



**Public Service
of New Hampshire**

AR-199

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The Northeast Utilities System

June 28, 1996

John Nelson
Chief, Marine Fisheries
New Hampshire Fish and Game Department
Region 3
37 Concord Road
Durham, NH 03824

Dear Mr. Nelson:

Public Service Company of New Hampshire (PSNH) has received your response to our letter dated November 8, 1995 and is responding to the comments and questions raised in that letter, dated November 20, 1995.

PSNH agrees that the time frame when elevated frequencies of lobster impingement could be expected in the river is during the summer months, May through September. This time frame coincides with a natural increase in water temperatures. PSNH was attempting to make two points: first, during the course of a year, the overall number of lobsters impinged at Schiller Station is low; second, the increased impingement frequency that would be observed during the summer months is due to an increase in local lobster abundance in response to increased water temperatures and not the station's operating procedures. PSNH believes that the increased impingement frequency during the summer is natural and unrelated to operations at Schiller Station.

PSNH intends to keep the cross-over valve between units 3 and 4 open at all times throughout the year. However, if in the future this becomes difficult, PSNH will initiate the use of the cross-over valve based upon screenwash monitoring impingement numbers. For example, when the number of impinged lobsters observed during a single screenwash is 10 or more, the cross-over valve between units 3 and 4 will be opened to help reduce the number of impinged lobsters (PSNH will also begin to enumerate every screenwash as outlined in the Impingement Monitoring Procedures). The valve would remain open until the number of impinged lobsters dropped below 5.

The spike of lobster numbers observed in the graph, Total Lobster Impingement of Schiller Station, cannot be attributed to any changes in the station's operations. The cross-over valve was open throughout this time frame. Although the number of lobsters impinged on the intake screens from July 30 - August 13 was "higher" than normal, a review of the daily Impingement Monitoring Sheets shows the maximum daily impingement number during that time was 3 lobsters (recorded July 31).

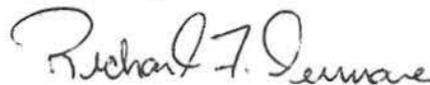
PSNH has modified the Impingement Monitoring Procedures to incorporate your recommendations. The third sentence of Procedure A.2. now reads "If 5 or less lobsters are counted during the last two successive monitoring events of this 48 hour period, the normal monitoring schedule (A.1.) will resume." Procedures B.1. and B.6. have both been changed to reflect that lobsters will be returned to the river into a minimum depth of 3 feet of water. In Procedure C.2., the phrase "to the nearest mm" has been added after measured.

If PSNH is unsuccessful in reducing lobster impingement, or if the overall number of lobsters impinged remains high (at or above 10 per screenwash) for an extended period of time, PSNH agrees to meet with New Hampshire Fish and Game Department (NHFGD) to reconsider the need and benefits of conducting an impingement mortality study.

PSNH also agrees to continue the current level of impingement monitoring through October 1996. After that time PSNH will consult with NHFGD to determine if it is appropriate to modify the monitoring frequency.

A revised draft of Schiller Station's Impingement Monitoring Procedures is enclosed for your review. Please submit any additional comments or acceptance of these issues to Mr. Richard F. Dumore at 634-2364.

Sincerely,



Richard R. Dumore
Scientist

Enclosure

cc: Mr. Bruce Smith (NHFGD)
Mr. Nicholas Prodan (USEPA)
Ms. Stephanie Larson (NHDES)
Mr. Michael Latour (PSNH)
Mr. Donald Gray (PSNH)
Mr. Gary St. Laurent (PSNH)
Mr. Allan Palmer (PSNH)
Mr. Donald Landers (NUEL)

**Public Service of New Hampshire
Schiller Generating Station
Impingement Monitoring Procedures**

Purpose

This procedure is established to provide protocols for the evaluation and documentation of American lobsters *Homarus americanus* impinged onto the cooling water intake screens at Public Service of New Hampshire's (PSNH) Schiller Generating Station. The Impingement Monitoring Program provides specific information regarding the continued effectiveness of modifications that PSNH has implemented at Schiller Station to minimize impingement. The Program also provides an early indication of any increase in the rate of lobster impingement so that PSNH can respond in a timely manner to minimize impacts on the local lobster population.

A. Monitoring Schedule

When operating, PSNH will conduct impingement monitoring of units 3 & 4 screenwashes throughout the year. Personnel washing the screens will visually observe the screens during all washes, looking for any impinged lobsters.

