APPENDIX J

MILLENNIUM PIPELINE PROJECT - NEW YORK COASTAL ZONE MANAGEMENT POLICY CONSISTENCY DETERMINATION
March 2001

3.3 LAKE ERIE CROSSING

Description of Proposed Action

The proposed Lake Erie crossing extends from a landfall about 14 miles west of the community of Port Stanley, Ontario, Canada, across Lake Erie, to a point in the Town of Ripley, New York (Figure 4, Attachment A-1). The crossing is about 93 miles long, with about 60 miles in Canadian waters and 33 miles in U.S. waters. This evaluation extends from the New York State landfall at Ripley, New York, to the international boarder with Canada. Millennium proposes to lay this 1.07m diameter, concrete-coated pipeline in a trench excavated in the lakebed to protect it from scouring ice keels, fishing gear and anchors.

Alternative Routes Evaluated

Several major route alternatives were examined in selecting a route for the Millennium Project across and around Lake Erie. The delineation of a number of alternative routes was based on the following primary constraints:

- Compliance with technical connections such as take-off and delivery points;

  Adherence to existing rights-of-way, if available, and where practical;

  Avoidance of recognized major physical, natural and cultural environmental constraints; and

- Minimization of system costs in terms of construction, operation and maintenance.

On the basis of these primary constraints, three principal alternative routes were identified:

- Alternative 1, involving a crossing of Lake Erie;

- Alternative 2, involving crossings of the St. Clair River or Detroit River and following existing rights-of-way along the south side of Lake Erie; and

  Alternative 3, following existing rights-of-way along the north side and around the eastern end of Lake Erie, involving a crossing of the Niagara River.

For the evaluation of the alternative routes, a number of criteria were used including:

minimization of total route length;

- minimization of the number of major crossings such as highways, railways, watercourses;

- minimization of routing through urban areas, areas of high heritage resources potential, and other sensitive land uses (e.g., specialty crops, wetlands, etc.); and

- minimization of potentially affected landowners.

Based on these criteria, Alternative 1 involving the Lake Erie crossing was selected as the preferred route based on the fact that overall it is the shortest route and, furthermore, on the rationale that potential impacts associated with land-based construction are greater than those associated with in-water construction.

Originally, six sub-alternative routes were identified for the Lake Erie crossing. These were based on three landfall options on the Canadian side near the communities of Morpeth, Port Stanley and Hemlock and two landfall options on the U.S. side near the community of Girard and the Town of North East in Pennsylvania. The landfall option near Hemlock was eliminated for commercial reasons. The landfall near Girard was also eliminated, as it appeared to offer no advantages over the preferred U.S. landfall option near North East (due to its proximity to existing Columbia Transmission right-of-way).

As a result, two sub-alternatives of Alternative 1, i.e., Alternative 1A and 1B extending from landfalls near Morpeth and Port Stanley, respectively, to a landfall near North East were evaluated based on the following considerations: route length, cost, scheduling, landfall location, offshore natural gas development, sediment quality, ice scour potential, anchor dragging, and turbidity generation and siltation. Alternative 1A was slightly more preferable from the standpoint of Canadian overland route length, landfall location and offshore gas development, whereas Alternative 1B was preferable from the standpoint of scheduling, sediment quality, anchor dragging and turbidity generation. Based on this assessment, Alternative 1B was selected as the preferred route.

Subsequently, a new U.S. landfall was delineated about 3.1 miles west of the originally preferred landfall location. The primary reason for the U.S. landfall relocation was to realign the initial portion of the original land-based route to avoid the crossings of 12 vineyards.

At the U.S. landfall, directional drilling is the preferred mode of pipeline crossing construction to minimize or eliminate potential impacts on the nearshore environment and any future nearshore impacts on the operating pipeline. Directional drilling is less disturbing to the environment compared to other conventional open-cut operations. Moreover, this technique will place the pipe 30 to 49 feet below the shoreline providing additional protection to the installed pipeline from the high energy, evolving shoreline. The directional drill trajectory and depth below the lake bed will be determined by local geology as well as engineering and regulatory constraints to maximize the drilled length, long-term pipeline integrity, installation safety and environmental protection. The drill exit water depth will be at least 25 feet. The duration of directional drill construction is expected to be four months.

