U.S. Environmental Protection Agency (EPA) – Region 1
RCRA Corrective Action Program

Statement of Basis for a Corrective Action Completion Determination For Brayton Point Energy, LLC (formerly New England Power) One Brayton Point Road, Somerset, MA EPA ID# MAD055179634

August 14, 2014

Based upon investigation and remediation activities conducted at the Brayton Point Energy site ("BPE site")(formerly New England Power), located at One Brayton Point Road in Somerset, Massachusetts, EPA is announcing its Completion Determination remedy proposal that Corrective Action obligations under the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act are "Complete with Controls."

Introduction

The U.S. Environmental Protection Agency – Region 1 (hereafter, "EPA") is announcing its Completion Determination remedy proposal under the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act.[1] This proposal states that Corrective Action obligations at the Brayton Point Energy, LLC site (hereafter "BPE site"), located at One Brayton Point Road in Somerset, Massachusetts are "Complete with Controls." Investigation and remediation activities conducted at the BPE site demonstrate that releases of hazardous wastes or hazardous constituents from Solid Waste Management Units or Areas of Concern do not pose a threat to human health or the environment under current and future land use assumptions and that the proposed final controls are protective of human health and the environment.

Brief Site Description
The facility dates back to the early 1960s, when the property was first used as an electric generating facility. Prior to the 1960s, the land was primarily used for agricultural activities.

This document summarizes the results of various investigation and remediation activities and the reasons for proposing that a Completion with Controls Determination is appropriate. EPA

[1] "Completion Determination" is a regulatory phrase that refers to a final disposition of a facility subject to Corrective Action obligations under the Resource Conservation and Recovery Act. In this case, the Completion Determination proposed for the BPE Site is one that is "Complete with Controls." More information on this category of Completion Determination can be found in the Federal Register notice entitled, Final Guidance on Completion of Corrective Action Activities at RCRA Facilities, 68 Fed. Reg. 8757 (Proposed Rule, February 25, 2003).

is publishing this document to provide an opportunity for public review and comment on this proposal and will consider public comments as part of its decision making process. This document refers the reader to the administrative record, which contains more detailed information on site specific activities.

This Statement of Basis is intended to:

- Explain the opportunity for public participation, including how you may comment on this proposed determination and where the public can find more detailed information;
- Provide a brief description and history of the BPE site;
- Present the principal findings of investigations and activities performed at this site; and
- Present EPA's rationale for proposing that Corrective Action obligations under the Hazardous and Solid Waste Amendments of the Resource Conservation and Recovery Act are Complete with Controls for the anticipated current and future land use of the BPE site.

How Do You Participate

EPA solicits public review and comments prior to making a final decision on this proposed Completion Determination. All interested persons are invited to express their views on this proposal. This Statement of Basis provides only a summary of information about the BPE site and additional information, a list of which appears at the end of this Statement of Basis, can be found in the Administrative Record at the following locations:

EPA Records Center, 5 Post Office Square, Boston, MA 02109
(617) 918-1420
Monday-Friday, 9:00 A.M. to 5:00 P.M.

AND

Somerset Library, 1464 County Street, Somerset, MA 02726
(508) 646-2829
Monday-Wednesday, 9:30 A.M. to 8:00 P.M.; Thursday – Friday, 10:00 A.M. to 5:00 P.M.; Saturday, 10:00 A.M to 3:30 P.M.

The public comment period will begin on August 14, 2014and end 31 days thereafter on September 14, 2014.

Internet Access: For convenience, this Statement of Basis may also be accessed at the EPA Brayton Point webpage:

http://www.epa.gov/region1/cleanup/rcra/brayton

Written comments on this proposal will be accepted throughout the 31 day comment period. If, after reviewing the information on the BPE site, you would like to comment in writing on this proposal, or on any other issues related to this proposal, you should mail your written comments to the following address (postmarked no later than September 14, 2014) making sure to clearly indicate that you are commenting on this proposal:

Ms. Marilyn St. Fleur
USEPA Region 1
5 Post Office Square, suite 100, OSRR07-3
Boston, MA 02109
(617) 918-1617, stfleur.marilyn@epa.gov

At the end of the public comment period, EPA will review all written comments received. EPA will write a summary and respond to all comments. The Response to Comments will be incorporated into the Administrative Record for the BPE site. EPA can modify the proposed final remedy, or select another remedy based on technical or legal issues brought up by the community's comments. If the comments result in significant changes to this proposal, EPA will seek additional public comments on a revised proposal.

