

**SECTION U: COASTAL ZONE MANAGEMENT ACT CONSISTENCY
DETERMINATION**

Initial Review: _____
Updated On: _____
Approved: _____
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Coastal Zone Management Act Federal Consistency Form

This document provides the Pennsylvania Coastal Resources Management Program (CRM) with a Federal Consistency Determination or Certification for activities regulated under the Coastal Zone Management Act of 1972, as amended, and NOAA's Federal Consistency Regulations, 15 C.F.R. Part 930. Federal agencies and other applicants for federal consistency are not required to use this form; it is provided to applicants to facilitate the submission of a Consistency Determination or Consistency Certification.

I. Project/Activity Title and Reference Number:

Title:	Lake Erie Connector Project
Ref. No.	

II. Applicant Contact Information:

Contact Name/Title: Andrew Jamieson, Counsel

Federal Agency AND Contractor
Name (if applicable): _____

Mailing Address: ITC Lake Erie Connector, LLC; 27175 Energy Way

City/State: Novi, MI Zip Code: 48377 Telephone #: (248) 946-3000

E-mail: ajamieson@itctransco.com Mobile #: () Fax #: (248) 946-3229

III. Federal Consistency Category:

- | | |
|---|--|
| <input type="checkbox"/> Federal Activity or Development Project
(15 C.F.R. Part 930, Subpart C) | <input checked="" type="checkbox"/> Federal License or Permit Activity
(15 C.F.R. Part 930, Subpart D) |
| <input type="checkbox"/> Outer Continental Shelf Activity
(15 C.F.R. Part 930, Subpart E) | <input type="checkbox"/> Federal Financial Assistance to State or Local
Governments (15 C.F.R. Part 930, Subpart F) |
| <input type="checkbox"/> Federal Activity with Interstate Coastal Effects
(For this category, you should also select the applicable Subpart (C, D, E, or F) from above)
(15 C.F.R. Part 930, Subpart I) | |

IV. Detailed Project Description (attach additional sheets if necessary):

Please see attached report.

V. General Analysis of Coastal Effects (attach additional sheets if necessary):

Please see attached report.

VI. Detailed Analysis of Consistency with CRM Enforceable Policies (attach additional sheets if necessary):

Policy 1: Coastal Hazard Areas

NA ☐

Please see attached report.

Policy 2: Dredging and Spoil Disposal

NA ☐

Please see attached report.

Policy 3: Fisheries Management

NA ☐

Please see attached report.

Policy 4: Wetlands

NA ☐

Please see attached report.

Policy 5: Public Access for Recreation

NA ☐

Please see attached report.

Policy 6: Historical Sites and Structures

NA ☐

Please see attached report.

Policy 7: Port Activities

NA ☐

Please see attached report.

Policy 8: Energy Facility Siting

NA ☐

Please see attached report.

Policy 9: Intergovernmental Coordination

NA ☐

Please see attached report.

Policy 10: Public Involvement

NA ☐

Please see attached report.

Policy 11: Ocean (Great Lakes) Resources

NA ☐

Please see attached report.

VI. Certification and Signature (Check one and sign below):


☐ **FEDERAL AGENCY CONSISTENCY DETERMINATION.** Based upon the information, data, and analysis included herein, the federal agency, or its contracted agent, listed in (I) above, finds that this proposed activity is consistent to the maximum extent practicable with the enforceable policies of the Pennsylvania Coastal Resources Management Program.

OR

☐ **FEDERAL AGENCY NEGATIVE DETERMINATION.** Based upon the information, data, and analysis included herein, the federal agency, or its contracted agent, listed in (I) above, finds that this proposed activity will not have any reasonably foreseeable effects on Pennsylvania's coastal uses or resources (Negative Determination) and is therefore consistent with the enforceable policies of the Pennsylvania Coastal Resources Management Program.

OR

☒ **NON-FEDERAL APPLICANT'S CONSISTENCY CERTIFICATION.** Based upon the information, data, and analysis included herein, the non-federal applicant for a federal license or permit or state or local government agency applying for federal funding, listed in (I) above, finds that this proposed activity is fully consistent with the enforceable policies of the Pennsylvania Coastal Resources Management Program.

Signature:			
Printed Name:	Andrew Jamieson	Date:	1/26/16

Pursuant to 15 C.F.R. Part 930, the Pennsylvania Coastal Resources Management Program must provide its concurrence with or objection to this consistency determination or consistency certification in accordance with the deadlines listed below. Concurrence will be presumed if the state's response is not received within the allowable timeframe.

Federal Consistency Review Deadlines:

Federal Activity or Development Project (15 C.F.R. Part 930, Subpart C)	60 days, 75 days with extension. Additional extensions at Federal agency discretion. State and federal agency may agree to alternative time frames. (15 C.F.R. § 930.41)
Federal License or Permit (15 C.F.R. Part 930, Subpart D)	6 months with mandatory 3-month notification. State and applicant may agree to stay the 6-month review period. (15 C.F.R. § 930.63)
Outer Continental Shelf Activity (15 C.F.R. Part 930, Subpart E)	6 months with mandatory 3-month notification. State and person may agree to stay the 6-month review period. (15 C.F.R. § 930.78)
Federal Financial Assistance to State or Local Governments (15 C.F.R. Part 930, Subpart F)	30 days from CRM-receipt of this determination. (15 C.F.R. § 930.98)

OFFICIAL USE ONLY:

Reviewed By:	Fed Con ID:	Date Received: __/__/__
Announced in <i>The Pennsylvania Bulletin</i> : __/__/__	Comments Received: <input type="checkbox"/> NO <input type="checkbox"/> YES [attach comments]	
<input type="checkbox"/> Concurrence		<input type="checkbox"/> Objection [attach details]

LAKE ERIE CONNECTOR:

FEDERAL CZMA CONSISTENCY FORM (SECTIONS IV, V, VI)

ITC Lake Erie Connector LLC (the Applicant) is proposing to construct and operate the Lake Erie Connector Project (Lake Erie Connector or Project), an approximately 72.4-mile (116.5 km), 1,000-megawatt (MW), +/-320-kilovolt (kV), high-voltage direct current (HVDC), bi-directional electric transmission interconnection to transfer electricity between Canada and the United States (U.S.). This CZMA Consistency Form narrative describes how the U.S. portion of the proposed Project complies with and will be conducted in a manner consistent with the enforceable policies of the Pennsylvania Coastal Resources Management Program (CRMP). Specifically, this analysis applies to the potential impacts associated with the coastal vicinity defined in the CRMP where the project facilities cross Lake Erie within the U.S. to the lake shoreline area in Springfield Township, Pennsylvania. A determination of consistency with the federal Coastal Zone Management Act (CZMA), as administered through the Pennsylvania CRMP, is being requested as a part of the Joint Permit Application (JPA) Process.

The following sections of this report are organized to provide the information requested as part of Sections IV, V and VI of the PADEP Coastal Zone Management Act Federal Consistency Form.

