



AR-309

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Region 1

5 Post Office Square, Suite 100

Boston, MA 02109-3912

**CERTIFIED MAIL - RETURN RECEIPT REQUESTED**

August 7, 2013

New Hampshire Department of Environmental Services  
Stergios Spanos, Supervisor Permits & Compliance  
29 Hazen Drive, PO Box 95  
Concord, NH 03302-0095

Dear Mr. Spanos,

The U.S. Environmental Protection Agency (EPA) is developing a NPDES draft permit for the Schiller Station as a reissuance of its previous permit issued in 1990 (NPDES Permit # NH0001473). The 1990 permit contained thermal limitations in accordance with New Hampshire Surface Water Quality Standards, including a mixing zone, for discharge of non-contact cooling water into the Piscataqua River. These limitations were developed based on collaboration between EPA, New Hampshire Department of Environmental Services (NHDES), and New Hampshire Fish and Game Department (NHFGD). This letter will describe the 1990 thermal limits, provide a summary of EPA's recent thermal study at Schiller Station, and express the proposed thermal limits in the draft permit for which EPA is seeking concurrence from NHDES and NHFGD.

The thermal limitations in the 1990 permit consisted of a 25°F difference between intake and discharge as well as a maximum discharge water temperature of 95°F. The permit specified that at no time shall the discharge cause the receiving water to exceed a maximum temperature of 84°F at a distance of 200 feet in any direction from the point of discharge. A provision was also allowed specifying that the temperature rise limitation was increased from 25°F to 30°F for a two hour period during condenser maintenance. These limits were in accordance with New Hampshire water quality requirements found at Part Env-Wq 1703.13 of the NH-Standards and the 1990 permit was certified by NHDES on August 17, 1990.

In the development of a draft permit for reissuance, from August to November 2010, EPA required Schiller Station to deploy a series of continuous recording thermistors attached to buoys in an array in the waters around their facility. This array is depicted on the Attachment 1. In addition, on August 31<sup>st</sup> of 2010, EPA conducted a survey to get a better feel for any potential lateral spread of the thermal plume. This entailed deploying a multi-parameter datasonde and collecting thermal data at multiple sampling locations and multiple depths. The temperature contours depicted on Attachment 1 were generated by plotting these data. Attachment 2 is data from the continuous recording thermistors showing the vertical profile of the thermal plume. The results of both these efforts show that the thermal plume from Schiller Station is primarily a surface feature that is restricted to a narrow band along the shore near the facility. In EPA's opinion, this

thermal discharge represents little to no impediment to fish migration up or down the Piscataqua River.

Based upon this analysis of the thermal plume and a review of the applicable state Surface Water Quality Standards, EPA is proposing that the 1990 thermal limits be carried forward in the 2013 draft permit. Specifically, the proposed limitations are

- a maximum 25°F difference between intake and discharge, except during a two hour period during condenser maintenance when the maximum difference is 30°F,
- a maximum discharge water temperature of 95°F, and
- at no time shall the discharge cause the receiving water to exceed a maximum temperature of 84°F at a distance of 200 feet in any direction from the point of discharge.

EPA is seeking concurrence from NHDES and NHFGD that these 1990 thermal limits attain New Hampshire Surface Water Quality Standards and that the decision to use these thermal limits is supported by New Hampshire state policy and is protective of the existing uses of the receiving water.

Sincerely,

Damien Houlihan, Chief  
Industrial Permits Section  
Office of Ecosystem Protection  
US EPA

cc: Douglas E. Grout, NHFGD

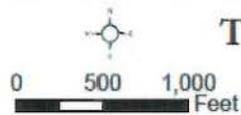
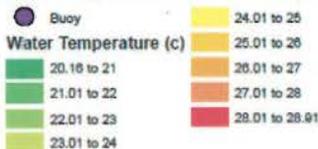


Schiller Station



DRAFT

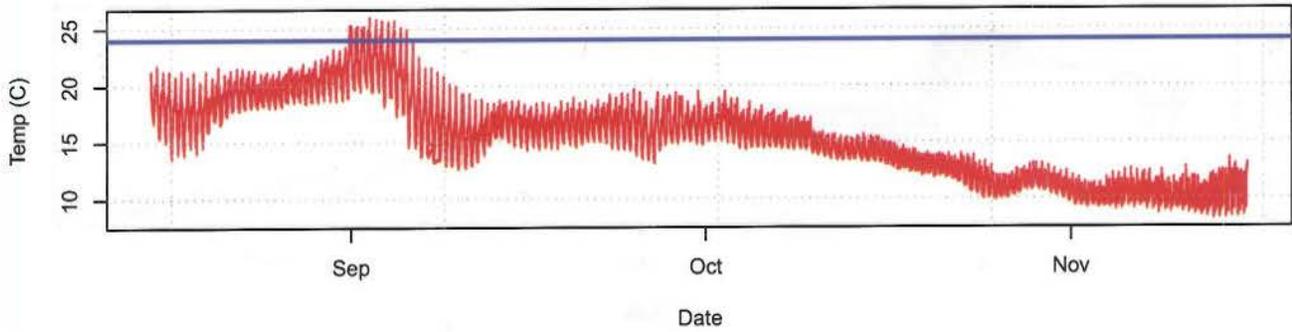
U.S. EPA Region 1 GIS Center  
 Map Tracker ID: 7251  
 Temp. data collected by the  
 EPA on 8/31/2010