Facility Description and History

The BPE site occupies more than 306 acres of land on the southern tip of the town of Somerset, Massachusetts (Figure A). The BPE Site is located on a peninsula bordered on three sides by surface water. The Taunton River is located east of the property, Lee River to the west, and Mount Hope Bay to the south. Fox Hill Cove, a tidal embayment of the Lee River, and Route I-195 are located north of a portion of the property boundary. Brayton Point Road provides access to BPE along the northeastern property boundary. Mixed residential and commercial properties are located north of the property. The northern land portions of the BPE site are fenced and the entrance is guarded 24 hours per day.

BPE is a power plant that generates electricity by using natural gas, coal, and oil as fuel. The southern half of the BPE property consists of the power generation and plant operations, and the northern half of the property consists of the historical and current Waste Water Treatment System, cooling towers, and Ash Management Area. The northern half of the property includes the following:

- 12 ash management cells (Cell 1A, Cells 1 through 8, Cell 9, Cells 10 and 10A);
- The former waste water treatment system (WWTS) basins (Basin No. 1 and 2);
- The former cooling canal that historically surrounded the Cell 1A area and has since been structurally filled with coal ash;
- Two natural draft cooling towers; and

- Fox Hill Cove.

The southern half of the property includes the following:

- No.6 and No. 2 Fuel Oil Tank Farms;
- Diesel Generators;
- Emission Control Equipment;
- Powerhouse;
- Electrical Sub-Stations;
- Chemical Storage Building; and
- Gatehouse.

Prior to purchasing the land in 1956 to construct BPE, the land was used for agricultural purposes. According to historic aerial photographs of the area, in 1956 much of BPE property was cultivated agricultural land with farm buildings located in the central portion of the property near the current employee parking lot and guardhouse. A former railroad cut across the property from east to west toward the Lee River. A railroad bridge ran across the Lee River to Swansea, Massachusetts in the early 1900s.

Releases of hazardous materials and petroleum have occurred at the BPE site in the past. The releases consisted of oils such as #6 fuel oil, #2 fuel oil, gasoline and lubricating oil, and wastewater treatment solids which consisted of oil ash. All releases exceeding an applicable Massachusetts Contingency Plan (MCP) (310 CMR 40.0000) reportable quantity have been addressed in accordance with the MCP, either through active remediation, implementation of activity and use limitations, or both. Currently, there are no active site investigations or remediation activities.

Overview of Investigations and Remedial Work

All investigations and remedial actions at the BPE site have been conducted in accordance with the MCP or the Massachusetts Solid Waste Regulations (310 CMR 19.000), as applicable, with appropriate reports being submitted to Massachusetts Department of Environmental Protection (MassDEP) and Somerset Board of Health. All remedial actions have been completed to date and are considered "closed" under the MCP with a final remedy. Currently, there are no active investigations or remediation work underway or planned at BPE. Details regarding each of the releases and response actions may be accessed at (search keyword 'Somerset'):

http://public.dep.state.ma.us/SearchableSites2/Search.aspx

The following is a description of the investigations and remedial actions at the most significant releases at BPE.

RTN 4-00158

In 1987, No. 2 fuel oil releases were discovered from a former 9,900-gallon No. 2 fuel oil aboveground storage tank (AST) located in the No. 2 fuel oil storage area and from releases of up to 800 gallons of No. 2 fuel oil from fuel pumps south of the ASTs.[2] In addition, during the construction of the Air Compressor Building in 1990, BPE discovered oil impacted soils in the vicinity of the building that were attributable to the No. 2 fuel oil storage area. The MassDEP assigned Release Tracking Number (RTN) 4-00158 to the releases. From November 1991 to August 1996, 24 soil borings and eight monitoring wells were installed at the Site associated with RTN 4-00158.