IV. Detailed Project Description

For purposes of permits being issued in the U.S., the Project consists of an approximately 42.5-mile (68.4 km) HVDC transmission line that would be installed in the lakebed of Lake Erie from the U.S.- Canada border to the coast of Lake Erie (the Underwater Segment) and underground in Pennsylvania from the coastal landfall location to the new Erie Converter Station (the Underground Segment), as well as approximately 2,082 ft (635 m) of underground 345-kV, alternating current (AC) cable between the proposed Erie Converter Station and the nearby existing Penelec Erie West Substation. The Erie Converter Station will include equipment to change the AC of the existing aboveground transmission network to the direct current (DC) transmitted by the proposed Project, and vice versa. Approximately 35.4 miles (57.0 km) of the Project transmission line route is underwater within Lake Erie and 7.1 miles is underground (mostly within the existing rights of way of several roads) in Springfield, Girard and Conneaut Townships in Erie County.

Section 2.0 of the Lake Erie Connector Project Environmental Assessment (EA) (Attachment 3) contains a detailed description of the U.S. portion of the proposed Project, including the location of various Project elements, construction methods and Project operation. The EA also includes a detailed discussion of existing environmental resources and land uses and the anticipated impacts associated with the construction and operation of the Project.

For the purposes of the coastal zone consistency review, please note that the majority of the proposed cables will be buried in the lakebed by a jet plow to protect the cables from damage due to shipping traffic, fishing activity, and ice scour. Typical burial depths in jettable material range from 3 to 10 ft (1 to 3 m). The proposed cables will be installed with a horizontal directional drill (HDD) method in the vicinity of the Lake Erie shoreline, thus avoiding any

Some underwater ripping or blasting of shallow bedrock material in Lake Erie would occur where needed to install the proposed cable within the lake bed from a point approximately 1,340 feet from the shore where the cables exit the HDD borings in bedrock material to approximately one mile further north on the route where the bedrock transitions to softer sediments where jet plow installation becomes feasible. . A Project blasting plan providing details on the methods to be used for confined blasting, should that prove necessary, is included in Attachment 4 of the JPA.

Figure 1 **Project Route: Lake Erie Shore HDD Crossing Vicinity**



V. General Analysis of Coastal Effects

The Pennsylvania CRMP protects and controls development along the shoreline area of Lake Erie between Pennsylvania's boundaries with Ohio to the south and New York to the north. The coastal zone includes the area from the international boundary with Canada to the CSX Railroad, which runs roughly parallel to the coast approximately 0.6 miles inland from the lake shore. The CRMP addresses major coastal resource management issues of state, federal, and local concern. The portions of the Project which lie within the coast zone include: the underwater transmission line and a portion of the land-portion underground transmission line. The Erie Converter Station and AC line to the Erie West Substation lie beyond the existing defined coastal zone. Pennsylvania has proposed expansion of the coastal zone to include the drainage area of all tributaries to Lake Erie. If that expansion were to be adopted, the U.S. portion of the Project would lie within that expanded coast zone area.

The CRMP is implemented through state regulatory authorities provided in the Pennsylvania Dam Safety and Encroachment Act, Floodplain Management Act, Bluff Recession and Setback Act, Clean Streams Act, and the Air Pollution Control Act.

The Project will be construed in accordance with 25 Pa. Code Chapter 85 Bluff Recession and Setback Regulations, the Springfield Township Zoning Ordinance, an Erosion and Sedimentation Control Plan approved pursuant to 25 Pa. Code Ch. 102, an approved Pennsylvania Water Obstruction and Encroachment Permit, a U.S. Army Corps of Engineers Section 10 and 404 Permit, and an approved Section 401 Water Quality Certification from the Pennsylvania Department of Environmental Protection (PADEP). As such, the Project will adhere to the policies set forth in the Pennsylvania CRMP for the Lake Erie coastal zone.

The Project has been designed to minimize and avoid impacts to existing environmental resources to the extent practicable, including within the coastal zone area, to meet regulatory requirements. Other sections of the Joint Permit Application provide additional detail on the various design and siting methods being implemented to reduce impacts within the lake segment, the coastal zone and throughout the on-land underground segment and converter station development site.

Summary of Environmental Impacts

The following summarizes the potential environmental impacts resulting from the Project construction and operation. For more detail, see Section 5.0 of the Lake Erie Connector Project ER (Attachment 3), which contains a detailed discussion of the anticipated environmental impacts associated with the construction and operation of the U.S. portion of the proposed project.

1. Water Use and Land Use

Due to the relatively small development footprint and short duration of project construction, effects on the recreational and fishing uses of and navigation in Lake Erie are expected to be localized, temporary, and negligible. During operation of the project, the magnetic field from the

Underwater Segment cable will be too low to impact navigation and will not cause compass deflection in the main shipping channels. Compass deflection could occur in the segment of the route that is near the shore of the lake where it is unlikely that a compass would be needed for navigational purposes.

For the Underground Segment, the Applicant will avoid or minimize traffic disturbances by using traffic details, construction signs and barriers, and notifying the local community in advance of any known road closures and detours. In addition, effects to roads and rail crossings will be minimized by using Jack & Bore techniques, thus avoiding most crossings by open trenching. No impacts to current public access locations and associated recreational opportunities are anticipated from the construction or operation of the proposed Project.

2. Geology and Soils

Temporary sediment disturbance in the lake and soil disturbance on land will result from Project construction. Total disturbance of all in-water activities would result in a temporary disturbance of approximately 50 acres and a negligible permanent disturbance (consisting primarily of the footprint of the cables themselves under the lakebed). The disturbance on land includes temporary work spaces such as laydown yards (13.4 acres), converter station property (21.4 acres), and work space required for facility construction (41.3 acres). On land disturbance areas include temporary impacts to wetlands (0.8 acres), permanent impacts to wetlands (1.0 acre), temporary impacts to streams (0.2 acres), permanent impacts to streams (less than 0.01 acres), and temporary impacts to floodplains (4.3 acres).

3. Water Resources and Quality

Effects on water resources and quality would be limited to construction and maintenance activities. Waterbody and wetland crossing locations and methods have been designed to minimize potential impacts. Wetland resources have been identified within the proposed underground cable route and converter station property. Wetlands in the proposed project vicinity have been substantially influenced by adjacent roadways, fields, and other developed features. Temporary impacts to wetlands are expected to occur during the construction and maintenance activities associated with the proposed Project. The cable route is proposed to occur primarily in existing public roadway ROWs and existing driveways, thus minimizing effects to wetlands. The combined temporary and permanent limit of disturbance to wetlands is estimated to be 1.8 acres. Temporary impacts may occur as part of repair or vegetation maintenance activities, but impacts would be localized and the affected area would be restored. Most of the wetlands located within the transmission line corridor would be restored upon completion of construction. Unavoidable permanent wetland impacts total 1.0 acre, primarily conversion of forested wetland within the transmission line corridor to non-forested wetland, which would be compensated through implantation of an approved wetland mitigation plan (see Section T of the JPA). Where crossing wetlands or streams cannot be avoided, temporary impacts would be avoided and minimized in many cases by use of HDD or jack and bore crossing methods. Impacts would also be avoided through use of Best Management Practices (BMPs) during construction. Any disturbed areas would generally be restored in accordance with

the provisions of the Project Erosion and Sediment Control Plans and related Joint Permit conditions.

