UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
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CERTIFIED MAIL – RETURN RECEIPT REQUESTED

OCT 31 2007

Mr. John M. MacDonald
Vice President – Energy Delivery & Generation
Public Service Company of New Hampshire
Schiller Station
400 Gosling Road
Portsmouth, NH 03801

Re: Supplemental Information Request pursuant to Section 308 of the Clean Water Act to Supercede Previous Letter dated December 30, 2004 for Schiller Station NPDES Permit Reissuance - [NPDES Permit No: NH0001473]

Dear Mr. MacDonald:

The United States Environmental Protection Agency's office for the New England Region (EPA or the Region) is sending this letter to clarify and update certain information submission requirements for Public Service Company of New Hampshire (PSNH) related to the Schiller Station's (the Station) application for re-issuance of its National Pollutant Discharge Elimination System (NPDES) permit (NPDES Permit No. NH0001473). The information requirements in question pertain to your facility's cooling water intake structures (CWISs) regulated under section 316(b) of the Clean Water Act (CWA). See 33 U.S.C. § 1326(b).

Schiller Station's NPDES permit authorizes the facility to discharge pollutants into, and withdraw cooling water from, the Piscataqua River. The Station's current permit expired on October 11, 1995. The permit was administratively continued, however, because the Station timely applied to EPA for permit reissuance. As a result, Schiller Station remains subject to the existing permit until EPA issues it a new one.

With any NPDES permit reissuance, EPA evaluates a facility's current compliance with applicable standards, including the requirements of CWA § 316(b) governing CWISs. To satisfy § 316(b), the location, design, construction and capacity of a facility's CWISs must reflect the Best Technology Available (BTA) for minimizing adverse environmental impacts.

On December 30, 2004, EPA issued PSNH an information request letter under CWA § 308 (the December 30, 2004 § 308 Letter). CWA § 308(a), 33 U.S.C. §1318(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

While the requirements of this letter are similar to those in the December 30, 2004 § 308 Letter, there are some differences. This new § 308 letter supersedes the December 30, 2004 § 308 Letter and seeks information to assist EPA in developing NPDES permit limits, including new CWIS limits under CWA § 316(b) on a BPJ basis, consistent with 40 C.F.R. § 125.90(b). Please be aware that any failure to comply with the requirements of this § 308 letter could, depending on the circumstances, subject PSNH to enforcement action pursuant to § 309 of the CWA, 33 U.S.C. § 1319.

Schedule for Information Collection and Submission

1. EPA received the Schiller Station PIC dated October 6, 2006, pursuant to the December 30, 2004, § 308 letter. EPA has reviewed the PIC and has included requests for additional information and biological monitoring requirements, described in Attachments A and B.

2. As expeditiously as practicable, but not later than April 7, 2008, the Station shall submit a CWIS Information Document that satisfies the specifications detailed in Attachment A to this letter. The purpose of this document will be to:

   • characterize impingement, impingement-induced mortality, and entrainment by Schiller Station's CWISs;
   • describe the operation of the facility's cooling water intake structures;
   • evaluate both the existing technologies and operational measures, as well as possible additional technologies and operational measures, as potential components of the BTA under § 316(b); and
   • establish whether the technologies and/or operational measures already installed, or that the Station proposes to install, at the facility reflect the BTA under CWA § 316(b).

   See Attachment A of this letter detailing the information requirements for the Station's CWIS Information Document.

3. The Station shall also submit to EPA by April 7, 2008, the information described in 40 C.F.R. §§ 122.21(r)(2) and (r)(3), which includes:

   • Source Water Physical Data
   • Cooling Water Intake Structure Data

4. The Station shall also submit to EPA an Impingement Monitoring Report (IMR) no later than April 7, 2008 that satisfies the specifications presented in the Schiller PIC and detailed in Attachment B to this letter. The report will be used to characterize impingement and impingement-induced mortality by the Station's CWISs.

Attachment A

Information Requirements for the Cooling Water Intake Structure (CWIS) Information Document

Source Waterbody Flow

1. Provide the delineation of the hydraulic zone of influence for your cooling water intake structure; and

2. Provide a calculation of the intake volume (based on design flow) over one tidal cycle of ebb and flow as a percentage of the volume of water calculated using the surface area centered at the opening of the intake (with a diameter defined by the distance of one tidal excursion at the mean low water) and a depth based on the mean low water level.

