

ENF Environmental Notification Form

<i>For Office Use Only</i> Executive Office of Environmental Affairs	
EOEA No.:	<u>14235</u>
MEPA Analyst:	<u>Anne Canaday</u>
Phone:	617-626- <u>1035</u>

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: Brayton Point Station Cooling Tower Project		
Street: One Brayton Point Road		
Municipality: Somerset	Watershed: Mt. Hope Bay	
Universal Transverse Mercator Coordinates: zone 19 (X,Y) 317721 , 4620692	Latitude: 41.7171°N (41°, 43', 1.7" N)	Longitude: 71.1912°W (71°, 11', 28.4" W)
Estimated commencement date: April 2009	Estimated completion date: April 2012	
Approximate cost: \$500 million	Status of project design: 10% complete	
Proponent: Dominion Energy Brayton Point, LLC		
Street: One Brayton Point Road		
Municipality: Somerset	State: MA	Zip Code: 02725
Name of Contact Person From Whom Copies of this ENF May Be Obtained: Meredith Simas		
Firm/Agency: Dominion Energy Brayton Point LL	Street: One Brayton Point Road	
Municipality: Somerset	State: MA	Zip Code: 02725
Phone: 508-646-5338	Fax: 888-284-2888	E-mail: meredith.simas@dom.com

Does this project meet or exceed a mandatory EIR threshold (see 301 CMR 11.03)?
 Yes No Should the Secretary exercise his discretion to require an EIR, the proponent respectfully requests a Phase I Waiver pursuant to 301 CMR 11.11 (see Attachment B)
 Has this project been filed with MEPA before?
 Yes (EOEA No. _____) No
 Has any project on this site been filed with MEPA before?
 Yes (EOEA No. 13022, 4072, 1271) No

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): None

Are you requesting coordinated review with any other federal, state, regional, or local agency?
 Yes (Specify _____) No

List Local or Federal Permits and Approvals: FAA Notification, Prevention of Significant Deterioration (PSD) permit (EPA), Section 10/404 Permit (ACOE), Federal Coastal Zone Consistency Review (MA CZM), coverage under the NPDES Construction General Permit (EPA), Order of Conditions, local building and electrical permits. May also require coverage under the NPDES Remediation General Permit (EPA), zoning variance and local site plan review.

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

- | | | |
|--|---|--|
| <input checked="" type="checkbox"/> Land | <input type="checkbox"/> Rare Species | <input checked="" type="checkbox"/> Wetlands, Waterways, & Tidelands |
| <input type="checkbox"/> Water | <input type="checkbox"/> Wastewater | <input type="checkbox"/> Transportation |
| <input type="checkbox"/> Energy | <input checked="" type="checkbox"/> Air | <input type="checkbox"/> Solid & Hazardous Waste |
| <input type="checkbox"/> ACEC | <input type="checkbox"/> Regulations | <input 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 checked="" type="checkbox"/> Chapter 91 License (Modification) <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 (including Legislative Approvals) – Specify:
Total site acreage	~ 250 ac			
New acres of land altered		~ 6.4		
Acres of impervious area	~ 33	~ 6.4	~ 40	
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		19,000 sf LUO 300 If CB		
Acres of new non-water dependent use of tidelands or waterways		0		
STRUCTURES				<input type="checkbox"/> DEP or MWRA Sewer Connection/ Extension Permit <input checked="" type="checkbox"/> Other Permits (including Legislative Approvals) – Specify:
Gross square footage	~ 626,000	~ 418,900	~ 1,044,900	
Number of housing units	0	0	0	
Maximum height (in feet)	505'	0	505'	
TRANSPORTATION				<u>Major Comprehensive Air Plan Approval (MassDEP)</u> <u>Wastewater Treatment System Plan Approval (MassDEP)</u>
Vehicle trips per day	293	5	298	
Parking spaces	220	0	220	
WASTEWATER				
Gallons/day (GPD) of water use	2,480,000	0*	2,480,000*	
GPD water withdrawal	0	0	0	
GPD wastewater generation/treatment	~ 593,600	0*	~ 593,600*	
Length of water/sewer mains (in miles)	~ 1.8	0	~ 1.8	

* Previous MEPA filings have discussed *process* wastewater; no significant change to process wastewater discharge rates is expected with this Project. The Project reduces facility *cooling* water use from about 977 million gallons/day (withdrawal & discharge) to about 70 million gallons/day withdrawal; On average 50 million gallons/day will be discharged and approximately 20 million gallons/day will be evaporated.

