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**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION I  
5 Post Office Square - Suite 100  
BOSTON, MASSACHUSETTS 02109-3912**

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

OCT 29 2010

William H. Smagula, P.E., Director-Generation  
Public Service of New Hampshire  
P.O. Box 330  
Manchester, NH 03305-0330

Re: Information Request for NPDES Permit Re-issuance, NPDES Permit No: NH0001465

Dear Mr. Smagula:

The New England Regional office of the United States Environmental Protection Agency (EPA) is continuing work on developing a new draft National Pollutant Discharge Elimination System (NPDES), Permit No. NH0001465, for Public Service of New Hampshire's (PSNH) Merrimack Station electrical generating facility in Bow, New Hampshire (Merrimack Station). EPA is sending PSNH this information request letter pursuant to Section 308(a) of the Clean Water Act (CWA), 33 U.S.C. § 1318(a), because EPA requires additional information to support development of the new permit for Merrimack Station.

CWA § 308(a) authorizes EPA to require the owner or operator of any point source to make reports and provide information as may reasonably be required to:

- ... carry out the objectives of ... [the CWA], including but not limited to: (1) developing or assisting in the development of any effluent limitation, or other limitation, prohibition ... or standard of performance under [the CWA] ...; (2) determining whether any person is in violation of any such effluent limitation, or other limitation, prohibition or effluent standard, ... or standard of performance; (3) any requirement established under this section; or (4) carrying out section ... 1342 ... of [the CWA] ...

EPA needs the information requested in this letter to assist in determining appropriate NPDES permit limits for Merrimack Station's pollutant discharges to the Merrimack River.

To assist in the development of effluent limits for wastewater discharges from the Flue Gas Desulfurization (FGD) wastewater treatment system (WWTS) that is proposed to be installed at Merrimack Station, EPA requires you to submit the information described below. PSNH must submit this information to EPA within fourteen days of receipt of this letter.

EPA appreciates the information related to the FGD WWTS, and alternative treatment methods, that PSNH submitted to EPA on October 8, 2010 (PSNH's October 8, 2010 Submission). EPA personnel promptly reviewed the submission and found it to contain much useful information. At the same time, we have certain follow-up information needs that have prompted us to send this letter. Please note that to the extent you have already submitted to EPA any of the information requested here as part of another submission, it is sufficient for you simply to reference where in the other submission the pertinent information is provided.

Information Requested

1. Please identify the lowest pollutant concentrations that Merrimack Station could achieve by use of the proposed FGD WWTS technology at Merrimack Station prior to any reductions or dilution provided by the Slag Settling Pond. The pollutants to be evaluated are those included in Tables 4-8 of EPA's Steam Electric Power Generating Point Source Category: Final Detailed Study Report, dated October 2009. The data generated must take into consideration the coal type used by Merrimack Station, the sorbent used, the materials of construction for the proposed FGD system and FGD WWTS, the gypsum-dewatering system used, the chemicals used in the FGD and FGD WWTS operation, and the use of any air pollution control systems operated upstream of the FGD system, such as an electrostatic precipitator (ESP).
2. Please explain the origin of the pollutant concentration data provided in Attachment 2, URS Table, page 2 of 2 of the NPDES Supplemental Permit Application for Merrimack Station, dated May 10, 2010. Specifically, does this data represent the consistently lowest pollutant concentrations achievable by the Merrimack Station proposed FGD WWTS?
3. Please explain why the wastewater generated from the proposed Merrimack Station FGD WWTS is not being proposed for reuse and/or recycle within the Station (e.g., for coal dust suppression or scrubber make-up water).
4. Please provide additional explanation – beyond that already provided in PSNH's October 8, 2010 Submission – of why, in light of engineering considerations and PSNH's pertinent detailed evaluations, the following technologies were not considered preferable as part of the FGD WWTS at Merrimack Station:
  - a. Zero discharge alternatives, including recycling wastewater back to the scrubbers, evaporation ponds, and deep well injection;
  - b. Aerobic and anoxic/anaerobic biological treatment systems, as additions to the chemical/physical treatment already planned for Merrimack Station, to remove selenium and other pollutants;
  - c. A combination of wet and dry FGD systems to reduce the amount of wastewater generated;
  - d. Particulate collection system, such as an ESP, prior to the FGD system to reduce pollutant concentrations in the FGD wastewater;
  - e. Vapor-compression evaporation system as an addition to the chemical/physical treatment already planned for Merrimack Station; and
  - f. Constructed wetlands using the current area utilized now by the discharge canal.