The area immediately offshore of the anticipated pilot bore exit on the lakebed will be pre-trenched to provide a transition zone engineered to accommodate the pipe bend into the normal submarine pipeline trench. It is estimated that about 0.6 miles of the pipeline route offshore of the directional drill exit hole will have insufficient cover to permit pipeline burial in sediment. Therefore, the shale bedrock along this length must be ripped, cut or blasted before the pipeline is installed.

Further offshore, the pipeline will be laid by barge and trenched by jetting. Some trenching with a cutterhead dredge may be required at selected locations. Using water under high pressure, the mechanical jetting sled will trench the offshore pipeline to recommended trench depths ranging from 6.6 to 9.2 feet for the six zones delineated along the pipeline route in the U.S. waters of Lake Erie. A risk-based model was used to determine trench depths along these zones taking into account average water depth, average soil strength, ice scour regime and design criteria (pipeline strain and stress). The 36-inch pipeline will have two outer coatings: a fusion bonded epoxy coating to protect the steel pipe from corrosion, and a 3-inch concrete coating to add sufficient weight for stability. As an additional measure, a cathodic protection system consisting of zinc anodes will be provided to prevent corrosion of the steel pipe. The average production rate is 4,000 ft/day. Lake Erie pipeline construction will be a 24-hour, 7-day operation and will extend over a six-month period.

Natural processes will quickly backfill the trench. This is normally accomplished by natural erosion (slumping) of the trench walls due to current forces, and subsequent siltation by suspended sediments, particularly during storm events.

In response to a request from the FERC, researchers at the U.S. Army Engineer Research and Development Center ("ERDC") assessed Millennium's work on three topics related to the Lake Erie crossing:

The potential for pipeline damage by ice scour;

The adequacy of the sampling program to identify contaminated sediments; and

The adequacy of the modeling for turbidity and sediment deposition resulting from trench excavation.

This assessment focused on the pipeline zones in U.S. waters and was conducted in collaboration with Millennium, its partners, and the Pittsburgh District, Corps of Engineers.

High winds on Lake Erie can fracture and pile ice into large ridges. Ice scour occurs when the keels of these ridges drag along the lakebed. To avoid damage, a pipeline must be designed to withstand the forces from an ice scour expected to cross the pipeline, on average, once in 100 years. The design trench depth must place the pipe crown sufficiently below the scour depth to keep pipe deformations within acceptable limits.

Determination of the 100-year ice scour depth was the only issue that required additional analyses to satisfy the concerns of the ERDC reviewers. The original analyses relied solely on data from a single survey along the pipeline route. The ERDC review resulted in two main

changes: only new scours were used to determine the scour-depth probability distribution, and scour data from comprehensive surveys nearby the pipeline route were included. These changes increased the estimated 100-year scour depth by 25%, from 1.2 to 1.5 m, in pipeline zones nearest the U.S. shore (zones H, I, and J). In these zones the design trench depth increased by about 20%, from 2.8 to 3.4 m (see following table). Ice scour does not control trench depths in deep-water zones F and G, and the originally designed trench depth of 2.0 m is adequate even if it did. Additional benchmark analyses conducted during the ERDC review increase confidence in the estimated scour rates, the scour-depth distribution, and the resulting 100-year scour depths.

Table 4.

Revised 100-year scour depths and design trench depths for Millennium pipeline zones in U.S. waters. Originally scour and trench depths are from C-CORE (1999a), although zone definitions differ slightly.