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

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 (Specify Priority and Estimated Habitat for Least Tern*) No

*The western edge of the site is the boundary of a larger area that includes part of the Lee River and Mount Hope Bay that is mapped for the Least Tern, a species of special concern (see Figure 6). Based on a preliminary overview of the conditions on the site, it appears that the cooling towers and ancillary facilities can be sited and constructed without impact to those areas of the project site that may potentially provide habitat for the Least Tern. Dominion notified the NHESP of the project in an Information Request dated April 04, 2008 and looks forward to consultation with the NHESP.

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

Yes (Specify New England Power Company Area) No

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 (Specify _____) No

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.*)

Project Overview. Brayton Point Station is a fossil fuel-fired electric generating facility located in Somerset, Massachusetts (see Figure 1, Locus Map). Brayton Point Station is owned and operated by Dominion Energy Brayton Point, LLC ("Dominion") and is New England's largest fossil-fueled power station, with a total installed generating capacity of about 1,600 megawatts (MW). The Station has three coal-fired units (Units 1-3), and one oil- and natural gas-fired unit (Unit 4). Units 1 and 2 generate 250 MWs each, Unit 3, 650 MWs and Unit 4, 450 MWs.

On December 17, 2007, EPA Region 1 signed an Order for Compliance to implement the October 2003 National Pollutant Elimination System (NPDES) permit for Brayton Point Station. Mass DEP issued a similar Order in March 2008. The Orders require the entire facility to convert from open-cycle cooling to closed-cycle cooling in order to meet the heat and flow effluent limits in the NPDES permit. This is implemented by the construction of two natural draft cooling towers and supporting equipment (collectively, the "Project"). Copies of the Orders are provided as Attachment A. An aerial photograph of the site with the approximate locations of the proposed cooling towers is provided as Figure 2.

Project Description. To comply with the heat and flow limits specified in the October 2003 final NPDES permit, Dominion proposes to retrofit Brayton Point Station's existing open-cycle cooling system with a closed-cycle cooling system. The closed cycle cooling system will consist of two natural draft cooling towers and supporting equipment. The towers will each be approximately 500 feet tall and approximately 220 feet in diameter at the exhaust exit (see Figure 3, Cooling Tower Schematic). Each tower will be designed to circulate approximately 360,000 gallons per minute of water. The towers provide the cooling needed by Brayton Point's boilers by evaporating a total of 9,000-14,000 gallons per minute. Installation of the towers will reduce Brayton Point's existing thermal discharge into Mount Hope Bay by 96%.

Ancillary facilities will include a service building, a bulk chemical storage building, a new cooling water pump house, and approximately 25,500 linear feet of piping to carry the water between the electric generating units, the cooling towers and the pump house. Some minor modifications to the existing water control structures will also be required at the head of the existing discharge channel (two water control structures will be constructed and one existing water control structure will be demolished). The layout of the cooling towers and ancillary facilities are shown on Figure 4, Preliminary Site Layout.

The design of the project begins with structural analyses (weight, wind load, stability, etc.) and subsequent selection of tower shape, dimensions and concrete composition. The proposed project will then require about three years to construct, with construction start-up anticipated in 2009. Construction begins with the outer shell, which is built from bottom to top in 1-meter-high increments using plywood moulds into which the concrete is poured. Reinforcement structures are also installed in both the interior and exterior of the shell; additional support may be provided by horizontal stiffening rings. The inner and outer faces of the shell are treated with protective coatings; the water cooling, supply and distribution systems are then constructed within the interior of the tower.

Phase I Waiver. To accommodate the proposed cooling towers on the Project site, portions of an existing wastewater treatment system (WWTS) will be relocated on-site. The existing series of lined treatment basins (consisting of a 4 million gallon basin, a 2 million gallon basin, and above grade basins totaling 2 million gallons) will be demolished and two 4 million gallon lined treatment basins will be constructed approximately 500 feet east. Current uses of the area slated for relocation include an access road, vacant area used for storage, and contractor parking. Dominion will apply to the Massachusetts Department of Environmental Protection (MassDEP) for a permit modification for the relocation, in the event that the Secretary exercises his discretion to require an EIR, Dominion respectfully requests a Phase I Waiver to allow MassDEP to issue the permit modification so that the relocation can go forward. Attachment B discusses this aspect of the project relative to the requirements of a Phase I Waiver at 301 CMR 11.11(4)). The relocation of the WWTS and other site preparation activities will facilitate compliance with the construction schedule specified in the Orders.