MassDEP stated that only soils disturbed for foundations of the Air Compressor building had to be removed as a remedial measure (BPS 2011). As a result, oil impacted soil was removed from areas around the ASTs and oil-impacted soil remained below the tank area. A geomembrane liner was installed around the remaining No. 2 fuel oil tanks in 1996. In addition, oily soil remains beneath the Air Compressor Building. RTN 4-00158 was closed with an AUL and a Class A-3 Response Action Outcome (RAO) in July 1997. Figure B shows the location of the AUL in blue.

RTN 4-13687

This release was associated with a lubricating oil and No. 2 fuel release reported to MassDEP in February 1998 near the diesel generator area. The MassDEP assigned RTN 4-13687 to the release. Under RTN 4-13687, oil-impacted soils were excavated and disposed of offsite. However, not all of the oil-impacted soil and trap rock could be removed because removal would have compromised the structural integrity issues of surrounding buildings.

Investigations were conducted in 1998 and 1999 and oil-impacted soils were identified at depths of up to 12 feet below ground surface. It was concluded that the dense phyllite, perched water near land surface, and the dense bedrock in the saturated zone combined to restrict vertical and horizontal migration of oil in the subsurface.
An AUL was placed on the diesel generator area and RTN- 4-13687 was closed with a Class A-3 RAO in February 2001. Figure B shows the location of the AUL in green.

RTN 4-18750

On October 29, 2004, more than 0.5 inches of oil was discovered in two monitoring wells within RTN 4-13687. BPE notified MassDEP and MassDEP assigned RTN 4-18750 to the release.

[2] The No. 2 fuel oil AST storage area formerly consisted of five ASTs, one 40,000-gallon tank and four 9,900-gallon tanks. Currently, only two No. 2 fuel oil ASTs are located in this area: Tank No.3 (9,900-gallon) and Tank No.5 (40,000-gallon).

Between 2004 and 2007, the release was investigated by BPE. During this time, 200 soil samples were collected during multiple rounds of investigation of RTN 4-18750. In addition, BPE collected over 120 groundwater samples from 24 monitoring wells during quarterly or periodic groundwater sampling events at the Site in 2005, 2007, and 2010. Based upon the investigations, it was concluded that two separate releases of No. 2 fuel oil had occurred at the Site.

Remedial actions included the removal approximately 45 cubic yards of oil-impacted soil and the recovery of less than 3 gallons of oil from the groundwater monitoring wells.

An AUL was placed on the area and RTN 4-18750 was closed with a Class A-3 RAO in November 2011. Figure B shows the location of the AUL in red. As depicted on FigureB, the AULs for RTN 4-13687 and RTN 4-00158 described above are within the MCP Site boundary for RTN 4-18750. In addition, the constituents of concern in all three of these release areas pertain to No. 2 fuel oil. BPE incorporated the two existing AUL areas for RTN 4-00158 and RTN 4-13687 into the AUL for RTN 4-18750 in order to have one consistent set of AUL requirements, and one consistent AUL boundary that will apply to the three release areas. The AUL incorporated the most restrictive language from the two existing AULs (RTN 4-00158 and RTN 4-13687) located within the RTN 4-18750 site.

<u>RTN- 4-13169, Landfill Cells and Fox Hill Cove</u>
On July 8, 1997, BPE notified the MassDEP of concentrations of heavy metals, specifically vanadium, nickel, and arsenic in soil and vanadium in groundwater in excess of MCP reportable concentrations in the northern portion of BPE (Figure C). The MassDEP assigned RTN- 4-13169 to the release.

Between 1997 and 2000, approximately 150-acres of the BPE site that has been used to manage oil ash and coal ash for the prior 23 years was investigated as part of RTN 4-13169. The investigated area included 12 ash landfill cells[3], the former cooling canal that has been structurally filled with coal ash, the basins of BPE's wastewater treatment system, and Fox Hill Cove. Investigations for RTN 4-13169 included the collection of more than 1,100 samples of soil, groundwater, sediment, surface water, and biota and over 6,000 chemical testing results.

Based upon the comprehensive investigation results, it was concluded that the source of contamination within RTN 4-13169 is the result of the historical discharge of oil ash as part of historic wastewater operations and that residual oil ash and oil ash layers are present in and around Cell 1A. To support regulatory closure, MassDEP bifurcated RTN-4-13169 such that RTN 4-13169 regulated only Cell 1A and its environs. The remainder of RTN-4-13169 (landfill cells and Fox Hill Cove) were regulated under the MassDEP Solid Waste Program.