Pipeline zone	*Distance from Canadian landfall [km]*	*Start-end water depth range [m]*	*Original 100-year scour depth [m]*	*Revised 100-year scour depth [m]*	*Original design trench depth [m]*	*Revised design trench depth [m]*
F	98.0-105.0	21.0-26.7	0.8*	0.8*	2.0	2.0
G	105.0-135.1	26.7-27.4	0.8*	0.8*	2.0	2.0
H	135.1-136.8	27.4-18.4	1.2	1.5	2.8	3.4
I	136.8-142.2	18.4-16.4	1.2	1.5	2.8	3.4
J	142.2-147.3	16.4-17.1	1.2	1.5	2.8	3.4
ALF	147.3-149.3 (DDA)	17.1-8.3				

ALF: American Landfall
DDA End of directionally drilled Pipe from American Landfall
** Assigned values based on need to protect pipeline from anchors and fishing gear. Ice scour does not control trench depths for zones F and G.*

The ERDC assessment included the pipe-soil interaction model used to determine the design trench depths given the 100-year scour depth for each zone. This finite-element model relies on results from centrifuge tests and field observations, and it represents the state of the art. A question–answer exchange resolved concerns regarding use of two-dimensional modeling, the choice of soil-stiffness characteristics, and the response of the pipe in a partially backfilled trench. Conservative choices regarding normal incidence angle and keel-pipe load transfer through native soil increase confidence in the model results.

ERDC's assessments of Millennium's sediment-sampling program sought to resolve issues concerning the depth and intensity of sampling and the use of mercury as an indicator contaminant. A question-answer exchange, which included additional data and references, resolved these concerns. No additional sampling or analyses are needed due to increased trench depths because the extra material excavated would be uncontaminated.

ERDC's assessments of Millennium's modeling of turbidity and sediment deposition focused on the modeling methods and the choice of sediment settling velocity. Many specific issues were resolved through a question-answer exchange. Modeling by ERDC showed that the originally predicted turbidity plume is conservative. However, Millennium will need to update its results to show as much as a factor-of-three short-term increase in the expected thickness of the sediment blanket adjacent to the pipeline trench. A 20% increase in design trench depths would result in a further 10% increase in blanket thickness and a 10% increase in blanket width. The effect on the turbidity plume would depend on the trench excavation rate. Millennium agreed with the results of this review.

The design of the pipeline includes a margin of safety between the maximum tensile strain caused by the 100-year scour (2.5%) and strain needed to rupture the pipe (about 3.8%). Millennium will monitor the pipeline continuously for changes in conditions that could signal damage and would close valves at each side of the lake if a leak occurs. In addition, Millennium will conduct internal and external inspections of the pipeline at approximately three-year intervals (depending on ice conditions) to detect possible damage and to assess the design for ice scour protection. It will also establish procedures (as required by regulation) for emergency response and repair of the pipeline.

In conclusion, the ERDC assessment of Millennium Pipeline Project's Lake Erie crossing revealed the need for two revisions: a 20% increase in design trench depths in zones H, I, and J, and as much as a three-fold short-term increase in expected sediment-blanket thickness adjacent to the excavated trench. Otherwise, the analyses conducted and reports prepared by Millennium pertaining to the three topics assessed are technically sound and satisfy the request for additional information under the Corps of Engineers regulatory review process. Millennium has modified its design to comply with these recommendations.

The SDEIS includes a full evaluation of these project refinements. See SDEIS, Part II at 2-20 to 2-35. Based upon that review, the SDEIS concludes that the Lake Erie crossing could be constructed with appropriate conditions. Those conditions are specified at page 2-34 of Part II of the SDEIS. Millennium is in agreement with those conditions.

3.3.3 Review of Coastal Zone Consistency Policy

1) *Restore, revitalize and redevelop deteriorated and underutilized waterfront areas for commercial, industrial, cultural, recreational and other compatible uses.*

Construction of the proposed Lake Erie crossing would not involve development in deteriorated and underutilized waterfront areas, and thus this policy does not apply.

2) *Facilitate the siting of water-dependent uses and facilities on or adjacent to coastal waters.*

Construction of the proposed project crossing would not involve the siting of water-dependent uses and facilities on or adjacent to coastal waters, and thus this policy does not apply.