A number of vessels will be involved in Project construction. A Spill Prevention Control and Countermeasures (SPCC) Plan designed specifically to prevent spills during lake operations will be developed. Cable installation in Lake Erie will be primarily conducted using a jet plow or by water jetting in the deepest part of the lake. Burial of the cable may affect water quality by temporarily resuspending sediment and potentially causing localized migration of heavy metals in the basin or water column. To assess this potential impact, the Applicant's environmental consultant, HDR, has conducted modeling to evaluate the potential mixing and dispersion of sediment and other constituents resuspended during the cable installation process for the proposed jet plow or water jetting installation method (see Appendix E in Attachment 3 – Water Quality Modeling Report). Low concentrations of trace metals and organic chemicals are present in Lake Erie sediments; and the eastern basin of Lake Erie (where the Project is located) has the lowest level of contamination in sediments in the Lake Erie Basin. The results from the water quality modeling study have shown that minimal water quality impacts are associated with the cable installation in Lake Erie and they are limited to temporary impacts that would occur locally within a four hour timeframe. The model calculated total suspended solids (TSS) concentration increases due to the cable installation are <3 mg/L above observed background lake TSS levels at a distance of 100 meters from the point of installation and within five to eleven meters of the lake bottom. The model calculated TSS concentration increases reach a temporary peak concentration at the point of installation and then decrease rapidly. Likewise, the model calculated temporary total phosphorus (TP) and dissolved phosphorus (DP) concentration increases reach a peak concentration at the point of installation and then decrease rapidly. The time to reach <0.005 mg/L above background TP and DP concentrations is on the order of one to four hours.

The HDD method would be used to install the cables at the Lake Erie landfall location. Three borings would be directionally drilled from a location approximately 560 feet south of the bluff downward and then outward under the lake bed for a distance of approximately 2,000 feet. This HDD method avoids disturbance of the lake bluff, as well as a significant portion of the adjacent in-lake and land areas.

HDD operations have the potential to release drilling fluids to the surface through inadvertent returns. Because drilling fluids consist largely of a benign bentonite clay-water mixture, they are generally considered non-toxic. To prevent or minimize this potential effect, prior to HDD operations a sump pit will be constructed in the bedrock at each exit point within the bed of Lake Erie,. The purpose of the exit point sump pit is to contain suspended sediments to the interior footprint of the sump pit during the exit point excavation, and contain drilling fluids (which are heavier than water) at the lower end of the sump pit for recovery and disposal at an approved upland facility.

An Inadvertent Fluid Release Prevention, Monitoring, and Contingency Plan would also be implemented, which would allow for timely identification and cleanup of any drilling fluid leaks that might occur and minimize impacts on the environment.

4. Aquatic Resources

Habitat containing large/rocky substrates off the shores of Lake Erie offer spawning and nursery habitat for such species as lake whitefish, rainbow smelt, emerald shiner, spottail shiner, fathead minnow, channel catfish, stonecat, trout-perch, white bass, smallmouth bass, rainbow darter, johnny darter, yellow perch, walleye, and freshwater drum (Goodyear et al. 1982). As fish are mobile and in-water construction activities will take place in a limited and linear portion of Lake Erie, project effects to aquatic resources would be limited in both extent and duration. Additionally, the proposed Project will use HDD methods to avoid disturbance of the nearshore area where spawning, feeding, and rearing is most common among a variety of species.

Due to the frequent high-energy wave action and the presence of exposed bedrock along the nearshore area within approximately one mile of the Lake Erie shoreline, aquatic vegetation is scarce to non-existent (Rathke 1984), and, therefore, construction activities from the proposed Project are not expected to result in any impacts to aquatic vegetation. Lakebed disturbance from construction activities could result in a direct impact of the benthic or epifauna community; crushing or injuring benthic invertebrates, including mussels in the path of the jet plow, in areas of bedrock trenching, and in the footprint of the HDD exit sump pits. HDD, trench/sump pit excavation, and jet plowing would temporarily disturb the lake bed, causing bottom sediments to become resuspended.

In areas where bedrock is at or near the lake surface, trenches will need to be created for burial of the cables. The amount of explosives required for bedrock trenching will be limited to the extent possible to avoid pressure wave and vibration impacts on fish. A confined and stemmed blasting method will be used to minimize potential impacts. Most impacts from blasting would be either temporary or intermittent and it is expected that only a few individuals would be affected relative to the broadly dispersed stocks of any given species in Lake Erie. The Project may use additional measures to minimize the impacts of underwater blasting to fish in the approximately one-mile underwater segment where blasting of shallow bedrock would occur, such as use of blasting mats, deployment of bubble curtains or measures to mobilize and clear fish from the immediate blast area.

Overall, the area impacted by cable deployment activities is expected to fill in and recolonize from recruitment from nearby, unaffected areas of the lake.

5. Terrestrial Resources

The construction of the project will temporarily disturb existing habitat along the Project Underground Segment right of way. Vegetation removal and the direct reduction of some wildlife habitat could result in the direct displacement of species, including birds, mammals, reptiles, and amphibians; however, the acreage of permanent forest disturbance associated with the Project is very small. Because the Project is to be constructed primarily within and along existing roadways, these effects will be minimized.

6. Protected and Sensitive Species

Threatened and endangered species that may be within the Project area include Indiana bat, northern long-eared bat, and bald eagle. However, no significant impacts to these species are expected during construction, operation, or maintenance of the Project. The Project is not expected to affect cisco, eastern sand darter, or lake sturgeon, the three species of concern identified by the Pennsylvania Fish and Boat Commission (PFBC), or bank swallows, a species of concern identified by the USFWS. A survey for rare plants was conducted in 2015, and the results of that rare plant survey and description of anticipated impacts to protected and sensitive species appears in Section 5.6 of the EA (Attachment 3).

7. Cultural Resources

Formal National Historic Preservation Act Section 106 consultation has not been initiated. However, in advance of the consultation process, the Applicant has initiated studies to identify historic properties along the Project's alignment. The Applicant conducted a Phase IA study of the proposed transmission cable route in 2014 and a Phase 1B study in 2015. During the Phase IB, an archeological site was found along the centerline. However, this site is being avoided through use of HDD. Therefore, there are no anticipated impacts to cultural resources from the landside elements of the Project. The Phase 1A and 1B studies also evaluated the in-lake elements of the Project. All previously confirmed shipwrecks have been avoided by at least 100 meters. Further, the Applicant performed a marine route survey in 2015 to identify bottom conditions, shipwrecks, existing utilities, and other features along the proposed marine route. The marine route survey included a combination of investigative equipment and approaches including side-scan sonar, single-beam bathymetry, and magnetometer surveys to facilitate identification of potential shipwrecks. The results of the marine route survey are currently being reviewed by a marine archaeologist to identify anomalies or potential shipwrecks along the Project's marine route. If the marine route survey data confirms locations of additional shipwrecks of historical significance, appropriate route adjustments will be incorporated into the final design to the maximum extent practicable.

8. Aesthetic and Visual Resources

During construction of the proposed Project, there would be temporary impacts to the visual character of the viewshed. Because the transmission line will be installed in the lakebed and underground, there will be no permanent visual impacts expected from the operation of the proposed Project within the currently defined Pennsylvania coastal zone. The Erie Converter Station lies outside of the currently defined Pennsylvania coastal Zone. At the Erie Converter Station, plantings within a landscaped buffer will reduce long term visual impacts. A visual simulation of what the Erie Converter Station would look like is provided in Section 5.8 of the EA (Attachment 3).

9. Climate, Air Quality and Noise

The Project will not significantly affect climate or air quality. An air quality permit from the PADEP will be required for an emergency generator located at the proposed Erie Converter

Station. The air quality permit will address the limited air emissions resulting from the emergency use of the diesel generator.