In April 2008, BPE submitted a Corrective Action Alternatives Analysis (CAAA) regarding the areas regulated under the MassDEP Solid Waste Program. The CAAA concluded that no further actions were required related to the freshwater and marine wetlands. In July 2008,

[3] The ash landfill cells, excluding Cell 1A, are regulated under the Massachusetts Solid Waste regulations.

MassDEP concurred with the CAAA conclusions and required semi-annual surface water monitoring. Surface water monitoring has continued since 2007 with only sporadic concentrations just above National Recommended Water Quality Criteria NRWQC for nickel and pH. There has also been one marginal exceedance of the Massachusetts Surface Water Quality Standard for dissolved oxygen (Table 5 and associated Figure 1). In addition, as part of the Solid Waste regulations and the CAAA, groundwater monitoring wells associated with the landfills cells are sampled on a quarterly basis (Tables 1 through 4 and associated Figure 1).

RTN 4-13169 was closed with an AUL and a Class A-3 RAO in October 2012 after the completion of remedial actions that included installation of a cap over Cell 1A, paving and sealing the area between Cell 1A and the former cooling canal, and installing stormwater controls throughout RTN 4-13169 to prevent stormwater from infiltrating areas with residual oil ash. Figure C shows the location of the AUL.

The BPE landfill cells 1-10 and 10A are regulated under Massachusetts Solid Waste Regulations and are currently operating in compliance with plans which were approved by MassDEP on September 1, 2006. Post closure monitoring and maintenance is ongoing for 10 landfill cells with active operations occurring in cell 10. Cell 10 is the only active landfill cell at Brayton Point Station and is currently operating in compliance with solid waste regulations. Cell 10 has a leak detection monitoring system between the top and secondary membrane liners. Additionally, at cell 10 BPE is required to conduct groundwater monitoring on a quarterly basis and implement MassDEP's minimum corrective action (installation of a low permeability final cover system) upon closure of cell 10 (MassDEP Memo, August 5, 2014).

Environmental Evaluation

Based upon the comprehensive investigations, remedial actions and recorded AULs, at BPE as described above, it was concluded that a Condition of No Significant Risk exists under current and future use related to human health, safety, and public welfare at BPE.

With regards to environmental conditions, none of the RTNs had impacts to environmental habitats with the exception of RTN 4-13169. With regards to environmental conditions at RTN 4-13169, the environmental risk characterization concluded the following:

1. Ecological conditions, including species diversity and abundance, indicate that Fox Hill Cove is functioning as would be expected in the absence of any contamination. There is no visible evidence of biologically significant harm. Field observations of wildlife indicate that Fox Hill Cove supports a diverse assemblage of wildlife and benthic species. The habitat survey found that Fox Hill Cove and its surrounding habitats provide extensive cover, foraging and breeding resources for a diverse variety of birds, mammals, reptiles, and amphibians and that the use of the area by many of these species is high. These observations were supported by trapping studies that showed small mammal populations in Fox Hill Cove are as diverse as and more abundant than those in the reference coves.

2. No Significant Risk of harm was predicted for all species inhabiting the saltwater marsh of Fox Hill Cove. No Significant Risk of harm was also predicted for carnivorous mammals that consume small mammals, for small mammals that consume freshwater plants, and for waterfowl and small mammals that consume both plants and soil invertebrates in the freshwater wetland. The weight of evidence approach used in the environmental risk assessment demonstrates that there is likely No Significant Risk of harm to other mammals such as shrews in the freshwater wetland.

3. An indication of potential for biologically significant harm was predicted for a limited species of birds, other than waterfowl, that consume soil invertebrates in the freshwater portion of Fox Hill Cove. The term "potential" is used when effects are predicted from measurements or models. An indication of potential for biologically significant harm does not mean that harm is actually occurring.

MassDEP reviewed and concurred with these findings of the comprehensive investigations and the human health and environmental risk characterizations. (BPS 2012)

Ecological Receptor Exposure Pathway

An Environmental Risk Characterization was completed and approved by MassDEP that concluded that there was no evidence of harm to the environment at the site (see MassDEP letter dated October 26, 2007). EPA concurs with the MassDEP conclusion that exposure to site-related constituents at the facility does not appear to pose a potential for significant ecological risk in surface water or sediments in surrounding surface water bodies. Therefore, ecological exposure to contaminants at or from BPE, EPA ID # MAD055179634, located at One Brayton Point Road Somerset, MA is not reasonably expected and further ecological risk assessment does not appear necessary.

