800 (2000 data).
- The population of Huron County is approximately 36,100 (2000 data).
- The nearest town, Pigeon, has a population of 1200 (2000 data).

Site Development

At this site, the facility would have to be placed between the creek and the river to avoid environmental concerns associated with riparian corridors.

Construction Access

Construction access associated with the Site W3 would be accomplished through the use of State Route 142, which runs half a mile south of the site and State Route 25 which runs 1.5 miles to the north-west of the site.

General Access

Even though the site has access via rail (the Chesapeake and Ohio Line runs one mile south of the site), it is unlikely that this will be used to transport materials during the construction phase as the road access is adequate.

Proximity to Major Cities/Labor Markets

The site is located 35 miles northeast Bay City and five miles east of Caseville. These cities are likely to be the major sources of construction labor.