

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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BOSTON, MA 02114-2023

Memorandum

Date: February 10, 2009

Subject: Endangered Species Act Section 7(a)(2) Compliance for Prevention of Significant Deterioration Permit for Dominion Energy's Brayton Point Facility in Somerset, Massachusetts

From: Donald Dahl, Environmental Engineer

To: Administrative Record for the Prevention of Significant Deterioration Permits for Dominion Energy's Brayton Point Facility in Somerset, Massachusetts

This memorandum replaces EPA-New England's draft memorandum of January 22, 2009, regarding EPA's compliance with relevant requirements of the Endangered Species Act ("ESA") in connection with the Prevention of Significant Deterioration (PSD) permits for Dominion Energy's Brayton Point Facility in Somerset, Massachusetts (Brayton Point). EPA has drafted a PSD permit for Brayton Point that authorizes the construction and operation of two new cooling water towers and the installation of a dry scrubber and fabric filter on unit 3. For the purposes of the final permitting action, EPA will be issuing separate PSD permits for each project, since the projects are severable, as described in the fact sheet. Moreover, the two projects may raise different Clean Air Act issues that can be more efficiently addressed in separate permitting actions. The final PSD permits would authorize Dominion to emit particulate matter with diameters less than or equal to 10 and 2.5 microns (PM₁₀ and PM_{2.5}, respectively). The permitted projects would not, however, result in an increase of any other emissions, such as nitrogen oxides, sulfur oxides, or carbon dioxide, above levels emitted by current operations of the existing facility. This memo documents EPA's compliance with relevant requirements of the ESA in connection with these permitting actions.

Section 7(a)(2) of the ESA requires federal agencies, in consultation with U.S. Fish and Wildlife Service ("FWS") and/or the National Oceanic and Atmospheric Administration Fisheries Service ("NOAA Fisheries," and, with FWS, the "Services"), to ensure that actions they authorize, fund or carry out are not likely to jeopardize the continued existence of federally-listed threatened or endangered species or result in the destruction or adverse modification of designated critical habitat of such species. 16 U.S.C. § 1536(a)(2). Under relevant implementing regulations, consultation is generally required only for actions that "may affect" listed species or critical habitat. 50 CFR § 402.14.

As part of its compliance with the ESA, Region 1 reviewed the (FWS)-New England Field Office web site

[http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation Project Review.htm](http://www.fws.gov/northeast/newenglandfieldoffice/EndangeredSpec-Consultation%20Project%20Review.htm) to determine if activity authorized by the proposed PSD permit – *i.e.*, construction and increases in PM₁₀ and PM_{2.5} emissions – may affect federally-listed species. Our review and determination is consistent with the direction EPA received from the FWS on previous PSD permits issued by EPA-New England.

The FWS website instructs EPA to review a list of listed, proposed and candidate species to determine if a relevant species is located in the town for the permitted facility. The Town of Somerset is in Bristol County. According to the table on the FWS website, there are three listed endangered species in Bristol County. However, the listed species are in cities and towns that do not include the Town of Somerset where Brayton Point is located. In addition, the modeling analysis Dominion conducted in accordance with modeling procedures of 40 CFR Part 51, Appendix W and 40 CFR Part 52 demonstrates that the area that has the highest significant PM emissions impact from the two projects is also in the Town of Somerset. Even at the point of highest impact within the Town of Somerset, the modeling analysis indicates that the impacts from the PM emissions plume are below EPA's ambient standards or any emissions increment applicable under the Clean Air Act. Based on these results, the FWS website directed EPA to print a letter dated January 2, 2009 and signed by Anthony P. Tur, Endangered Species Specialist for FWS. The letter states that no further review is warranted. The file contains a copy of this letter. Therefore, EPA has concluded that the activity at the construction site for the Brayton Point project authorized by the proposed PSD permit will have no effect on any listed or proposed species or their habitat in the Town of Somerset. This assessment addresses EPA's review of the effects of the permitted activities at the site of the Brayton Point plant and its PM emissions plume at its point of greatest impact.

In addition to assessing the permitted increase of PM₁₀ and PM_{2.5} emissions and determining that such emissions will have no effect for ESA purposes, EPA has also considered other emissions that may result from the permitted activities. As noted above, EPA has determined that the permitted projects will not result in any increased emissions of other pollutants. EPA's actions will thus result in no effect on listed species with regard to such other pollutants.

During the past year, EPA has received public comments on other draft permits alleging that authorization of green house gas- (GHG) emitting activities requires EPA to consult with FWS and/or NOAA Fisheries due to possible impacts of the GHG emissions on endangered species that are not local to the permitted project. Notably, those comments have arisen in the context of PSD permits proposed to be issued to new or expanded facilities that would authorize the construction of additional GHG-emitting facilities resulting in increases of GHG emissions. In the initial analysis of GHG emissions from the Brayton Point facility contained in the January 22, 2009 draft memorandum, EPA included an assessment of the GHG emissions from the existing facility operations, rather than looking at the effect of these PSD permits, which will not result in any increase in

GHG emissions. Upon closer examination, EPA has concluded that such an analysis is inapplicable to these projects, because, as explained below, the Agency has determined that these permits will not change GHG emissions from the facility.

The draft PSD permit proposes to allow Dominion to construct two cooling water towers and a dry lime injection and fabric filter system on unit no. 3. Although these two projects result in an increase of direct PM₁₀ and PM_{2.5} emissions, each project is essentially a pollution control project.

The two cooling water towers will result in lowering the effluent temperature from the process of generating electricity at Brayton Point, to Mount Hope Bay. The installation of the two cooling water towers will not affect utilization rate of the existing coal and oil-fired electric generating units. EPA has examined records of the facility's past actual utilization and actual GHG emissions, and there is no evidence that Brayton Point was limited in its actual operation using once-through cooling as compared with projections of its future operation using the cooling towers. However, the installation of the cooling towers will affect the amount of electricity available for sale because the electric usage to operate Brayton point will increase. In an e-mail to EPA from Dominion dated January 13, 2009, Dominion also stated that the cooling water tower system will result in higher turbine back pressure when compared to the current open-cycle cooling operation, thereby reducing the turbine efficiency and the amount of electricity that can be produced. However, Dominion also stated in this same e-mail that due to limited design parameters of the steam turbines, Dominion is unable to fire more fuel in the combustion chambers to make up for the electrical losses.

The installation of the dry lime injection and fabric filter system will also not affect the amount of coal Dominion can burn in the combustion chamber of unit 3. Both systems are being installed as pollution control systems. The dry lime injection system reduces sulfur dioxide emissions. The fabric filter system enhances the capture of particulates from existing combustion, carbon injection, and dry limestone injection.

For electric generating units similar to Brayton Point, GHG emissions are emitted from the combustion of fossil fuel. Since these two projects do not increase the amount of fossil fuel Dominion is already combusting, EPA does not expect there will be any change in the amount of GHG emissions from Brayton Point. Therefore, EPA does not believe the issuance or denial of these PSD permits would change the level of GHG emissions from the facility.

Based on information on the record before EPA, the Agency finds that there will be no change in GHG emissions above the level of emissions already included in the environmental baseline of existing GHG emissions from the facility. As a result, there will be no effects from this "action that will be added to the environmental baseline." 50 CFR § 402.02. Therefore, EPA has determined that a consultation with either the FWS or NOAA pursuant to ESA regarding the effect of GHG emissions on endangered species is not required.