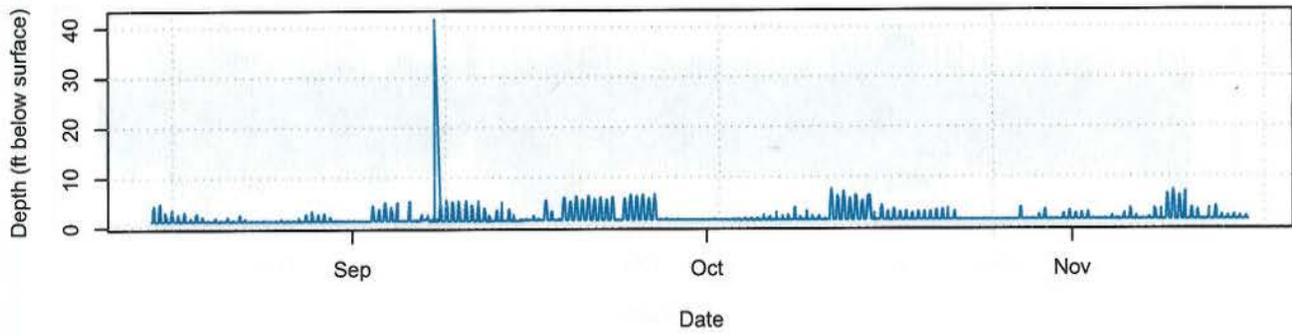
Temperature Plume  
 Piscataqua River  
 Schiller Station

29° = 84  
26 = 79; 27 = 80.6

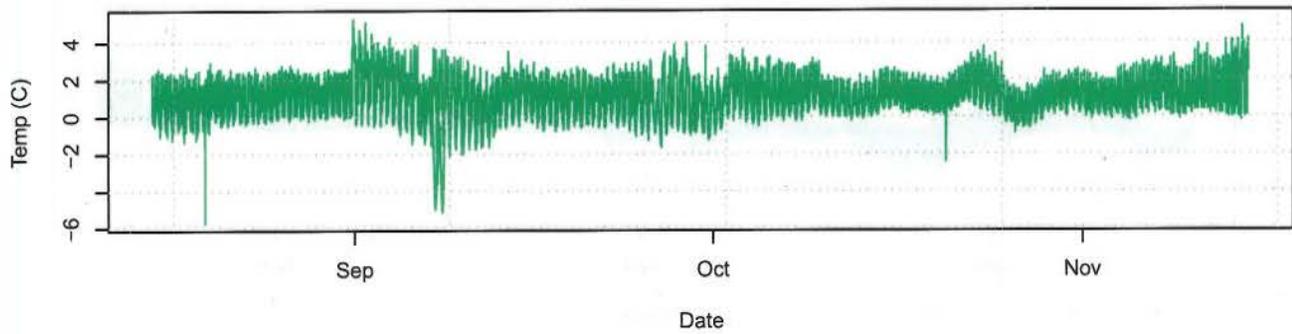
Temperature A7



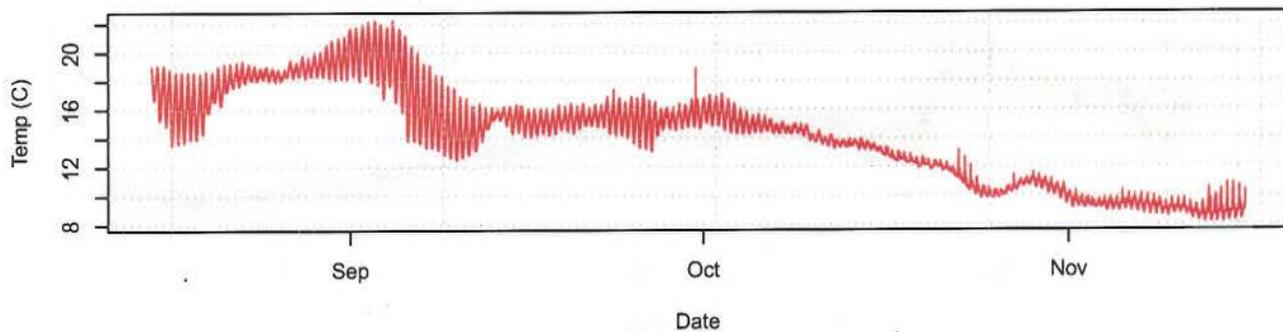
Depth A7



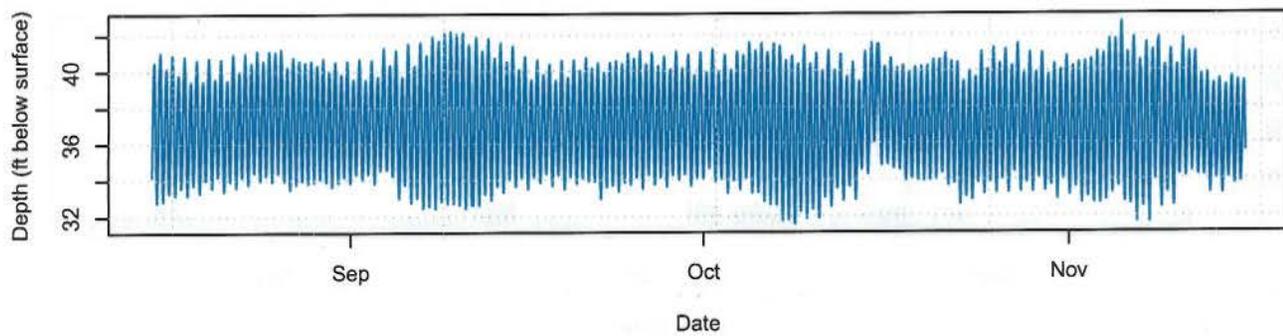
A7 Change in Temperature From Ambient Temperature



**Temperature C7**



**Depth C7**



**C7 Change in Temperature From Ambient Temperature**