Construction of the Project will result in certain noise during construction of the Project. These effects will be temporary, lasting only during construction. Epsilon Associates conducted a study of the sound propagation and impacts associated with the operation of the proposed Erie Converter Station. Anticipated noise levels created by equipment at the converter station during normal operations would not adversely affect the residential receptors located closest to the facility.

10. Infrastructure

During construction of the Underground Segment of the Project, some local infrastructure will temporarily be affected. Disturbances during construction may include temporary limitations on property access due to road detours and construction equipment/activities. Temporary and permanent impacts to existing underground or above ground infrastructure in the vicinity of the project ROW will be avoided.

11. Land Use and Traffic

Construction of the underground route of the proposed Project would result in temporary impacts to existing land uses and traffic along the proposed Underground Segment. Disturbances to land use during construction may include limitations on property access due to road detours and construction equipment/activities. However, these disturbances would be limited to the duration of construction in that immediate area and are anticipated to be short (i.e., less than a week in each area). Because the transmission line along the underground route will primarily be buried within the road ROW, disturbances to local traffic may occur during construction. The Applicant will avoid or minimize traffic disturbances by using traffic details, construction signs, and barriers and notifying the local community in advance of any known road closures.

No formal recreation sites are located within the lake segment or the underground route of the proposed Project, and, therefore, no impacts to existing recreational opportunities are anticipated from the construction or operation of the proposed Project. Permanent land use impacts will occur in areas where the transmission line route requires easements, restricting future land development within the easement area. However, since the transmission line has been located substantially within existing road ROWs, the impact on future land development is expected to be minimal and there will be no effect on access to any regional recreational use areas. There is no zoning in Conneaut Township, where the converter station is proposed. Construction and operation of the proposed Project is expected to be consistent with relevant land use zoning and comprehensive plans for the Erie County and Springfield, Girard, and Conneaut Townships.

VI. Detailed Analysis of Consistency with CZRM Enforceable Policies

Policy 1: Coastal Hazard Areas/Bluff Setback and Erosion Control

Pennsylvania's Lake Erie shoreline along the northern boundary of Erie County consists mainly of bluffs ranging in height from five to 90 feet. These bluffs are vulnerable to erosion and can result in bluff recession, which is the landward retreat of a bluff due to erosive forces. A variety of factors may affect bluffs including wave actions, groundwater seepage, surface water runoff, adjacent land use and human activity.

The CRMP includes coastal hazard area policies focused on bluff setback, erosion control and stormwater management. These policies were developed to minimize any impacts on coastal areas due to construction and land clearing activities associated with development too close to coastal bluff areas or from uncontrolled runoff or stormwater flows within the adjacent floodplain areas that could impact coastal resources. As such, municipalities in Pennsylvania bordering Lake Erie are required to adopt ordinances implementing the Pennsylvania Bluff Recession and Setback Act, which regulates land development activities along Bluff Recession Hazard Areas adjacent to Lake Erie. Such regulations are enforced through the process of obtaining zoning variances for construction activities on the bluffs.

The Project will be constructed in accordance with 25 Pa. Code Chapter 85 Bluff Recession and Setback regulations and corresponding provisions in the Springfield Township Zoning Ordinance. State and local approvals will be received in order to minimize and avoid impacts to the coastal hazard areas. The Project has been designed to cross under the bluffs via an HDD drilling technique. Use of this HDD method will avoid impacts to the bluff stability as well as provide an area to conduct construction that is set back an adequate distance from the bluffs. The HDD construction method would involve installing the transmission line in borings which will start at an insertion point located about 560 feet south of the lakefront bluff, and then proceed downward and then out under the nearshore bedrock area of Lake Erie. In the vicinity of the HDD crossing the bluffs rise approximately 85 feet above the shoreline. The cable would be installed approximately 30 feet below the lake bed in the shoreline area. The HDD installation method would thus avoid any impacts to the bluffs or the lake shore line and near shore area (see Section H for cross section view).

The erosion control and site stabilization and stormwater management measures that will be utilized on site will be presented to the Erie County Conservation District in an Erosion and Sedimentation Control Plan (E&SCP) and a Post-Construction Stormwater Management Plan (PCSM Plan). The construction activities will be based on an approved plan that is designed to avoid and minimize impacts to the environment. The work proposed in the E&SCP (see Section M of the Joint Application) and the Site Restoration Plan (see Section O of the Joint Application) will be designed to meet the requirements of local comprehensive stormwater management plans.

Temporary disturbance to stream floodplains would occur during cable installation from clearing, trenching, and HDD activities, including clearing of vegetation, ground disturbance, and related construction activity. To minimize impacts on floodplains during construction best

management practices (BMPs) as defined in the PADEP Erosion and Sediment Pollution Control Program Manual (PADEP 2012), including erosion and sedimentation controls and restoring pre-existing ground contours and grading, would be implemented and the impacted areas would be restored promptly after cable installation. There will be 13 surface water crossings associated with the Underground Segment of the Project's transmission line. An HDD crossing method would be employed at three perennial high quality streams and two intermittent high quality streams, thus avoiding both temporary and permanent disturbance within those streams and associated floodplains. Two of the streams being crossed by HDD method involve installation beneath more than one segment of the stream. Open cut crossing methods would be utilized at seven perennial stream crossings and one intermittent stream crossing. Such open cut trenching is only proposed in small perennial and intermittent streams where aquatic life is limited and the presence of migratory fish is unlikely. Most of these open cut trenching locations take place under an existing culvert crossing the stream where, to the extent possible, the culvert will remain in place during construction to convey the stream across the duct bank excavation. Temporary impacts at these locations will be of limited duration and all stream cross sections and water elevations will be restored to pre-construction conditions. The route also crosses within the floodway of three streams, but does not cross these streams.

As proposed, construction and operation of the Project will be consistent with the CRMP coastal hazard areas policies. The associated state and local permits will ensure that the permit conditions are consistent with CRMP policies, as administered by the permitting agencies.

Policy 2: Dredging and Spoil Disposal

The CRMP includes policies associated with dredging and spoil disposal to minimize impacts associated with improper dredging or spoils disposal activities that could adversely affect navigation, flood flow capacity, public lands and environmental quality. The CRMP also recognizes the importance of maintaining viable port facilities including the channel entrance of the Erie Harbor area.

Project construction will not involve dredging within Lake Erie. All trenching activities to install the cable in the lake bed will result in only temporary disturbance of local lake sediments and a majority of the sediments disturbed during jet plowing will resettle within the trench after cable installation is completed. Limited blasting may be required within an area approximately one mile from the Lake Erie shoreline area in order to install trenches in bedrock where jet blowing is not feasible. Such limited blasting will be completed using a drilling and limited stemmed charge method in accordance with a Project-specific blasting plan (Attachment 4) and will not materially alter the post-construction lake bed.

An analysis was conducted of existing and planned development activities, including dredging activities being conducted by other entities, in the vicinity of the Project. Aggregate dredging areas are located north of the proposed cable route over the Norfolk Moraine or Long Point – Erie Ridge. The permits for this aggregate area allow for dredging of coarse sand, gravel and glacial till. The proposed Project transmission cable route is sited to avoid these existing aggregate removal areas and will not affect their future utilization.

As proposed, construction and operation of the Project will be consistent with the CRMP dredging and spoil disposal policies and will not adversely affect existing or planned dredging or spoil disposal opportunities.