3) *Promote the development and use of the state's major ports as centers of commerce and industry, emphasizing the siting, in these port areas, including those under the jurisdiction of state public authorities, of land use and development which is essential to, or in support of, the waterborne transportation of cargo and people.*

Construction of the proposed project crossing would not involve development and use of any New York State major port facility. Therefore this policy does not apply.

4) *Strengthen the economic base of smaller harbor areas by encouraging the development and enhancement of those traditional uses and activities, which have provided such areas with their unique maritime identity.*

Construction of the proposed project crossing would not involve development in a small harbor area, and thus this policy does not apply. It should be noted that the proposed project would not inhibit development at small harbor areas in the project area.

5) *Encourage the location of development in areas where public services and facilities essential to such development are adequate.*

Construction of the proposed project crossing would not result directly in any new development in the area requiring additional public services or facilities. The proposed project would service existing industrial facilities or customers in developed urban areas where public services and facilities are adequate for such development. The proposed project would therefore be consistent with this policy.

6) *Expedite permit procedures in order to facilitate the siting of development activities at suitable locations.*

Construction of the proposed project crossing would not involve the siting of development activities; the policy, therefore, does not apply.

7) *Significant coastal fish and wildlife habitats will be protected, preserved, and where practical, restored so as to maintain their viability as habitats.*

The proposed project area has not been identified as a significant coastal fish and wildlife habitat; however, the proposed project has been designed to maintain the viability of existing habitat.

Steep bluffs and narrow cobble/gravel beaches are the predominant habitat type located along the Lake Erie shoreline at the proposed pipeline landfall. The unprotected shoreline is a high wave

energy environment that precludes the establishment of both emergent and submerged aquatic vegetation. Rocky substrate occurs in the nearshore area providing potential spawning and nursery habitat for species including lake whitefish, channel catfish, white bass, smallmouth bass, yellow perch, walleye, freshwater drum, as well as forage fish species. The nearshore also provides foraging habitat for migratory diving waterfowl, including greater scaup, common goldeneye, common merganser, bufflehead, and canvasback.

Impacts on the shoreline and the nearshore zone will be avoided by constructing the proposed Lake Erie landfall using directional drilling. Construction would involve drilling a pilot hole from onshore to exposed bedrock about 2620 feet offshore at a water depth of about 25 feet, thus avoiding coastal fish and wildlife habitats. The proposed project would therefore be consistent with this policy.

Some blasting may be required for a short distance, i.e., about 0.6 miles, at water depths of 25 to 50 feet. Blast rubble could be used for local creation/enhancement of lake trout spawning habitat. Any such habitat enhancement will be developed in consultation with the USACE and NYSDEC, and will be consistent with the CMP.

8) *Protect fish and wildlife resources in the coastal area from the introduction of hazardous wastes and other pollutants which bio-accumulate in the food chain or which cause significant sub-lethal or lethal effect on those resources.*

BMPs addressing landfall, directional drilling and offshore construction activities will be prepared and followed during construction. The BMPs will include practices to reduce the possibility for accidental release of small amounts of wastes and materials to the lake waters from the construction vessels due to poor maintenance and housekeeping practices. Proper lubrication and fuelling procedures will be followed with provisions made for leak and spill containment, and diligence will be exercised to oversee waste management practices. Consideration will be given to the Marine Contingency Plans for Spills of Oil and Other Noxious Substances developed for Lake Erie.

Sediments along the proposed pipeline route are generally uncontaminated. All of the organic contaminants were below their detection limits (with the exception of detectable levels of acetone in some samples likely due to residues from glass sample container pre-cleaning). Somewhat elevated (above sediment quality guidelines) concentrations of nutrients (phosphorus, nitrogen) and metals (arsenic, manganese) occurred in some sediment samples analyzed. It is anticipated that, during trenching, any nutrients and metals solubilized into the water column will be rapidly removed by prevalent oxidation, precipitation and coprecipitation processes. Moreover, the mixing of any localized contaminated sediments with the deeper and adjacent uncontaminated sediments will result in rapid and substantial resorption of any contaminants released to the water column by the uncontaminated suspended sediments.