Project Site Description. Brayton Point Station is situated on approximately 256 acres in Somerset, Massachusetts (see Figure 1, Locus Map). The site is bordered by the Lee River to the west, the Taunton River to the east, Mount Hope Bay to the south, and a residential neighborhood and I-95 to the north. A relatively large expanse of vegetated fields and salt marsh areas separates the station from the residential neighborhood located to the north. The proposed Cooling Tower Project will be located in the northwestern portion of Brayton Point's facility. Figure 2 provides an aerial view of the site and surroundings, with the preliminary locations for the natural draft cooling towers.

Potential Impacts and Mitigation Measures. The construction of the cooling towers is proposed to allow Brayton Point Station to comply with the limits specified in the October 2003 final NPDES permit, as required by the Orders issued by EPA and MassDEP. The cooling towers will be designed to meet the flow and thermal discharge requirements of the Permit, and as such are a measure designed to minimize the station's thermal discharge to and cooling water used from Mount Hope Bay. While the project is a mitigation measure to water resources, it will result in potential environmental impacts. These are briefly discussed below.

Visual. At 500 feet tall, the new towers will be a prominent visual element in the Somerset/Swansea/Fall River area. Figure 5 provides a simulation of the cooling towers as seen from Gardner's Neck, Swansea MA. In addition to the tower structures, another visible element will be a plume of condensed water vapor, which will normally be present during operation.

Air Quality. Because the cooling towers will provide direct contact between the cooling water and air passing through the tower, some of the liquid water may be entrained in the air stream and carried out of the tower as "drift" droplets. Impacts from mist droplets (including salt deposition and particulate air emissions) will be mitigated using high-efficiency drift eliminators.

Water Quality. The Project will reduce the plant's use of cooling water by over 90%. About one-quarter of the cooling water used is evaporated (leaving salts in the remaining water), and the discharged water will have somewhat higher salinity. Quarterly Whole Effluent Toxicity (WET) testing will be conducted per the NPDES permit.

Noise. The cooling towers will generate some noise as a result of water falling through the lower section of the tower, however, it is not anticipated that there will be a measurable difference in the amount of noise emanating from the site as perceived by the nearest receptors (residential neighborhoods located to the north and east of the site). A sound wall is proposed to be built around the perimeter of both towers to minimize noise impacts.

Wetlands and Rare Species. There will be minimal impact on wetlands or rare species, because the proposed facilities will be sited in a previously disturbed area. The wetland resource areas and mapped rare species habitat existing on the site are shown in Figure 6.

Environmental Justice. The project is subject to the Environmental Justice Policy of the Executive Office of Environmental Affairs (the "Policy") as a project that exceeds the ENF threshold for air and is within one mile of an Environmental Justice Population. As such, the project is required to provide for enhanced public participation as it undergoes review in accordance with MEPA. The project has provided enhanced public participation by publishing the ENF notice in the Spanish language newspaper *El Latino Expreso* and the Portuguese language newspaper *O Jornal* in addition to the *Spectator* and *Herald News*. The ENF notice will be read on the Cape Verdean-language radio show *Voz do Imigrante*. A copy of the ENF will be provided to several regional community action groups (see Appendix C, ENF Distribution List). Finally, the Applicant will provide the town of Somerset and the City of Fall River electronic copies of the ENF Notice and the ENF for posting on the town/city website.

Because the project does not exceed the mandatory EIR threshold for air, solid and hazardous waste, or wastewater and sewage sludge treatment and disposal, the project does not require enhanced analysis of impacts and mitigation under the Policy.

Alternatives. Through the NPDES permitting process over several years, Dominion has reviewed many alternatives to the Project, including a no-action alternative, partial closed cycle cooling, and alternatives to natural draft cooling towers (specifically, mechanical draft cooling towers).

No Action. The no-action alternative would continue existing levels of water use, water discharge, and thermal discharge into Mount Hope Bay, and would result in noncompliance with the 2003 NPDES Permit.

Partial Conversion. A partial conversion to closed cycle cooling, whereby cooling of the discharge for some generating units is achieved through evaporation in cooling towers and some units continue operating in the once-through mode, would result in less impacts associated with the cooling towers, but less reduction in water use, water discharge, and thermal discharge into Mount Hope Bay. Partial conversion to closed cycle cooling would not meet the requirements of the 2003 NPDES Permit.

Mechanical Draft. Mechanical draft cooling towers are shorter, and would have fewer visual impacts. However, the proposed natural draft cooling towers have the following advantages relative to mechanical draft: (1) greater reliability due to the need for less mechanical equipment (fans, pumps, gear boxes, and heat exchangers); (2) lower adverse environment effects such as the potential for icing and fogging on the nearby highway, bridge, and other roadways (particularly I-195 and the Braga Bridge); (3) experience with brackish water problematic for mechanical draft plume abatement equipment; (4) less potential for noise impacts; and (5) requires less energy to operate.