Policy 3: Fisheries Management

The CRMP includes policies associated with fisheries management, addressing activities potentially affecting fish and aquatic life and habitats, proactive fish stocking programs and public access to recreational fishing. These policies include a strong focus on ensuring coastal zone water quality and conservation or restoration of critical aquatic habitat areas.

To be consistent with these policies, the Project permitting process will incorporate the input of state and federal fisheries management agencies to ensure that any unavoidable potential impacts to fish and aquatic life will be limited in duration to the construction phase of the Project and minimized to the degree practicable. Since the Project facilities will be buried within the lake sediment and the HDD construction process will be utilized to avoid impacts to the shoreline and bluff vicinity, no long term adverse impacts to Lake Erie fish and aquatic resources and associated habitat or behavior are anticipated. There would be no impacts on Essential Fish Habitat because no Essential Fish Habitat has been designated within the Project route.

Construction related impacts may temporarily affect fish and aquatic species within the Project area. A detailed discussion of the regional fisheries and potential Project impacts on Lake Erie fisheries and aquatic habitat is provided in Sections 4.4 and 5.4 of the EA in Attachment 3 of this application.

In the deeper waters (greater than 10 m [32.8 ft]) of Lake Erie, where the bottom substrate is dominated by sand, silt, and clay, the jet plow or water jetting equipment would bury the cable and the trench will begin to backfill immediately with the disturbed sediment resulting in a temporary increase in localized turbidity. Typical burial depths in jettable material range from 3 to 10 ft (1 to 3 m). As discussed in more detail in Appendix E of Attachment 3 (EA), the results of the Applicant's water quality model (HDR 2015) show that minimal water quality impacts would be associated with the cable installation in Lake Erie and they are limited to temporary impacts that would occur locally within an approximately four hour timeframe after jet plowing or water jetting in a specific area occurs. The Project would not cause significant impacts to water temperature.

An increase in lake sedimentation could theoretically cause pelagic eggs to sink to the bottom and smother demersal eggs, reduce growth rates and increase mortality in larvae, and cause gill abrasion resulting in reduction of oxygen absorption in juveniles and adults (Berry et al. 2003). Diversity and production of fish species in the nearshore waters is higher than in offshore waters (Edsall and Charlton 1997). However, these theoretical potential impacts are unlikely with respect to this Project for several reasons. First, the bottom composition along the Pennsylvania segment of the Lake Erie shoreline is dominated by bedrock and, therefore, the nearshore construction activities from the proposed Project will result in minimal increase in sedimentation. Second, the proposed Project will use a HDD construction method to install the Project cables between the lake shore area and the upland area south of the lake bluff area, thus avoiding disturbance within approximately 0.25 mi of the nearshore area where spawning, feeding and rearing is more

common among a variety of species¹. It is also important to note that many of the fish species potentially in the Project area spawn in nearshore areas, primarily in spring, so the utilization of HDD methods in these near shore areas will limit impacts to spawning fish populations. Third, the Water Quality Modeling conducted for the Project indicates that temporary mobilization of lake bed sediments during construction will be localized and limited in duration and lateral extent. Any increase in turbidity following blasting is expected to settle quickly and not adversely impact aquatic species of their habitat.

HDD construction activities, the grapnel run, trenching, and low level blasting could temporarily disturb sediment and, in areas of soft sediment, temporarily increase turbidity in the water column resulting in a short term indirect impact to fish along the proposed Project route. In general, fish are highly mobile species and would be able to avoid any direct impacts from construction activities, as well as move into nearby, unaffected areas of the lake to seek refuge and to feed or spawn.

In the event that drilling fluids from the coastal area HDD operations are released into the water column, these fluids could temporarily become suspended in the lake or disperse. If released into the water column, drilling fluids could result in temporary impacts on the adjacent aquatic resources, primarily due to localized increases in turbidity. The benign bentonite based drilling fluids would not introduce new pollutants into the water column. Measures to prevent or minimize this potential effect include constructing sump pits at the HDD lake exit point to contain drilling fluids; removal of drilling fluids, and implementing an Inadvertent Fluid Release Prevention, Monitoring, and Contingency Plan, and are discussed in further detail Section 5.3.1 of the EA in Attachment 3.

Near the Project's U.S. landfall, bedrock is either exposed or very close to the surface near shore, preventing cable burial via jet plow or water jetting. Due to these geological constraints, a trench may need to be excavated by confined stemmed blasting in the bedrock (primarily shale) for approximately one mile (1.6 km) from the exit of the horizontal directional drilling (HDD) bore (approximately 2,000 ft [609.6 m] from the shoreline) to softer lake bed material where jet plow burial can be utilized. Stemmed charges will involve explosive materials placed into holes drilled into the substrate. Stemming is an approach that maximizes the propagation of shock forces into the substrate rather than into the water column, thereby increasing the efficiency of fracturing rock or consolidated materials while minimizing potential impacts to aquatic life and water quality. This method of blasting was selected to minimize potential impacts compared to detonations in open water, which would produce both higher amplitude and higher frequency shock waves than contained detonations. The preferred technique of stemming charges has been demonstrated to reduce pressures and lower aquatic organism mortality than the same explosive charge weight detonated in open water (Hempen et al. 2007, Nedwell and Thandavamorthy 1992).

¹ Habitat containing large/rocky substrates off the shores of Pennsylvania offer spawning and nursery habitat for such species as lake whitefish, rainbow smelt, emerald shiner, spottail shiner, fathead minnow, channel catfish, stonecat, trout-perch, white bass, smallmouth bass, rainbow darter, johnny darter, yellow perch, walleye and freshwater drum (Goodyear et al., 1982).

Because construction of the Project will involve blasting in areas where fish occupation will change on a daily and seasonal basis, it is impossible to predict with absolute certainty that no fishes will be adversely impacted by temporary impulse noise or ground-borne vibration. Most impacts from noise would be either temporary or intermittent and it is expected that only a few individuals would be affected relative to the populations, and these individuals would react by moving away from noise sources. The amount of explosives used will be limited to the extent possible to avoid noise and vibration impacts on fish. The confined and stemmed blasting method will be used to minimize potential impacts. Most impacts from blasting would be either temporary or intermittent and it is expected that only a few individuals would be affected relative to the broadly dispersed stocks of any given species in Lake Erie. The Project may use additional measures to minimize the impacts of underwater blasting to fish in the approximately one-mile underwater segment where blasting of shallow bedrock would occur, such as use of blasting mats, deployment of bubble curtains or measures to mobilize and clear fish from the immediate blast area. It is anticipated that potential impacts to the fish community from blasting during construction will be temporary and do not pose a substantive risk to fish populations within the Project area due to their very limited spatial extent.

While short term construction impacts associated with in-lake blasting would be limited in duration and geographic extent, long term impacts associated with bedrock blasting or excavation may include creation of increased spawning habitat where sidecast rock is dispersed in nearby areas currently predominated by silt and sediment. There would be direct impacts to benthic habitats at the blast zone. However, following cable installation, those areas are expected to recolonize from recruitment from nearby, unaffected areas of the lake.

