

For Office Use Only
Executive Office of Environmental Affairs

EOEA No.: **13798**
MEPA Analyst: **ANNE CANADAY**
Phone: 617-626- **X 1035**

ENF Environmental Notification Form

The information requested on this form must be completed to begin MEPA Review in accordance with the provisions of the Massachusetts Environmental Policy Act, 301 CMR 11.00.

Project Name: Tennessee Gas Pipeline Company's Essex-Middlesex Project		
Street: N/A		
Municipality: Saugus and Lynnfield, Essex County; Wakefield, Middlesex County	Watershed: Saugus River Watershed	
Universal Transverse Mercator Coordinates: North American Datum (NAD) 1983	Latitude: 71.0324162043	Longitude: 42.4551762307 (pipeline kick-off)
Estimated commencement date: May 2007	Estimated completion date: September 2007	
Approximate cost: \$38.1 million	Status of project design: 80%	
Proponent: Tennessee Gas Pipeline Company (a subsidiary of El Paso Corporation)		
Street: 1001 Louisiana Street, Room 1155A		
Municipality: Houston	State: Texas	Zip Code: 77002
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Kathleen Miller		
Firm/Agency: Northern Ecological Assoc., Inc.	Street: 451 Presumpscot Street	
Municipality: Portland	State: Maine	Zip Code: 04103
Phone: (207) 879-9496 Ext. 243	Fax: 207-879-9481	E-mail: kmiller@neamaine.com

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?

Yes No

Has this project been filed with MEPA before?

Yes (EOEA No. _____) No

Has any project on this site been filed with MEPA before?

Yes No

EOEA 10612—DOMAC-Malden-Melrose-Revere Lateral
EOEA 9467—Boston Expansion Project

Is this an Expanded ENF (see 301 CMR 11.05(7)) requesting:

- a Single EIR? (see 301 CMR 11.06(8)) Yes No
- a Special Review Procedure? (see 301CMR 11.09) Yes No
- a Waiver of mandatory EIR? (see 301 CMR 11.11) Yes No
- a Phase I Waiver? (see 301 CMR 11.11) Yes No

Identify any financial assistance or land transfer from an agency of the Commonwealth, including the agency name and the amount of funding or land area (in acres):

Tennessee is seeking conveyance of permanent (fifty [50] foot wide) and temporary easements across five (5) tracts of state-owned property along the pipeline route. The purchase of easements would involve the transfer of a legal interest in land by an agency of the Commonwealth.

Property	Agency of the Commonwealth	Easements (land area)	
		Temp	Perm
Camp Curtis Guild (1 tract)	Div. of Capital Asset Management	5.389 acres	7.937 acres
Breakheart Reservation (4 tracts)	Department of Conservation and Rec.	5.497 acres	6.293 acres

Tennessee is in the process of working with the appropriate state agencies to address issues associated with these conveyances.

Are you requesting coordinated review with any other federal, state, regional, or local agency?

Yes (Specify _____) No

List Local or Federal Permits and Approvals:

Local: Wetlands Bylaw Saugus and Lynnfield; road crossing permits Saugus, Wakefield, Lynnfield.

Federal: Federal Energy Regulatory Commission, Certificate of Public Convenience and Necessity; US Army Corps of Engineers, Clean Water Act (Section 404) Individual Permit; US Environmental Protection Agency, National Pollution Discharge Elimination System (NPDES) General Construction Permit.

Which ENF or EIR review threshold(s) does the project meet or exceed (see 301 CMR 11.03):

- | | | |
|---|--|---|
| <input checked="" type="checkbox"/> Land (utility line) | <input checked="" type="checkbox"/> Rare Species | <input checked="" type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water | <input type="checkbox"/> Wastewater | <input type="checkbox"/> Transportation |
| <input checked="" type="checkbox"/> Energy | <input type="checkbox"/> Air | <input type="checkbox"/> Solid & Hazardous Waste |
| <input checked="" type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input checked="" type="checkbox"/> Historical & Archaeological Resources |