Rationale for Completion Determination

As is described above, EPA believes that a Corrective Action "Complete with Controls" Completion Determination is appropriate for the following reasons:

1. Corrective measures have been implemented or completed

The BPE site has undergone a comprehensive investigation and evaluation of the contamination identified at the BPE site. BPE has completed a number of remedial measures to address the contamination identified. EPA believes that human health and environmental risks associated with this site have been adequately addressed. With the consideration of the ongoing controls provided herein, including AULs and continued maintenance of the AULs and groundwater and surface water monitoring under the

MassDEP Solid Waste Program as outlined above, EPA believes that appropriate corrective measures have been defined, evaluated, and implemented or completed.

2. The facility has completed construction and installation of all required remedial actions

Numerous remedial actions have been completed at the BPE site to address releases of oil and oil ash to the environment. The remedial actions conducted have both reduced the mass of contamination in the environment and capped residual contaminants. In addition to eliminating exposure to contamination, the remedial actions are also preventing inter-media transfer and migration of residual contaminants. The success of these remedial actions is documented in regulatory closure documents submitted to the MassDEP. The remedial actions completed at the BPE site were described in the sections describing each of the MCP "Disposal Sites".

With EPA's final determination, BPE will continue to maintain the existing AULs and to perform monitoring as required by the MassDEP Solid Waste Program.

3. Site-specific media cleanup goals have been met

BPE has met the cleanup objectives for all areas of the BPE site. For the areas where contamination remains, BPE has implemented AULs that EPA has determined are sufficiently protective of human health and the environment.

Notwithstanding this Completion Determination, EPA or MassDEP may conclude additional cleanup is needed if, subsequent to this Completion Determination, EPA or MassDEP discovers evidence of unreported or misrepresented releases.

Evaluation of Remedy with respect to Standards and Decision Factors
EPA believes that, in addition to the rationale presented above, evaluation of the Facility with respect to Remedy Selection Criteria set forth in available EPA guidance provides a framework for measuring the effectiveness of a proposed remedy. These Remedy Selection Criteria are presented below:

Threshold Criteria:

Overall Protection. This completion determination proposal provides protection of human health and the environment. Specifically, the investigative and remedial work conducted by the facility demonstrates protection of human health and the environment for current and future use consistent with the requirements of the MCP.

Attainment of Media Cleanup Standards. A condition of no significant risk has been reached and that this condition will remain protective as a result of remedial actions, controls and structures that exist throughout BPE property.

Controlling Sources of Releases. The available information demonstrates that the historical on-site releases of hazardous materials to soil, groundwater, surface water, and sediment have been completely remediated in some source areas or controlled by engineering or institutional controls in others. These controls are appropriate for current and future land use scenarios.

Compliance with Waste Management Standards. The proposed remedy complies with all applicable requirements for the management of solid wastes.

Balancing Criteria:

Long-term Reliability and Effectiveness. This remedy is effective and reliable with respect to the long-term since all remediation activities have been completed and appropriate controls are in place which will be monitored regularly and these controls would need to be reevaluated in order to change the designated future use of the site. Therefore, this proposed Completion Determination provides for long-term reliability and effectiveness.

Reduction of Toxicity, Mobility, or Volume of Wastes. The toxicity, mobility and volume of contamination impacting the environment as a result of BPE site operations has been reduced through active remediation to appropriate levels for the current and future use of the site.

Short-term Effectiveness. The proposed remedy is comprehensive in the short-term since there are no immediate risks to human health or the environment.

Implementability. This remedy is believed to be easily implemented since no further construction operations are required to protect human health and the environment.

Cost. The facility has spent significant time and money to investigate and remediate the BPE site and has demonstrated compliance with the Massachusetts Contingency Plan and the MassDEP Solid Waste Program. A Completion with Controls completion determination is appropriate for the facility.