Based on the relatively good sediment quality, particularly the low (non-detect) concentrations of mercury, PCBs, chlorinated pesticides and other organic contaminants, contaminant release from sediments during trenching will have negligible (non-measurable) effect on water quality or bioaccumulation potential. As a result, the proposed project will be consistent with this policy.

9) *Expand recreational use of fish and wildlife resources in coastal areas by increasing access to existing resources, supplementing existing stocks, and developing new resources. Recreational uses include: (1) consumptive uses such as fishing and hunting; and (2) non-consumptive uses such as wildlife photography, bird watching and nature study.*

Construction of the proposed project crossing would not preclude recreational use of fish and wildlife resources. The project would therefore be consistent with this policy.

Further develop commercial finfish, shellfish and crustacean resources in the coastal area by encouraging the construction of new, or improvement of existing on-shore commercial fishing facilities, increasing marketing of the state's seafood products, maintaining adequate stocks, and expanding aquaculture facilities.

Construction of the proposed project crossing would not affect commercial fishing resources. Therefore, the proposed project would not conflict with this policy.

1) *Buildings and other structures will be sited in the coastal area so as to minimize damage to property and the endangering of human lives caused by flooding and erosion.*

The proposed project crossing does not include the siting of buildings or other structures within an identified floodway or coastal erosion hazard area. All pipeline related structures within the coastal zone area will be below ground. Therefore, this policy does not apply.

12) *Activities or development in the coastal area will be undertaken so as to minimize damage to natural resources and property from flooding and erosion by protecting natural protective features including beaches, dunes, barrier islands and bluffs.*

Construction of the proposed project crossing at the Lake Erie landfall would be conducted using directional drilling techniques, thus the shoreline bluff will not be impacted. Therefore the proposed project would be in compliance with this policy.

13) *The construction or reconstruction of erosion protection structures shall be undertaken only if they have a reasonable probability of controlling erosion for at least thirty years as demonstrated in design and construction standards and/or assured maintenance or replacement programs.*

The proposed project crossing does not include the construction or reconstruction of erosion protection structures. Therefore, this policy does not apply.

Activities and development, including the construction or reconstruction of erosion protection structures, shall be undertaken so that there will be no measurable increase in erosion or flooding at the site of such activities or development, or at other locations.

The proposed project does not include the construction or reconstruction of erosion protection structures. Therefore, this policy does not apply.

15) *Mining, excavation or dredging in coastal waters shall not significantly interfere with the natural coastal processes which supply beach materials to land adjacent to such waters and shall be undertaken in a manner which will not cause an increase in erosion of such land.*

As indicated in Section 3.2.1 "Description of Proposed Action", construction impacts on the shoreline and nearshore zone will be avoided by constructing the proposed Lake Erie landfall using directional drilling. Further offshore blasting, cutting or ripping of the shale bedrock will be required for a short distance, i.e., about 0.6 miles. Trench excavation by mechanical jetting will occur at water depths in excess of 50 feet and will not affect natural coastal processes or increase the potential of erosion of adjacent land. Therefore, the proposed project will be in compliance with this policy.

16) *Public funds shall only be used for erosion protective structures where necessary to protect human life, and new development which requires a location within or adjacent to an erosion hazard area to be able to function, or existing development; and only where the public benefits outweigh the long-term monetary and other costs including the potential for increasing erosion and adverse effects on natural protective features.*

The proposed project crossing does not include the construction of erosion protection structures and no public funds will be used. Therefore, this policy does not apply.

17) *Nonstructural measures to minimize damage to natural resources and property from flooding and erosion shall be used whenever possible.*

Construction of the proposed project will not include structural flood control elements. Therefore, this policy does not apply.

To safeguard the vital economic, social and environmental interests of the state and of its citizens, proposed major actions in the coastal area must give full consideration to those interests, and to the safeguards which the state has established to protect valuable coastal resource areas.