Summary of Project Size & Environmental Impacts	Existing	Change	Total	State Permits & Approvals
LAND				<input checked="" type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input type="checkbox"/> Chapter 91 License <input checked="" type="checkbox"/> 401 Water Quality Certification <input type="checkbox"/> MHD or MDC Access Permit <input type="checkbox"/> Water Management Act Permit <input type="checkbox"/> New Source Approval <input type="checkbox"/> DEP or MWRA Sewer Connection/Extension Permit <input checked="" type="checkbox"/> Other Permits: Massachusetts Endangered Species Act Compliance (321 CMR 10.00) MHD Construction Permits for Route 128/Interstate 95 and Lynn Fells Parkway crossings
Total site acreage	69.65			
New acres of land altered (temporary and permanent)		41.14 temp. 28.51 perm.		
Acres of impervious area	0.04	0.11	0.15	
Square feet of new bordering vegetated wetlands alteration (temporary/conversion of cover types)		1,104,183		
Square feet of new other wetland alteration		300,208		
Acres of new non-water dependent use of tidelands or waterways		n/a		
STRUCTURES				
Gross square footage	0.04	0.11	0.15	
Number of housing units	n/a	n/a	n/a	
Maximum height (in feet)	Less than 10			
TRANSPORTATION				
Vehicle trips per day	n/a	n/a	n/a	
Parking spaces	n/a	n/a	n/a	
WATER/WASTEWATER				
Gallons/day (GPD) of water use	n/a	n/a	n/a	
GPD water withdrawal ¹	n/a	950,000 gallons	n/a	
GPD wastewater generation/treatment	n/a	n/a	n/a	
Length of water/sewer mains (in miles)	n/a	n/a	n/a	

¹Tennessee will hydrostatically test the pipeline. An estimated 950,000 gallons of water for hydrostatic testing for a single test event will come from a municipal water source. After hydrostatic testing, water will be discharged from the pipe to designated upland locations that will be appropriately stabilized with erosion and sedimentation controls, as necessary.

CONSERVATION LAND: Will the project involve the conversion of public parkland or other Article 97 public natural resources to any purpose not in accordance with Article 97?

Yes (Specify _____) No

Although Tennessee seeks a permanent easement over Article 97 properties, the properties will still be used as previously dedicated, including for conservation and open space.

Will it involve the release of any conservation restriction, preservation restriction, agricultural preservation restriction, or watershed preservation restriction?

Yes (Specify _____) No

RARE SPECIES: Does the project site include Estimated Habitat of Rare Species, Vernal Pools, Priority Sites of Rare Species, or Exemplary Natural Communities?

Yes No

The Massachusetts Natural Heritage and Endangered Species Program (NHESP) has determined that two (2) priority rare species habitats and two (2) estimated habitats for rare wildlife would be traversed by the Project. The Project alignment passes through Priority Habitat 327 and Estimated Habitat 105, and Priority Habitat 455 and Estimated Habitat 6018. See Attachment 2 for NHESP correspondence and map of protected resource areas. Also, the Project alignment traverses Reedy Meadow, a Federally-designated national natural landmark. One certified vernal pool has been identified approximately 253-feet east of the proposed pipeline in Lynnfield (see Attachment 2), two (2) potential vernal pools are located within 100 feet of the proposed pipeline in Saugus and Wakefield and an additional six (6) potential vernal pools were identified within 300 feet of the proposed pipeline (three in Saugus, two in Lynnfield, and one in Wakefield). Tennessee has coordinated with NHESP staff and identified survey requirements for the project. Survey protocols and staff will be approved by NHESP staff prior to commencement of field surveys in May 2006.

HISTORICAL /ARCHAEOLOGICAL RESOURCES: Does the project site include any structure, site or district listed in the State Register of Historic Places or the inventory of Historic and Archaeological Assets of the Commonwealth?

Yes No

The Project will traverse portions of two (2) National Register District/National Register Greater Boston Multiple Property Submission historic cultural resources (Lynn Fells Parkway in Saugus, Massachusetts, and Breakheart Reservation Parkway system in Saugus and Wakefield, Massachusetts). The Phase I Archaeology Survey Report [prepared by the Boston University Office of Public Archaeology (OPA) in 1993], and NEA's cultural resources assessment confirmed eight potentially significant prehistoric archaeological sites within the Area of Potential Effect (APE) of the Project: MHC Site No.'s 19-MD-731, 19-MD-732, 19-MD-733, 19-MD-734, 19-MD-735, 19-ES-673, 19-ES-674, and 19-ES-675.