Conclusion

EPA has determined that this proposed Completion Determination with Controls demonstrates protection of human health and the environment based on currently available information. Specifically, the proposed final remedy is comprehensive in the short-term because there are no

immediate risks to human health or the environment. In the long-term, EPA has determined that the majority of historical on-site releases of hazardous substances to the soil and/or groundwater have been remediated to levels that are sufficiently protective and that sufficient protections for controlling any remaining risks, including AULs, have been implemented as described herein. Long term monitoring commitments at BPE include quarterly groundwater monitoring of landfills and semi- annual surface water monitoring related to Fox Hill Cove. The toxicity, mobility, and volume of contaminants impacting the environment have been sufficiently reduced. The continued decreases in contaminant concentrations due to natural attenuation is expected to reduce the overall toxicity, mobility, and amount of contamination remaining at the site.

Accordingly, EPA, using all available information, is announcing its Corrective Action "Completion with Controls" Determination proposal for the BPE site. Specifically, investigations performed at the BPE site demonstrate that remaining contaminant levels are declining and do not pose a threat to human health or the environment based on the current use of the site. Areas of the site have either attained the Media Protection Standards or, where the applicable standards have not been attained, monitoring or protective controls will continue. The site is currently an industrial facility and will remain so for the foreseeable future. The AULs identify which areas of the property would need to be re-evaluated and possibly remediated in order to be protective of human health and the environment if any new or different use of the site were proposed.

GLOSSARY

Activity and Use Limitation (AULs) – Easement granted to the Commissioner of the MassDEP by the property owner and is recorded and/or registered with the appropriate registry of deeds and/or land registration office. The purpose of an AUL is to minimize the risk of human exposure to pollutants and hazards to the environment by preventing specific uses or activities at a property. It is also used to provide notice of the existence of residual contamination to future holders of an interest in a piece of property. An AUL is a tool which permits the remedial goals for a property to be dependent on the exposure risk associated with its use.

Administrative Record – Collection of documents (reports, correspondence, etc.) that form the basis for the remedy selection.

Corrective Actions Alternatives Analysis (CAAA) – Report that presents the analysis of options for corrective actions to eliminate or mitigate the potential adverse impact caused by conditions at the facility as required by 310 CMR 19.150 (6).

Media Protection Standards (MPS) – Screening values used during the CMS to evaluate the potential effectiveness of a technology or alternative to address site conditions.

MassDEP – Massachusetts Department of Environmental Protection

Massachusetts Contingency Plan (MCP) – MassDEP regulations governing the requirements for remediation of contaminated sites.

Resource Conservation and Recovery Act (RCRA) – This law regulates the management and disposal of hazardous wastes. RCRA, in Section 3008(h), also authorizes the federal government to respond directly to releases of hazardous waste which may be a threat, or potential threat, to public health or the environment.

RCRA Facility Investigation (RFI) – Investigation to determine the nature and extent of contamination at a facility. The scope of an RFI can vary widely from a small specific activity to a complex study. If the evaluation of results indicate that remediation may be necessary, a Corrective Measures Study would be the next step.

Risk Assessment – Formal process to evaluate the hazards presented by environmental conditions at the BPE site.

Statement of Basis (SB) – Document presenting the proposed remedy for a facility to the public. The Statement of Basis provides a brief summary of the facility conditions, potential risks, and alternatives studied in the detailed analysis phase of the CMS.

REFERENCES

- Corrective Action Alternative Analysis (CAAA) Approval, dated July 3, 2008.
- Brayton Point Station (BPS) Class A-3 Response Action Outcome (RAO) Statement and Activity Use Limitation (AUL), Brayton Point Station – No. 2 Oil Release: RTN 4-18750, dated November 2011.
- Brayton Point Station (BPS) RAM Completion Report and Class A-3 Response Action Outcome (RAO) Statement and Activity Use Limitation (AUL), Brayton Point Station – Ash Management Area: RTN 4-13169, dated October 3, 2012.
- Brayton Point Station Corrective Action MassDEP Memo, dated August 5, 2014.

FIGURES

- Figure A – Site Plan
- Figure B – RTN 4-13687, 4-00158 and 4-18750 AUL Site Plan
- Figure C – RTN 4-13169 AUL Site Plan

TABLES

- Tables 1 though 4 – Groundwater Analysis
- Table 5 – Surface Water Analysis