5. Please provide an updated flow/line diagram of the proposed FGD WWTS showing: flow rates, pH of each reaction tank, internal recycle streams (i.e., sludge and filtrate), hydrochloric acid addition, temperature of reaction tank No. 1, process area storm water, washdown and floor drain water, and any other related treatment process waste streams.

6. Please explain the current status of the FGD system and the FGD WWTS design and construction. For example, identify the percentage of the design and construction of each system that has been completed.

7. There are different types of wet FGD scrubber systems and these different types of systems may produce different wastewater streams (i.e., may have different pollutant characteristics and flow rates). Merrimack Station is installing a particular wet limestone forced oxidation FGD system. Please explain why PSNH decided not to install other types of wet FGD systems (e.g., forced oxidation, inhibited oxidation, natural oxidation, and dual-alkali).

8. In PSNH's October 8, 2010 Submission, the company makes a number of statements regarding pollutant levels expected to be in the wastewater from the FGD WWTS. Please explain in more detail the basis and meaning of the following statements:

- a. "... the FGD WWTS will reduce mercury levels in the FGD Wastewater greater than 99.9 percent." See PSNH's October 8, 2010 Submission, at p. 2.
- b. "... PSNH is taking a pioneering approach, incorporating the enhanced metals removal subsystem into the FGD WWTS to ensure the achievement of "no net mass increase" in mercury discharges. *Id.*
- c. "... only a nearly non-detectible concentration of mercury will be present in the treated FGD Wastewater upon discharge." *Id.*
- d. "... the FGD Wastewater will pass through two sets of targeted adsorbent media that will enable Merrimack Station's FGD WWTS to achieve near-complete removal of mercury, arsenic and other heavy metals from the FGD Wastewater." *Id.* at p. 4.
- e. "... these adsorbent media will remove dissolved and extremely fine particles of arsenic and mercury (ionic, elemental and in the form of hydroxide compounds and sulfide compounds) that none of the other evaluated FGD wastewater treatment technologies can remove effectively, if at all." *Id.* at pp. 4-5.

9. PSNH's October 8, 2010 Submission, at p. 4, states that the proposed adsorbent media "... are demonstrated technologies for reducing heavy metals concentration in other industrial wastewaters and drinking water." Please provide data evidencing the demonstrated pollutant reduction capabilities of the adsorbent media in the other applications referred to in your letter. In addition, please explain why the proposed adsorbent media will be equally, or more effective, in treating the wastewater from the FGD WWTS.

Information submitted pursuant to this request shall be sent by certified mail and shall be addressed as follows:

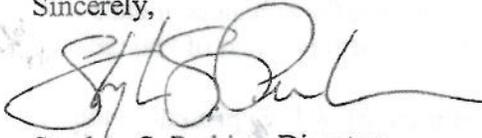
Mr. John Paul King, Environmental Scientist  
U.S. Environmental Protection Agency  
Office of Ecosystem Protection  
Industrial Permits Branch (OEP 6-1)  
5 Post Office Square - Suite 100 (CIP)  
Boston, Massachusetts 02109-3912

Please be aware that failure to comply with this information request could, depending on the circumstances, subject PSNH to enforcement action pursuant to Section 309 of the CWA, 33 U.S.C. §1319.

Also, please note that PSNH may assert a business confidentiality claim with respect to part or all of the information submitted to EPA in the manner described at 40 CFR Part 2.203(b). EPA will disclose information covered by such a claim only to the extent, and by means, of the procedures set forth in 40 CFR Part 2, Subpart B. If no such claim accompanies the information when it is submitted to EPA, it may be made available to the public by EPA without further notice to PSNH. Please also note that effluent data may not be regarded as confidential.

If you have any technical questions regarding this information request, please contact John Paul King at (617) 918-1295. If you have any legal questions, please direct them to Mark Stein at (617) 918-1077.

Sincerely,



Stephen S. Perkins, Director  
Office of Ecosystem Protection

cc: Permit File;

Stergios Spanos, New Hampshire Department of Environmental Services, Water Division  
Wastewater Engineering Bureau, P.O. Box 95, Concord, NH 03302-0095