Also, three (3) small, discrete areas (totaling 900 feet, or approximately 2% of the Project footprint) that were not accessible for the OPA Phase I archaeological survey will be surveyed simultaneously with Phase II site examination archaeological surveys for the eight (8) aforementioned prehistoric sites located within the Project APE. See Attachment 3 for Massachusetts Historical Commission correspondence. Tennessee will be working with the Massachusetts State Historical Preservation Office (MA SHPO) to ensure compliance with state and Federal cultural resource regulatory requirements.

If yes, does the project involve any demolition or destruction of any listed or inventoried historic or archaeological resources?

Yes (Specify _____) No

AREAS OF CRITICAL ENVIRONMENTAL CONCERN: Is the project in or adjacent to an Area of Critical Environmental Concern?

Yes No

The Project parallels and partially traverses the Golden Hills ACEC in Saugus and Wakefield for approximately 4,206-feet between MP 1.64 and MP 2.44. See Attachment 4

PROJECT DESCRIPTION: The project description should include (a) a description of the project site, (b) a description of both on-site and off-site alternatives and the impacts associated with each alternative, and (c) potential on-site and off-site mitigation measures for each alternative (You may attach one additional page, if necessary.)

The proposed Project consists of the construction of 7.81 miles of new, 24-inch (outside diameter) pipeline and associated appurtenances. The pipeline would be situated parallel to, and predominantly within, an existing New England Power Company (NEPCO) electric transmission right-of-way (ROW) located in Saugus (3.11 miles), Wakefield (2.44 miles), and Lynnfield (2.26 miles), Massachusetts. At the project's northern end, approximately 500 feet of an existing eight-inch pipeline connecting to the pipeline serving Camp Curtis Guild would be replaced with a twelve-inch pipeline (existing eight-inch valves would be replaced with twelve-inch valves as well). See Attachment 1 for USGS quadrangle map excerpts indicating the proposed pipeline route.

The Project purpose is to provide incremental firm transportation on Tennessee's existing natural gas pipeline transmission system in New England and provide reliable and economical natural gas capacity that will allow Tennessee to continue serving the growing energy needs in the northeastern United States.

Two (2) new aboveground permanent facilities, one including modifications to an existing aboveground facility, are proposed as part of the Project. A new pig¹ receiver (occupying approximately 4,792 ft²) is proposed at the northern terminus of the proposed pipeline in Lynnfield. An existing pig receiver located at the south end of the proposed pipeline in Saugus, at the tie-in with Tennessee's DOMAC Line, will be removed as part of the Project, and a new tie-in assembly will be constructed in its place (occupying 1,307 ft² in area).

Terrain in the Project area is characterized by gently rolling hills interspersed with large wetlands and bedrock outcroppings. The primary land uses affected by the Project include forested land (28.88 acres), wetlands (25.31 acres), and open land (19.373 acres). Seventeen (17) roads and one inactive railroad (Boston and Maine Railroad) would be traversed by the proposed Project.

The proposed construction ROW in upland areas will be 100 feet wide and 75 feet wide in wetlands. The Project will require 30 to 50 feet of permanent ROW centered over the pipe centerline. Most of the proposed permanently maintained ROW would be located adjacent to and overlapping the existing NEPCO ROW. Therefore, of the 100-foot-wide construction ROW, 30 to 50 feet will be maintained as permanent easements for pipeline operations following construction, and the remaining 50 to 70 feet will be used temporarily for construction of the pipeline; following construction this area will be restored and allowed to revert to pre-construction land uses.

Alternatives

Tennessee considered various alternatives in support of the objectives of the Federal Energy Regulatory Commission's ("FERC") routing guidelines set forth in 18 Code of Federal Regulations ("CFR") Part 380.15. The primary objective in evaluating alternatives was to avoid, minimize, and mitigate adverse environmental effects while meeting the project purpose and satisfying contractual obligations to Tennessee's customers.

Tennessee analyzed the following alternatives during preliminary assessments of the project: no-action alternative; energy conservation alternatives; energy source alternatives; system alternatives; route alternatives; and alternative sites for the Project's various aboveground facilities.

