

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

- | | | |
|---------------------------------|---|--|
| <input type="checkbox"/> Land | <input type="checkbox"/> Rare Species | <input 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 type="checkbox"/> Order of Conditions <input type="checkbox"/> Superseding Order of Conditions <input type="checkbox"/> Chapter 91 License <input 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 <i>(including Legislative Approvals) – Specify:</i> <u>Non-Major Comprehensive Air Plan Approval</u>
Total site acreage	~250			
New acres of land altered		~1 (a)		
Acres of impervious area	~30	~3 (a)		
Square feet of new bordering vegetated wetlands alteration		0		
Square feet of new other wetland alteration		0		
Acres of new non-water dependent use of tidelands or waterways		0		
STRUCTURES				
Gross square footage	~585,000	~41,000(b)		
Number of housing units	0	0		
Maximum height (in feet)		(c)		
TRANSPORTATION				
Vehicle trips per day	236	29		
Parking spaces	220	0 (a)		
WATER/WASTEWATER				
Gallons/day (GPD) of water use	~1,000,000	870,000 (d)	1,870,000	
GPD water withdrawal				
GPD wastewater generation/ treatment	~500,000	~93,600	~593,600	
Length of water/sewer mains (in miles)		~1.8 (e)		

(a) incremental increases over existing plant and operations.

(b) The new facilities will occupy approximately 106,000 sq. ft. Approximately 65,000 sq. ft. of the Project area will reuse areas occupied by existing oil tanks.

(c) The height of new facilities will not exceed the existing station buildings except that the proposed scrubber for Unit 3 will require a new stack, slightly higher than the existing tallest stack currently on site (Unit 4). The new stack will rise 544.5' above Mean Sea Level or about 505' above grade (final grade not established).

(d) 430,000 gpd of the additional 870,000 gpd is expected to be reused wastewater from the Somerset POTW.

(e) The additional water piping consists of on-site improvements and a new line to transfer POTW effluent to Brayton Point Station.

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 _____) No

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 _____) 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.*)

USGen NE's Brayton Point Station consists of three primarily coal-fired boilers and one primarily fuel oil and natural gas-fired boiler (designated as Units 1, 2, 3 and 4, respectively) for a total nominal generating capacity of approximately 1,600 megawatts (MW). The facility is located in Somerset, Bristol County, Massachusetts on Brayton Point, a peninsula in Mount Hope Bay.

USGen NE is proposing a project to reduce air emissions from the Station, resulting in reductions of predicted actual emissions of 18,000 tons per year of SO₂ and 7,500 tons per year of NO_x in order to achieve the emission limits required by the recently promulgated 310 CMR 7.29 regulations.

The Air Pollution Control Project

USGen NE proposes to retrofit Units 1 and 3 with Selective Catalytic Reduction (SCR) systems to achieve the necessary NO_x reductions, and retrofit Unit 3 with wet Flue Gas Desulfurization (FGD) for SO₂ emission reductions. The SCR systems will also lead to small increases in collateral potential stack emissions of ammonia and volatile organic compounds (VOCs). It is also predicted that the SCR and scrubber will result in a projected actual increase in particulate emissions. Because the actual particulate emissions at the plant are relatively low due to the effectiveness of the existing electrostatic precipitators, the predicted increase in actual emissions will be within the existing permit limit for the affected units. The particulate matter released by the scrubber arise from carryover of the scrubber reaction products, as well as some unreacted limestone slurry used as the reagent to scrub the flue gas stream. The additional particulates consist largely of gypsum and limestone dust.

The SCR system will also cause ammonia emissions from the Station's wastewater treatment plant, since water collected from Units 1 and 3 air pre-heater and precipitator washes, as well as wastewater generated by the Unit 3 FGD, will contain residual ammonia introduced to the flue gas by the SCR system.

The Project will also incorporate the addition of an Ash Reduction Process (ARP). Currently, the Station produces over 260,000 tons of fly ash from coal combustion per year. Approximately half of this ash is presently treated as a waste stream. The ARP consists of a small combustor that will reburn coal ash from the main boilers

of Units 1, 2, and 3, reducing the carbon content so that the remaining ash will be usable as a replacement to Portland cement in the production of concrete. The ARP emissions will be controlled through the use of fabric filters and by directing the exhaust gas to the combustion air inlet to Unit 3 (or Unit 1, if Unit 3 is not available). By doing this the gas from the ARP process is given the same high level of emissions control treatment as the flue gas from the main boiler.

Water and Wastewater

Brayton Point process water has long been supplied by the Town of Somerset. Existing daily water use is about 1 million gallons per day (mgd). The new pollution control systems will require additional water. Brayton Point is pursuing an innovative approach in which the additional needed water will be provided by the use of fully treated gray water from the Town of Somerset publicly owned treatment works (POTW), supplemented with additional Town water. USGen NE is currently negotiating with Somerset to construct and operate a pipeline to transport treated wastewater to the Station for use in the pollution control systems. This is expected to provide about ½ of the additional 0.87 mgd needed to support the pollution control systems. This approach of maximizing reuse of wastewater limits the impacts of the Project on the Town water system, resources and infrastructure.

Traffic and Transportation

Both the proposed SCR systems and the FGD systems will utilize new reagents that are not presently shipped to the site. SCR systems require ammonia which is usually handled as an aqueous solution. In order to eliminate concerns about ammonia storage and transportation, Brayton Point is proposing to use solid urea which is shipped as solid pellets and then reacted into ammonia as needed. It is estimated that the Project will result in an addition of about 8 daytime employees and an addition of about 20 truck trips per day (<10% increase).

Alternatives

Because the proposed Project is directed at controlling emissions from the existing Units no alternate site would be feasible. The No-Action Alternative has been deemed unacceptable as even with these additions, Brayton Point will remain a critical source of low cost electric generation, and be a crucial element to New England retaining diversity in its fuel supply. The technologies proposed for the Project represent state-of-the-art pollution control technologies. With the concurrence of the applicant to pursue controls with this level of effectiveness, consideration of less effective, cheaper controls was not warranted.