Construction of the proposed project would provide a source of clean-burning natural gas to New York State, providing vital energy and infrastructure to the State. Safeguarding of social and environmental interests of the state and its citizens is being given full consideration through the federal NEPA process. The proposed project would be consistent with this policy.

Protect, maintain, and increase the level and types of access to public water related recreation resources and facilities.

Construction of the proposed project would not materially affect public water-related recreation resources and facilities. The project would therefore be consistent with this policy.

Access to the publicly-owned foreshore and to lands immediately adjacent to the foreshore or the water's edge that are publicly-owned shall be provided and it shall be provided in a manner compatible with adjoining uses.

No publicly owned foreshore will be disturbed by project construction activities. Construction of the proposed project would not preclude access to publicly owned lands. Therefore, the proposed project is consistent with this policy.

21 *Water-dependent and water-enhanced recreation will be encouraged and facilitated, and will be given priority over nonwater related use along the coast.*

Construction of the proposed project would not materially affect water-related recreation resources and facilities. Therefore, the proposed project would be consistent with this policy.

22) *Development, when located adjacent to the shore, will provide for water related recreation, whenever such use is compatible with reasonably anticipated demand for such activities, and is compatible with the primary purpose of the development.*

The proposed project crossing will not entail shoreline development; therefore, this policy does not apply.

Protect, enhance and restore structures, districts, areas or sites that are of significance in history, architecture, archaeology or culture of the state, its communities, or the nation.

From 30 August to 12 September 1997, Racal Pelagos, Inc., conducted a marine geophysical survey of the initially proposed pipeline route between a point near Port Stanley, Ontario, and the original Millennium Project landfall near North East, Pennsylvania. The marine CRM survey involved the collection of side scan sonar, sub-bottom profiling and magnetometer data, as well as sediment samples. This geophysical survey was also used to undertake an underwater archaeological investigation of the proposed project corridor.

From 27 to 31 August 1998, Canadian Seabed Research Ltd. (CSR) conducted a supplemental marine geophysical survey for the altered pipeline route between a landfall to the west of Port Stanley, Ontario, and the new southern landfall near Ripley, New York. These route alterations involved the relocation of the drill exit on the Canadian side, the reroute around a sub-sea mound near the middle of the lake (in Canadian waters) and the relocation of the shore approach on the U.S. side near Ripley, New York. In addition, the 1998 survey also ran an offset track line along the entire primary centerline of the proposed pipeline route. The survey involved the collection of side scan sonar data, sub-bottom profiles, magnetometer traces and lake-bottom bathymetry.

Based on the analysis of the sonar and magnetometer data, there are no underwater archaeological or cultural resources located within the proposed Lake Erie crossing route and the U.S. nearshore (Ripley, New York) landfall area that would be impacted by the proposed project. No

historic or listed structures are located within the project area. Therefore, the proposed project is in compliance with this policy.

> *Prevent impairment of scenic resources of statewide significance. This impairment would include: (a) the irreversible modification of geologic forms, the destruction or removal of structures, whenever the geologic forms, vegetation or structures are significant to the scenic quality of an identified resource; and (b) the addition of structure which, because of siting or scale will reduce identified views or which because of scale, form, or materials, will diminish the scenic quality of an identified source.*

Construction of the proposed project crossing would not impair scenic resources of statewide significance. The proposed project would therefore be consistent with this policy.

> *Protect, restore or enhance natural and man-made resources which are not identified as being of statewide significance but which contribute to the overall scenic quality of the coastal area.*

The proposed project would not adversely impact the overall scenic quality of the coastal area. Therefore, this policy does not apply.

> *Conserve and protect agricultural lands in the state's coastal area.*

The primary crop at the landfall location is corn. A vineyard is present to the west of the landfall of which about 200 feet will be undercrossed by the directional drill route. No tile drainage is present on these lands. The agricultural lands at the landfall will be conserved and protected by the implementation of such mitigative measures as accurate topsoil salvage and replacement; separation of topsoil and subsoil storage piles; chisel cultivation and/or subsoiling, where necessary; formulation and implementation of specific erosion control techniques; seeding and fertilizing after construction; post-construction monitoring of crop yields and soil conditions, as necessary.