Tennessee believes that if no action were taken, other natural gas companies would likely be required to increase their capacity and construct new facilities. This would likely result in the transfer of impacts from one location to another but would not eliminate or reduce impacts.

Notwithstanding the benefits of energy conservation programs, the need remains for safe and reliable systems to supply additional volumes of natural gas to an expanding natural gas market. Accordingly, energy conservation alone is not a viable option.

¹ The term "pig" is an acronym for *pipeline integrity graph*. Pig is used synonymously with instrumentation referred to as "smart pigs". Smart pigs are computer-automated devices (approximately 6 feet long and similar in diameter to the pipe being evaluated) inserted into pipelines that evaluate interior pipeline conditions and produce *pipeline integrity graphs*. Regular pipeline integrity evaluations are required by federal (Department of Transportation) safety regulations to ensure pipelines are safe for operation.

Alternative energy sources for Tennessee's customers include oil, coal, or nuclear fuels. All of these fuels are being used regionally and within the vicinity of Tennessee's existing pipeline system. However, regulatory agencies advocate the use of clean fuels, and regulations exist to improve both air quality and the quality of life. Therefore, supplying adequate volumes of natural gas, in part through the proposed Project, is the preferred alternative.

The proposed expansion of Tennessee's system is necessary to continue meeting the current service requirements while supplying the region with the additional firm capacity, as requested by customers. The utilization of Tennessee's existing system optimizes the Project economics and minimizes impacts to existing land uses and natural resources. Consequently, the alternatives analysis gave heavy weight toward use of existing infrastructure.

The goal of route selection was to identify a Project alignment with a minimal and acceptable level of environmental impact coupled with the attainment of the Project goals. The use of existing corridors was weighted heavily in the evaluation of route alternatives. Use of existing corridors generally provides the best opportunity to decrease construction costs and minimize impact to the environment by reducing the clearing of a new ROW. Construction within existing electric transmission corridors also reduces the involvement of additional landowners.

The major route alternative that was considered in the planning and design of the Project would site the proposed pipeline adjacent to an existing active Tennessee Gas Pipeline ROW. This alternate route would loop the 270C-300 Malden-Melrose Line (which consists of 5.8 miles of 12-inch and 1.6 miles of 10-inch pipeline) commencing at the point of intersection; would also loop a portion of Tennessee's existing 270C-100 Beverly-Salem Line for approximately 2.7 miles; and would end with a tie-in to Tennessee's 270C-1100 DOMAC Line. Based on estimated land requirements for Project construction and operation, it would not be possible to locate the proposed 24-inch pipeline within the existing cleared easement for the Malden-Melrose Line, thereby necessitating purchase of new easements and clearing of additional forested land with associated impacts. In addition, looping the Malden-Melrose Line would require construction through high-density residential areas with an estimated fifty-three (53) residential and nine commercial structures located within 50-feet of the existing Malden-Melrose Line. Homes and properties would have to be removed to allow for placement of the pipeline corridor through these high-density residential areas. Based on an analysis of USGS topographical maps, the Malden-Melrose Loop would traverse approximately eight mapped waterbodies, while the proposed Project would require only three mapped waterbody crossings. According to National Wetlands Inventory (NWI) maps, the number of impacted wetlands would be the same (24 NWI wetlands traversed) for both alternatives.

A second alternative to the preferred route considered in the planning and design of the Project was the installation of additional compression on the existing 10/12-inch 270C-300 Malden-Melrose Line. The addition of compression would act to increase pressure and gas flow that would result in increased capacity for the line. This alternative, however, results in pressure and volume constraints that do not meet the capacity required for the Project.

Mitigation

Tennessee has begun, and will continue, working closely with local, state and Federal regulators to identify adequate and appropriate mitigation for unavoidable environmental impacts. To date, Tennessee has employed the following mitigation measures: redesign and relocation of aboveground facilities to avoid permanent wetland fills, implemented design modifications and performed evaluations of least impact construction techniques to minimize temporary wetland impacts and to avoid vernal pool impacts. Tennessee will continue to be pro-active in meeting with agency personnel to ensure adequate mitigation of unavoidable impacts.