Data collection and documentation on unit 3 & 4 intakes will normally be performed once per day (Monday through Friday) according to procedure A.1. below. If the number of lobsters impinged on the screens is greater than 10, monitoring procedure A.2. below will be followed.

A.1. Normal (Low Level) Impingement Monitoring Schedule

The normal monitoring frequency conducted on Schiller Station's unit 3 & 4 intakes will be once per day, Monday through Friday. The 10 a.m. screenwash is the preferred wash; however, if this wash cannot be monitored, another screenwash conducted that day will be substituted to meet the requirements of the program. If 10 or more lobsters are found impinged on the screens during a wash, a more frequent monitoring schedule is indicated (see schedule A.2. below).

A.2. Increased (High Level) Impingement Monitoring Schedule

If during any screenwash of Unit 4, 10 or more lobsters are found impinged, operating personnel must begin to monitor and document every screenwash for a minimum of 48 hours, including weekends. This 48 hour period begins immediately with the first event of 10 or more impinged lobsters. If 5 or less lobsters are counted during the last two successive monitoring events of this 48 hour period, the normal monitoring schedule (A.1) will resume.

If the number of impinged lobsters remains high, the increased impingement monitoring schedule will continue until the impinged lobster numbers from two successive monitoring events drops to 5 or less, then the sampling schedule will revert back to the normal frequency of once per day (see A.1.).

A.3. Operation of cross-over valve between Unit 3 and Unit 4

The cross-over valve between Unit 3 and Unit 4 intakes will normally be opened throughout the year.

It is not imperative that the cross-over valve be opened; however, the benefits provided by opening the valve warrant its use. At a minimum, the cross-over valve should be open during the summer months (June, July and August) when impingement frequency is highest.

B. Monitoring Procedures

Regardless of the frequency of monitoring, the following procedures will be followed when conducting impingement monitoring:

B.1. Before starting all screen washes, the operator will visually confirm that, in their best opinion, lobsters exiting the screenwash effluent pipe will drop into at least 3 feet of water. (Under most conditions this is not an issue; however, an unusual weather pattern could result in abnormally low tides. If there is not sufficient water, follow procedure B.6. below.)

B.2. Screenwash spray nozzle pressures will be maintained at 40 psi (or less) and the rubber mat will be in place along the inside of the screen housing's back wall to prevent damaging any lobsters.

B.3. All water from the discharge of the screenwash pump(s) will be routed into the screenwash effluent discharge pipe to facilitate flushing of the pipe.

B.4. The Impingement Sampling Screen must be properly installed in the screenwash discharge trough to collect impinged lobsters.

B.5. At least one person will observe the screens as they are washed, visually checking for lobsters. Any lobsters observed will be collected to obtain the required data (see C.1. & C.2.). After data collection procedures are completed, all lobsters will be returned to the river in a sufficient volume of water (necessary to prevent injury) via the screenwash effluent discharge pipe.

B.6. The screenwash effluent discharge pipe must be in service and operating properly for all Unit 3 and 4 screenwashes. If not, the following steps will be taken:

- All impinged lobsters will be collected into 5 gallon buckets containing at least 3 gallons of river (salt) water.

Note: Fresh water (from the tap) must never be used - it will “drown” the lobsters!

- Lobsters will be promptly returned to the river, in a location where the water is at least 3 feet deep to prevent injury and predation. (A preferred location is off the northwest corner of Unit’s 5 and 6 intake structure, where the Unit 4 screenwash effluent pipe normally discharges.)

C. Data Collection and Reporting Procedures

All lobsters recovered during a “monitored” screenwash will be evaluated. Data will be recorded on the Schiller Station Lobster Monitoring Log Sheets (see attachment).

C.1. General information recorded at the top of the monitoring log sheets must include the date and time of screenwash, unit monitored, number of circulators on, and name of person conducting the evaluation.

C.2. In addition, the following specific information pertaining to the lobsters must be collected: Lobsters must be identified as living or dead, their carapace length (CL) measured to the nearest mm, sex and presence of eggs (if female), crusher claw-right or left, note any missing claws, molt condition (soft or hard-shelled), and condition in general are also to be noted. Additional space has been provided if further comments are necessary.

C.3. In lieu of verbal notification of lobster impingement events at Schiller Station (as currently required in PSNH's Fish Distress Policy) NHFGD will be provided with a lobster impingement monitoring report(s) on a weekly basis.

However, if Monitoring Procedure A.2. is initiated NHFGD, Region 3 will be immediately notified