Once installed and operational, the Project's HVDC cables will be shielded, which will virtually eliminate the static electric fields, leaving only static magnetic fields for consideration of potential impacts for this Project (Intrinsic 2014). Regarding the potential interaction of the change in the magnetic field with fish, a review was conducted of the maximum post-construction static magnetic-field exposures and the research on the behavioral, migratory, physiological, and early life-stage responses of freshwater fish to static magnetic fields. This analysis included species of concern in Lake Erie—cisco, eastern sand darter, lake sturgeon, and steelhead trout—and did not suggest that the Project would sufficiently change the ambient static magnetic field in the very small portion of Lake Erie habitat in the vicinity of the proposed cable, nor threaten the health or performance of these species. Regarding potential effects on migration, the change in the magnetic field is not a physical barrier and fish are known to use multiple sensory cues to guide behavior. In summary, the change in the static magnetic field associated with the operation of the proposed Project is too small to pose a threat to freshwater species of concern in Lake Erie (Exponent 2015a).

Due to the frequent high-energy wave action and the presence of exposed bedrock along the nearshore area of Lake Erie, aquatic vegetation is scarce to non-existent (Rathke 1984) and therefore, construction activities from the proposed Project are not expected to result in any impacts to aquatic vegetation. Lakebed disturbance from construction activities could result in a direct impact of the benthic or epifauna community, crushing or injuring benthic invertebrates, including mussels in the path of the jet plow, in areas of bedrock trenching, and in the footprint

of the HDD exit sump pits. Due to the design and operation of the jet plow or water jetting equipment, the disturbed sediment will begin to backfill the trench almost immediately.

Recolonization and epifauna community composition would depend upon the stability of the disturbed areas, the tolerance of benthic organisms to physical changes, and the availability of recruits. Overall, the disturbed sediment is expected to settle quickly out of the water column and epifauna community recruitment from nearby, unaffected areas of the lake.

Heat can be generated as electricity moves through the cables, which could disperse into surrounding sediments and potentially result in the localized warming of lake water. Thermal impact modeling using conservative assumptions shows that changes in water temperature would be negligible and quickly dissipate (Exponent 2015b). No significant impacts on invertebrate species would occur from operation of the transmission system in the lake.

Freshwater aquatic and fish species in surface waters crossed by the underground segment of the Project would potentially be impacted during construction. Waterbody crossing techniques include HDD and open trenching methods and are detailed in Sections 4.4.2 and 5.4.2 of the Project EA (Attachment 3). Open trenching is only proposed in small perennial and intermittent streams where aquatic life is limited and the presence of migratory fish is unlikely. Most of these open cut trenching locations take place under an existing culvert crossing the stream where, to the extent possible, the culvert will remain in place during construction to convey the stream across the duct bank excavation. BMPs will be utilized during construction to maintain stream flows and limit the temporary effects of turbidity.

Fish stocking programs in Lake Erie would not be impacted by the construction or operation of the Project and long term use of the Project vicinity by any stocked fish species would be unaffected by the Project, except during the temporary construction phase of the Project. The Project will have no impact on recreational fishing access or opportunity, except for the localized temporary impacts associated with the construction phase, as described in the discussion of Policy 5 – Public Access for Recreation, below.

As proposed, construction and operation of the Project will be consistent with the CRMP fisheries management policies. The associated federal, state and local permits will ensure that the permit conditions are consistent with CRMP policies associated with aquatic and fisheries resource protection. As discussed above, the potential impacts will only be temporary and construction related. No significant permanent impacts to aquatic and fish species and related habitat are anticipated during Project operation.

Policy 4: Wetlands

The CRMP includes policies associated with coastal area wetlands to minimize impacts associated with draining, filling or dredging of wetlands and other activities that might affect water quality or water flow and could adversely affect important wetland functions and values. This includes potential cumulative impacts associated with increased runoff from development activities.

During the process of siting the Project route, wetland delineation surveys were conducted within and along the proposed underground cable route and within a survey corridor of 75 feet to either side of the route or adjacent road centerline. Delineation surveys were also conducted at additional temporary or permanent impact areas, including construction staging areas, the proposed Erie Converter Station and the proposed AC transmission line route between the converter station and the existing Penelec Erie West Substation.

Existing wetlands in the proposed Project have been substantially influenced by adjacent roadways, fields, and other developed features. Limited temporary impacts to wetlands are expected to occur during the construction and maintenance activities associated with the proposed Project. Since the cable route is proposed to occur mostly in existing public roadway ROWs and existing driveways, no significant changes in hydrology would likely occur and no wetlands would be permanently altered, except for changes to vegetation type.

The selected location and layout of the Erie Converter Station is close to the existing Penelec Erie West Substation to minimize impacts to wetlands. There are wetlands in the wooded area on the western third of the converter station property. However, the woods and wetlands are not proposed to be disturbed, with the possible exception of minimal disturbance associated with the installation of an underground AC cable to the Erie West Substation. The post-construction stormwater management plan for the Erie Converter Station will include features such that no increase in peak flow or peak volume will be associated with the permanent structure, therefore no substantial changes to hydrology will result. Temporary construction laydown and staging areas are identified and shown in Attachment 3.

A summary of temporary and permanent impacts by type of wetland is provided in Table 1.

Table 1 Proposed impacts to wetlands

NWI Type	Temporary Construction Impacts (acres)	Permanent Construction Impacts (acres)
Palustrine Emergent Wetlands	0.8	0.02*
Palustrine Scrub Shrub Wetlands	0.0	0.0
Palustrine Forested Wetlands	0.0	0.99
Total Impacts	0.8	1.01*

* Based on guidance provided by PADEP, the impacts to regulated wetlands listed in this table include the area of HDD crossings underneath the wetlands. However, such HDD crossings involve no disturbance of the wetlands; and the functions and values of the wetlands crossed under by HDD method are not affected.

Temporary impacts may occur as part of repair or vegetation maintenance activities but impacts would be localized and the affected area would be restored. In areas where the cable is co-located with roads, the municipality's regular road berm maintenance would protect the cable. Most of the wetlands located within the regularly maintained corridor are non-forested and would be restored to the same vegetation type, value and quality as pre-construction conditions.

To compensate for the permanent conversion of 1.0 acre of forested wetland to non-forested wetland, wetland mitigation has been proposed and a conceptual plan to create new forested wetlands is included in the Joint Permit Application in Section T. The impacted forested wetlands occur within the coastal zone management area between the Lake Erie shoreline and

the CSX Railroad. The proposed mitigation site is located outside of the designated coastal zone but within the same affected watershed.

As proposed, construction and operation of the Project will be consistent with the CRMP wetlands policies. The associated federal, state and local permits will ensure that the permit conditions are consistent with CRMP policies associated with wetland protection, including compensation of permanent wetland impacts. The relatively small permanent impact to existing wetlands is limited to a conversion of wetland type and will not result in a decrease in the amount of existing wetland area. As such, it will not contribute to any cumulative impact on wetland function within the coastal zone area. The proposed creation of new forested wetland associated with the proposed wetland compensation plan will increase the cumulative amount and value of wetlands within the local region.

Policy 5: Public Access for Recreation

The CRMP includes policies associated with improving public access for recreation, particularly swimming, fishing, boat launching and passive sightseeing and picnicking. In the Lake Erie coastal zone, the primary impediments to public access are private ownership of lakefront properties and physical constraints to lake access inherent with the presence of coastal bluffs. The CRMP also gives high priority to acquiring and/or developing significant parts of the coastal zone region as possible Geographic Areas of Particular Concern (GAPC).