Technology Assessment Information

1. Please provide a detailed description of Schiller Station's cooling system, including

   a. the cooling water intake structure and related equipment,
   b. the discharge canal or pipe,
   c. cooling process flow diagram depicting the flow of cooling water through the facility,
   d. all pumps of any type used in the cooling system,
   e. any equipment for adding disinfectant or biocide to the cooling water,
   f. any equipment used for chilling the cooling water after it has been heated up in the power plant, and
   g. design calculations showing the through-screen velocity at the entrance to each intake structure at minimum ambient source water surface elevations.

   You must also provide a narrative description of the operation of the Station's cooling water system, the role of each CWIS in the overall cooling water system, the proportion of the design intake flow of each CWIS that is used in the system, the number of days of the year the cooling water system is in operation, and any seasonal changes in the operation of the system. In addition, you must include design and engineering calculations prepared by a qualified professional and relevant data to support your description of your cooling water system.

   As part of this description, please also identify the age of the equipment and facilities involved and provide a brief description of all major upgrades and repairs to this equipment accomplished since January 2001.

2. Please identify the projected retirement date, if any, of Schiller Station's existing operation.

c. An estimate of the most stringent cooling water withdrawal flow limits that the facility would be able to comply with utilizing the technology in question.

d. An estimate of the most stringent cooling water intake through-screen velocity limits that the facility would be able to comply with utilizing the technology in question.

e. An estimate of the extent to which (1) impingement, (2) impingement mortality, and (3) entrainment would be reduced at Schiller Station by utilizing the particular technology.

f. To the extent that you believe any of these technologies would be technically and/or economically infeasible for implementation at Schiller Station, provide a detailed explanation for your conclusion in this regard.

g. An estimate of the cost for installing and operating each of these technologies.

h. Please describe in detail the non-water quality environmental impacts (including energy, air pollution, noise, public safety), if any, that you have determined will occur from the use of each technology.

Other Information Requested

Provide a description of the combination of existing and proposed technologies and operational measures at the Station for which Schiller Station believes the location, design, capacity, and construction reflect the Best Technology Available for minimizing adverse environmental impacts.

Entrainment Monitoring, Data Analysis and Reporting

1. Entrainment Sampling

At this time, ichthyoplankton data collected in the immediate vicinity of the Schiller Station CWIS during 2001 and 2003 appears to be sufficient to characterize nearfield ichthyoplankton densities in the Piscataqua River. Therefore additional ichthyoplankton sampling is not needed at this time. However, the permittee shall demonstrate completion of one year of entrainment sampling at the Schiller Station CWIS according to the sampling plan proposed in the Schiller Station Quality Assurance Plan and Standard Operating Procedures for Entrainment Monitoring, dated August 2006.

As proposed by the permittee, entrainment data is collected from a 4-inch raw water tap drawing unchlorinated ambient cooling water at low pressure from the common condenser supply line behind the circulating water pump. EPA considers sampling ambient cooling water prior to entry to pumps to be the preferred location as it ensures a representative sample of entrained organisms without the potential for organisms to become lost during pumping and discharge. Alternatively, a representative sample may be collected in the vicinity of the intake structure (e.g. in the intake forebay). If additional sampling is warranted, sampling should be conducted either from the supply line prior to pump entry or in the vicinity of the intake structure as opposed to after discharge. If these preferred locations are not accessible, the permittee shall provide EPA with a written statement justifying the chosen sampling location subject to EPA approval.

2. Entrainment Data Summary

Entrainment data collected at Schiller Station shall be summarized in the following manner:

a. Number of eggs of each fish species collected at each sampling location for each sampling event.

b. Number of larvae of each fish species collected at each sampling location for each sampling event.

c. Duration of each sampling event (in hours).

d. The location and method of sampling.

e. The in-stream temperature(s) measured during the sampling event.

4. Entrainment Data Analysis

Entrainment data collected at Schiller Station shall undergo the following analysis and include