> *Decisions on the siting and construction of major energy facilities in the coastal area will be based on public energy needs, compatibility of such facilities with the environment, and the facility's need for a shorefront location.*

The Millennium Pipeline Project is a major energy facility that is entitled to a preference under the CZMA. The CZMA recognizes that major energy facilities are entitled to preferential consideration because of the importance of transmitting energy, particularly natural gas, to markets that are dependent upon energy sources for growth and economic vitality. The Millennium Pipeline Project will satisfy the "public energy needs" of New York State and the Northeast U.S. region in a number of different respects. First, the Project will satisfy growing market demands, as evidenced both by executed contracts for the pipeline's capacity and the forecasts of various experts. Second, the project will supply low-cost Canadian gas supplies to one of the highest-priced gas markets in the United States -- New York. Third, the Project will improve electric power reliability and advance clean air objectives. Fourth, the Project will improve the reliability of gas service to New Yorkers by upgrading the existing natural gas

infrastructure through the addition of more capacity, deliverability, delivery points, and interconnections. Fifth, the Project will provide gas producers and gas storage developers in western New York with increased access to markets. These benefits are explained in more detail in response to Policy 27 in Section 3.1.6.

Construction of the Lake Erie pipeline crossing takes into consideration public need and environmental issues. Therefore, the proposed project is in compliance with this policy.

28) *Ice management practices shall not interfere with the production of hydroelectric power, damage significant fish and wildlife and their habitats, or increase shoreline erosion or flooding.*

Ice management practices in the nearshore zone would be avoided by constructing the proposed Lake Erie landfall using directional drilling. Construction would involve drilling a pilot hole from onshore to exposed bedrock about 2620 feet offshore at a water depth of about 25 feet, avoiding construction or need for ice management in the shore zone area. The proposed project would therefore be consistent with this policy.

Encourage the development of energy resources on the outer continental shelf, in Lake Erie and in other water bodies, and ensure the environmental safety of such activities.

Construction of the proposed Lake Erie crossing does not involve development of energy resources on the outer continental shelf, in Lake Erie and in other water bodies. Therefore, this policy does not apply.

Municipal, industrial, and commercial discharge of pollutants, including but not limited to, toxic and hazardous substances, into coastal waters will conform to state and national water quality standards.

All reasonable measures will be taken to prevent or minimize the discharge of contaminated dredged material, if any, during pipeline construction activities. Moreover, based on the low concentrations of chemical parameters in the sediment, the large dilution capacity of the project waters, and the transitionary nature of the jetting activities, little degradation of water quality due to chemical release from resuspended sediment is expected. Any chemical releases are expected to be small, their effects will be localized and temporary, and rapid dispersion by mixing and sorption processes to ambient levels is expected. Therefore, no mitigative measures are recommended at this time. The project will comply with the applicable permitting requirements. The proposed Lake Erie Crossing will therefore be consistent with this policy.

State coastal area policies and management objectives of approved local waterfront revitalization programs will be considered while reviewing coastal water classifications and while modifying water quality standards; however, those waters already over-burdened with contaminants will be recognized as being a development constraint.

Construction of the proposed project crossing would not affect the water classification or water quality standards in the proposed project area. Therefore, this policy does not apply.

32) *Encourage the use of alternative or innovative sanitary waste systems in small communities where the costs of conventional facilities are unreasonably high, given the size of the existing tax base of these communities.*

Construction of the proposed project would not involve sanitary waste systems; therefore, this policy does not apply.

33) *Best management practices will be used to ensure the control of stormwater runoff and combined sewer overflows draining into coastal waters.*

The proposed project would not involve stormwater runoff or construction of combined sewer overflows. Therefore, this policy does not apply.

34) *Discharge of waste materials into coastal waters from vessels subject to state jurisdiction will be limited so as to protect significant fish and wildlife habitats, recreational areas and water supply areas.*

Construction of the proposed project would not affect discharge from vessels into waters of Lake Erie. Therefore, this policy does not apply.