The Project will not impact existing public access to Lake Erie for recreational activities because the Project's landfall location is on a private property, and the installation of the transmission line will be underground (in an HDD boring) as it passes under the bluff and nearshore areas where recreational activities might be sought. Shoreline access is currently limited at the landfall location. Temporary impact on public access to the lake area in the vicinity of the HDD cable installation will occur during the construction effort, but will not decrease the recreational use opportunity and access to Lake Erie or to any other regional shoreline areas that are currently accessible by the public. Any temporary disturbance of access associated with Project work will be restored in accordance with landowner requirements following construction.

Considerable local public access to the Lake Erie shoreline and lake is provided at the Erie Bluffs State Park, just northeast of the Project route. That access will not be impacted during the construction or operation of the Project.

Part of the proposed Project route is within an existing GAPC zone, as identified in the CRMP, which extends south from the Lake Erie shoreline to the CSX Railroad. The CRMP defines GAPC zones as having innate natural value or significant recreational, cultural or historical value, which could provide high potential for offering active and/or passive forms of recreation. The HDD construction of the Project will avoid any temporary or permanent impacts to the shoreline, the coastal bluff area and the adjacent upland area within this GAPC zone and will not adversely affect recreational access or potential future recreational use within the coastal zone.

As proposed, construction and operation of the Project will be consistent with the CRMP policies associated with public access for recreation. No permanent impacts to public recreational use or

access will occur as a result of the project operation within Lake Erie or the underground segment within the coastal zone area.

Policy 6: Historical Sites and Structures

The CRMP includes policies associated with historic sites and structures in the coastal zone, with an emphasis on historic preservation, including associated economic, cultural, aesthetic and educational benefits.

The Applicant recognizes that the formal Section 106 process has not been initiated. However, in advance of the process, the Applicant has initiated studies to identify historic properties along the Project's alignment. As discussed above, the Applicant conducted a Phase IA Study of the proposed transmission cable route in 2014 and 2015 and a Phase 1B study in 2015.

In 2014 and 2015, the Applicant conducted Phase 1A cultural resources studies to identify known and reported archaeological and historic resources within the vicinity of the proposed Project route. This included a review of the Pennsylvania Historical and Museum Commission's (PHMC) Pennsylvania Archaeological Site Survey (PASS) files and Cultural Resources GIS (CRGIS) database to identify known resources in both the terrestrial and lake segments of the Project. The Applicant also conducted a Phase 1B survey in 2015, which involved digging shovel test pits along the proposed underground segment of the project route. As described in the Phase 1B Report, a total of four archaeological sites were identified along the underground cable route and staging areas. The Applicant anticipates consultation with the PHMC-BHP, federally recognized Indian tribes, and other stakeholders through the Section 106 process to determine the appropriate measures to avoid adverse effects on these identified resources. A Phase 1B report has been completed and was submitted to the PHMC in January 2016. The Applicant also performed a marine route survey to identify bottom conditions, shipwrecks, existing utilities, and other features along the proposed marine route. The marine route survey included a combination of equipment and approaches including side-scan sonar, single-beam bathymetry, and magnetometer surveys to facilitate identification of potential shipwrecks. The results of the marine route survey will be reviewed by a marine archaeologist to identify anomalies or potential shipwrecks along the Project's marine route.

The PHMC does not maintain a formal database of shipwrecks in the Commonwealth, and information on shipwrecks in Lake Erie is not available from the CRGIS (K. Heinrich, PHMC-BHP, personal communication, October 2013). Based on discussions with the PHMC-BHP, the most comprehensive information regarding shipwrecks in the Pennsylvania portion of Lake Erie is generally available from books and databases for recreational divers.

Two reported shipwrecks were identified within a one-mile radius of the Project's proposed route. The wreck of the *Charles Foster* is located approximately 2,000 feet from the centerline of the proposed transmission cable route and five miles northwest of Presque Isle State Park. The *Charles Foster* was a 229-foot-long wooden schooner barge built in 1877. It was carrying iron ore and being towed by the steamer *Iron Duke* when it went down on December 8, 1900 during a storm. The *Charles Foster* may have been struck by a rogue wave and the entire crew was lost. It presently lies on a silt bottom, and the iron ore cargo has caused the vessel sides to splay outward (Wachter and Wachter 2007).

Another known wreck is located approximately 1,950 feet from the centerline of the proposed transmission cable route near the U.S./Canadian border. In 1963, a fishing trawler reported the wreck of a sailing vessel lying on a silt bottom at a depth of approximately 105 feet or 17.5 fathoms. Wachter and Wachter (2007) refer to the site as the “17 Fathoms Wreck” due to its approximate depth below the surface of Lake Erie. Little is known about the 17 Fathoms Wreck. Wachter and Wachter (2007) report that there is evidence that a fire occurred onboard the vessel; however, the name, origin, or other details of the vessel remain unknown.

There are no known or reported precontact period archaeological sites located offshore along the marine portion of the route. Nearshore surficial geology ranges from bedrock at the location of the Pennsylvania landfall to sand, silt, and clay further offshore. The bedrock extends approximately one mile offshore and is either exposed or overlain by thin deposits of silt/sand/gravel. The presence of nearshore bedrock suggests a low archaeological sensitivity for the Pennsylvania landfall.

As noted above, the Applicant anticipates consultation with the PHMC, federally recognized Indian tribes, and other stakeholders through the Section 106 process. A draft Unanticipated Discovery Plan is included as Attachment 6 of the Joint Application and will be supplemented with the results of any studies conducted in relation to the NHPA Section 106 consultation process.

As proposed, construction and operation of the Project will be consistent with the CRMP historic sites and structures policies, as implemented through the Section 106 consultation process and state and federal environmental permitting that requires this consultation and associated study effort. All information provided through the Project development and construction effort will be added to the regional historic resources data base.

Policy 7: Port Activities

The CRMP includes policies associated with port activities in the coastal zone of Lake Erie, including the active encouragement of siting port and water dependent economic activities along the lake, particularly to support a strong economic base within urbanized coast areas.

The Port of Erie is located on the southern shore of Lake Erie, approximately 16 miles (26 km) east of the proposed Project landing point, in the City of Erie. The port at Conneaut, Ohio is located on the lake shore approximately 8 miles (13 km) west of the Project landing point. Any temporary impacts associated with the installation of the cable will not effect operations at existing port facilities. Since the cable will be laid beneath the surface of the lake bed and no shoreline facilities will be built there will be no permanent impacts on existing shipping channels or other regional port related activities.

The operation of the project will enhance the electrical infrastructure and reliability within the Lake Erie coastal zone region, potentially supporting future port development along Lake Erie. As proposed, construction and operation of the Project will be consistent with the CRMP port activities policies and could potentially enable future port development along Lake Erie.

Policy 8: Energy Facility Siting

The CRMP includes policies associated with energy facility siting with a goal of minimizing impacts to coastal area ecosystems and encouraging the siting of new energy facilities adjacent to existing ones. The policies also support facilitating the production of natural gas supplies within Lake Erie while minimizing adverse air and water quality impacts associated with resource exploration and extraction. The Project construction and operation will not adversely impact the Lake Erie coastal ecosystem and the use of an HDD construction method will avoid any impacts to the near shore and coastal bluff segment of the project route. Use of a jet plow construction method within the lake bed will temporarily disturb lake sediments in Lake Erie and blasting within an approximately one mile segment of the lake route will temporarily cause impacts for a short duration, but will not negatively affect the long-term ecological integrity of the aquatic resources or habitat areas within the Lake Erie coastal zone.