Dredging and dredge spoil disposal in coastal waters will be undertaken in a manner that meets existing state dredging permit requirements, and protects significant fish and wildlife habitats, scenic resources, natural protective features, important agricultural lands, and wetlands.

As indicated in Section 3.2.1 "Description of Proposed Action", construction impacts on the shoreline and nearshore zone will be avoided by constructing the proposed Lake Erie landfall using directional drilling. Further offshore blasting, cutting or ripping of the shale bedrock will be required for a short distance, i.e., about 0.6 miles. Trench excavation by mechanical jetting will occur at water depths in excess of 50 feet and will not affect natural coastal processes or increase the potential of erosion of adjacent land. Therefore, the proposed project will be in compliance with this policy.

Activities related to the shipment and storage of petroleum and other hazardous materials will be conducted in a manner that will prevent or at least minimize spills into coastal waters; all practicable efforts will be undertaken to expedite the cleanup of such discharges; and restitution for damages will be required when these spills occur.

The proposed project does not involve the shipment and storage of petroleum or other hazardous materials. Therefore, this policy does not apply.

37) *Best management practices will be utilized to minimize the non-point discharge of excess nutrients, organics and eroded soils into coastal waters.*

A site-specific erosion and sediment control plan will be formulated and implemented at the directional drill rig site, e.g. use of straw bales as filters and mulching for interim stabilization; restoration of a suitable land contour and drainage patterns by grading to minimize accelerated erosion; replacement of adequate topsoil; and revegetation by seeding and planting as soon as seasonal conditions permit. The proposed Lake Erie Crossing project will therefore be consistent with this policy.

The quality and quantity of surface water and groundwater supplies will be conserved and protected particularly where such waters constitute the primary or sole source of water supply.

The proposed project would not affect the surface water or groundwater supply in the area. Based on previous directional drilling construction experience, there will be no impact on groundwater quality, nor is the groundwater regime likely to be disturbed by pipeline construction. There are no known wells in close proximity to the landfall. The proposed project will therefore be consistent with this policy.

The transport, storage, treatment and disposal of solid wastes, particularly hazardous wastes, within the coastal areas will be conducted in such a manner so as to protect groundwater and surface water supplies, significant fish and wildlife habitats, recreation areas, important agricultural land, and scenic resources.

The proposed project does not involve the transport, storage, treatment or disposal of solid wastes. Therefore, this policy does not apply.

40) *Effluent discharged from major steam electric generating and industrial facilities into coastal waters will not be unduly injurious to fish and wildlife and shall conform to state water quality standards.*

The proposed project would not result in the discharge of any effluent from generating and industrial facilities into the waters of Lake Erie. Therefore, this policy does not apply.

Land use or development in the coastal area will not cause national or state air quality standards to be violated.

The proposed project would not result in the violation of any Federal, state or local air quality standards. The proposed project would therefore be consistent with this policy.

42) *Coastal management policies will be considered if the state reclassifies land areas pursuant to the prevention of significant deterioration regulations of the Federal clean air act.*

The proposed project would not affect state classifications of land areas. Therefore, this policy does not apply.

43) *Land use or development in the coastal area must not cause the generation of significant amounts of acid rain precursors nitrates and sulfates.*

The proposed project would not cause the generation of significant amounts of acid rain precursors, namely, nitrates and sulfates. The proposed project will deliver a clean burning fuel that should result in the overall reduction of acid rain precursors. Therefore, this policy does not apply.

44) *Preserve and protect tidal and freshwater wetlands and preserve the benefits derived from these areas.*

The proposed Lake Erie crossing will not affect tidal or freshwater wetlands. Construction of the pipeline crossing will use directional drilling techniques that will involve drilling a pilot hole from onshore to exposed bedrock about 2,620 feet offshore at a water depth of about 25 feet, avoiding construction in wetland or shore zone areas. The proposed project would therefore be consistent with this policy.

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