The Project's only above-ground facility is the converter station, which is being located adjacent to the existing Erie West Substation, which is consistent with the CRMP's policy of siting new energy facilities adjacent to existing facilities.

The operation of the Project will enhance the long term transmission of electricity between Canada and the U.S. and greatly benefit the mix of energy resources within the region. Currently, there is some ability to transmit electricity between Canada and the U.S., with the existing points of interconnection occurring in New York, Michigan and Minnesota. Presently, there is no capability to directly exchange electric energy across Lake Erie into the PJM grid. The Applicant is not aware of any similar planned developments involving the installation of transmission capacity that would connect the grid in Ontario with the PJM grid in the U.S. The offshore Icebreaker wind power project proposed north of Cleveland would provide a new regional power source, but would likely link to the existing utility grid in the Cleveland metropolitan area. Once the Project is operational, it may influence the development of other future energy delivery facilities or increase the potential for other development in the regional service territory that must rely on reliable power availability to be viable.

As proposed, construction and operation of the Project will be consistent with the CRMP energy facility siting policies. It will provide greater access to energy sources for both the U.S. and Canada and enhance regional electrical energy transmission system reliability. Any impacts on the Lake Erie coastal ecosystem will be temporary and localized in nature and will not affect aquatic ecological resources within the Lake Erie coastal zone region.

Policy 9: Intergovernmental Coordination

The CRMP includes policies associated with intergovernmental coordination to ensure that Pennsylvania government agencies, administrative boards and commissions with enforceable mandates linked to the CRMP act cooperatively and in a consistent fashion to conserve significant resources while also encouraging appropriate economic development within the coastal zone. This includes an emphasis on incorporating the requirements of the federal Clean Water Act and Clean Air Act and periodically assessing permitting mechanisms to efficiently incorporate these federal mandates within the state agency permitting process associated with development in coastal zones.

While designing and siting the proposed Project, the Applicant has initiated consultation with the many government agencies that are involved in permit approvals at the local, state and federal level. The U.S. Department of Energy, U.S. Army Corps of Engineers, Pennsylvania Department of Environmental Protection, Pennsylvania Utilities Commission, PJM, Pennsylvania Historic and Museum Commission, Pennsylvania Department of Transportation, Girard Township, Conneaut Township, Springfield Township, Erie County Planning Commission, Erie County Conservation District, United States Fish and Wildlife Service, Pennsylvania Fish and Boat Commission, Pennsylvania Department of Conservation and Natural Resources, and Pennsylvania Game Commission, along with many other individuals and organizations present at local Project open houses have been introduced into the permitting process. As permit applications are filed there will be many opportunities for agency and stakeholder input, and coordination between agency staff responsible for granting permit approvals.

As proposed, construction and operation of the Project will be consistent with the CRMP intergovernmental coordination policies. Specifically, the Project siting and permitting process that is currently in place ensures close coordination between local, state and federal agencies and the Applicant has proactively sought input from regulatory and consulting agencies to identify significant potential natural resource and land use impacts and adjust the Project site or construction approach to avoid or minimize adverse impacts.

Policy 10: Public Involvement

The CRMP includes policies associated with public involvement as it relates to providing citizens, special interest groups and all other segments of the public with ample opportunities for participation in decision-making activities associated with the coastal resources management program. As part of this effort, the CRMP established a Coastal Zone Advisory Committee to provide an organized forum for public involvement, including advising the Pennsylvania Environmental Quality Board on regulations affecting coastal resources.

As discussed previously, when designing and siting the proposed Project, the Applicant has initiated consultation with the many government agencies that are involved in permit approvals at the local, state and federal level. This effort has already included public access to the Presidential Permit Application filed with the U.S DOE in May 2015.

Public outreach efforts undertaken by ITC Lake Erie have included local presentations with the affected townships and Erie County Executive regarding the Project objectives and elements, a public launch/media event, and a public open house held on March 12, 2015. Notice of the open house was mailed to 120 residents located within 1,000 feet of the proposed transmission line right-of-way as well as to local government officials. The open house was held at Girard High School in Girard Township, PA, where ITC Lake Erie described the proposed Project and various technical experts answered questions. A description of the regulatory requirements associated with the project development and related opportunities for future public input were also provided. ITC Lake Erie also provided updated information on the Project and the

associated development schedule and answered questions from the public during the regularly scheduled meeting of the Girard Township Supervisors on May 12, 2015.

In addition, ITC Lake Erie has created a publicly available ITC Lake Erie Connector website (<http://www.itclakeerieconnector.com>) that includes baseline information on the proposed Project, links to media articles, frequently asked questions and upcoming Project events. The website also allows the public to submit questions about the Project and register for e-mailed updates, including announcements of future public meetings or how to access Project permit applications. The website summarizes public outreach activities already undertaken and those planned for the future.

ITC Lake Erie has also maintained an ongoing dialogue regarding the Project with affected landowners. It has already made a number of refinements to the Project in response to landowner concerns.

As proposed, the Project will be consistent with the CRMP public involvement policies through the public access to Project permitting documents and the associated opportunity for public input in writing or at public meetings at various points in the permitting process.

Policy 11: Ocean (Great Lakes) Resources

The CRMP includes policies associated with ocean resources (including those in Lake Erie), with an emphasis on conserving Lake Erie coastal zone resources relating to fisheries, native and endangered shellfish, aquatic, riparian and wetland ecosystems, sand and pebble beaches, offshore sand, and submerged shipwrecks. Particular focus is placed on the CRMP actively assisting in preventing aquatic nuisance species from being introduced into coast zones and to facilitate their eradication.

Vessels in Lake Erie required to conduct work for the Project will follow the US Coast Guard guidelines regarding the potential introduction of aquatic nuisance species during construction or maintenance activities.

The Applicant has been working closely with the PA Fish and Boat Commission to determine potential construction and operational impacts to fish and other aquatic species in the Lake Erie coastal zone. Section 5.4 of the Project EA (Attachment 3) provides additional detail regarding fish and aquatic species impact avoidance and minimization measures proposed by the Applicant, including selection of the Project route and selection of construction methods and schedules.

Construction within the lake to install the transmission cable will be conducted in a relatively short time period at each trench location and temporarily suspended lake bottom sediments will generally settle back within the Project route (see Water Quality Model report in Appendix E of Attachment 3 for more detail).

Use of the HDD construction process at the Lake Erie shoreline will avoid impacting the immediate coastal area, thus avoiding any impacts to sand and pebble beaches and minimizing

disturbance of nearshore sand. Localized underwater blasting and bedrock removal within the approximately one-mile route segment approaching the shoreline will be conducted with a drilling and limited stemmed charges methods in accordance with the Project blasting plan, described in more detail in Attachment 4 of the joint permit application.

Location of the on-land Underground Segment within existing road corridors and the use of HDD or Jack & Bore construction methods at several stream crossings also minimize the potential impact on these streams that eventually drain into Lake Erie. The Erie County Conservation District will review and approve the Project E&SCP and Site Restoration Plans prior to Project construction.

As proposed, construction and operation of the Project will be consistent with the CRMP ocean resources policies, primarily through impact avoidance measures, the relatively narrow construction impact corridor within Lake Erie, the use of a HDD construction method to avoid shoreline and bluff impacts, and the burial of the transmission line in the bed of Lake Erie.

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