



**Northeast
Utilities System**

AR-1258

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June 9, 1997

D11163

Mr. Douglas H. Starr, Supervisor
NH Department of Environmental Services
Water Division/SWQB
Compliance & Enforcement Section
64 North Main Street, 3rd Floor
P.O. Box 2008
Concord, NH 03302-2008

Ronald G. Chevalier
Vice President - Fossil/Hydro Engineering
and Operations

Reference: Compliance Sampling Inspection Report (C07325), K.L. Perkins Jr. to A.G. Palmer, dated March 25, 1997.

Dear Mr. Starr:

Merrimack Station
NPDES Permit No. NH 0001465

Public Service Company of New Hampshire (PSNH) has reviewed the Compliance Sampling Inspection (CSI) Report (see Reference) from the February 21, 1997 audit of Merrimack Station by Mr. Kendall Perkins, and has the following comments to offer:

Oil in the Wastewater Treatment Facility (WTF) Basin

Mr. Perkins reported a thick layer of oil in a containment basin in the WTF that had resulted from an unusual equipment leak in the turbine lube oil coolers, and instructed PSNH to implement measures to control and remove the oil. As he instructed, PSNH collected additional oil and grease samples, both at the weir and the canal, which yielded nondetectable amounts of oil.

When the spill was originally detected, Merrimack Station personnel responded immediately, initiated the necessary efforts to prevent the release of oil, and were in the process of treating it. The oil was completely removed in the following few days and conditions returned to normal.

As a result of the incident, the oil/water separator was inspected and some inlet baffles found to be corroded. The unit was taken out of service to perform repairs and remove sludge deposits. A schedule is now established to inspect and clean the unit annually.

It is important to recognize that other safeguards such as inspections, submerged basin discharge pipe, slag pond with inverted weir have always been in place to prevent the discharge of oil. Therefore there was never a threat to the environment or to permit compliance.

Reporting of Biomonitoring pH Data

PSNH agrees with Mr. Perkins that "all data collected with procedures approved under Title 40, code of Federal Regulations Part 136" should be reported. We disagree, however, that "erroneous" data, i.e., data collected beyond the bounds of prescribed methodology, should be reported as valid. Moreover, we object to the statement that erroneous data which falls outside the permitted range should be reported as violations.

PSNH has dedicated significant resources to continuously record pH at two ambient river locations for more than two decades. It is a difficult, and sometimes costly, challenge to operate and maintain river-based electronic equipment in an environment that includes such upsets as lightning strikes, ice floes, probe fouling, power outages, floating debris, and vandalism. While the reliability of the monitoring system has improved significantly over the past several years, inevitably erroneous data is recorded. One piece of the overall system upgrade has been improvements to the computer management functions, including data editors that detect and remove bad information. Editors are typical for systems that manage this type of continuous data generation and have always been used in the Merrimack Station Monitoring Program. The editor dramatically reduces the amount of manpower required to review and report the data.

Mr. Perkins appears to be concerned that PSNH is omitting data points due to "so called" erroneous readings. The reason, however, that PSNH removes the data is because the editor finds a high probability that an equipment malfunction has generated questionable data. PSNH confirms that all values deleted by the editor are in fact erroneous because of such malfunction. A recent event illustrates the process (see attached log): On day 105, at 11:00a.m., the editor highlighted the pH data at Station S0. Readings prior to 10:45a.m. were consistently between 6.7 and 6.8 SU. At 11:00a.m., the reading jumped to 6.898 SU, followed by four readings of 2.0, then wide swings were recorded until stabilizing between 9.2 and 9.3 SU. An investigation found the probe to have a failed temperature compensator and it was replaced. Instrumentation personnel were then needed to reset electronic relays that had been affected. The system became functional at 11:00a.m. on day 106 when the pH read 6.793 SU. All of the pH readings collected during this time frame are typically discarded from the database and not included on the DMRs. PSNH believes this is a valid procedure since the analyses were not collected in accordance with 40 CFR Part 136 due to an equipment failure. While infrequent, events such as this do unavoidably occur. Even a routine action such as probe calibration and buffering causes an outage that generates unusable data.

Presently, the monthly DMRs clearly indicate equipment failures and all significant outages are explained in the annual reports. We believe this current reporting method fully complies with NPDES program requirements.

Outfall 003A Iron Concentration

DES reported an iron concentration of 1.08 mg/l in a grab sample collected from Outfall 003A, and asked PSNH to explain the violation of the 1.0 mg/l limit. Analysis by Merrimack Station laboratory personnel of a split of the grab sample yielded a result of 0.48 mg/l. A grab sample collected earlier in the day by station chemists and analyzed with a Hach calorimetric field test kit provided a result of 0.30 mg/l. Based on the station data and the performance record established by the Merrimack Station lab, PSNH is confident in the accuracy of our results and does not believe a violation occurred.

Outfall 003 and Station N5 pH Data

Based on pH data collected by portable monitors installed for less than three days at Stations N5 and S0 (Outfall 003), DES required PSNH to submit a study plan to explain "a perceptible difference" between the stations. Data collected by the Merrimack Station in-situ monitors for the same time frame does not reflect the conditions reported by the DES equipment (see attached graph). PSNH data shows the two stations to be comparable and that there is no compliance issue. In fact, rather than looking more closely at the pH data, we suggest that there is no benefit that would result from conducting the requested study and that consideration should be given at this time to the usefulness of continuous pH monitoring. More than 20 years of continuous data has proven that the canal discharge pH closely tracks the river pH, with no findings of concern. As requested in the Merrimack Station NPDES Permit Reapplication which was submitted March 10, 1997, PSNH asks that EPA and DES consider reducing this pH monitoring program.

DMR QA Results

PSNH appreciates the DES comment that the facility "produces quality and reliable data" and offers that fact as further support of the station data discussed earlier for iron and pH.

January, 1997 DMR Report

A copy of the January DMR that was originally submitted on February 10, 1997, has been provided by separate mailing.

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PSNH appreciates the opportunity to exchange useful information with DES and would have liked to discuss this CSI report with DES before it was issued. PSNH requests an opportunity time to review these issues further and will call you soon to arrange a meeting.

Should you have any questions, please call Mr. Allan G. Palmer, PSNH Senior Engineer, at (603)634-2439.

Very truly yours,

PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE



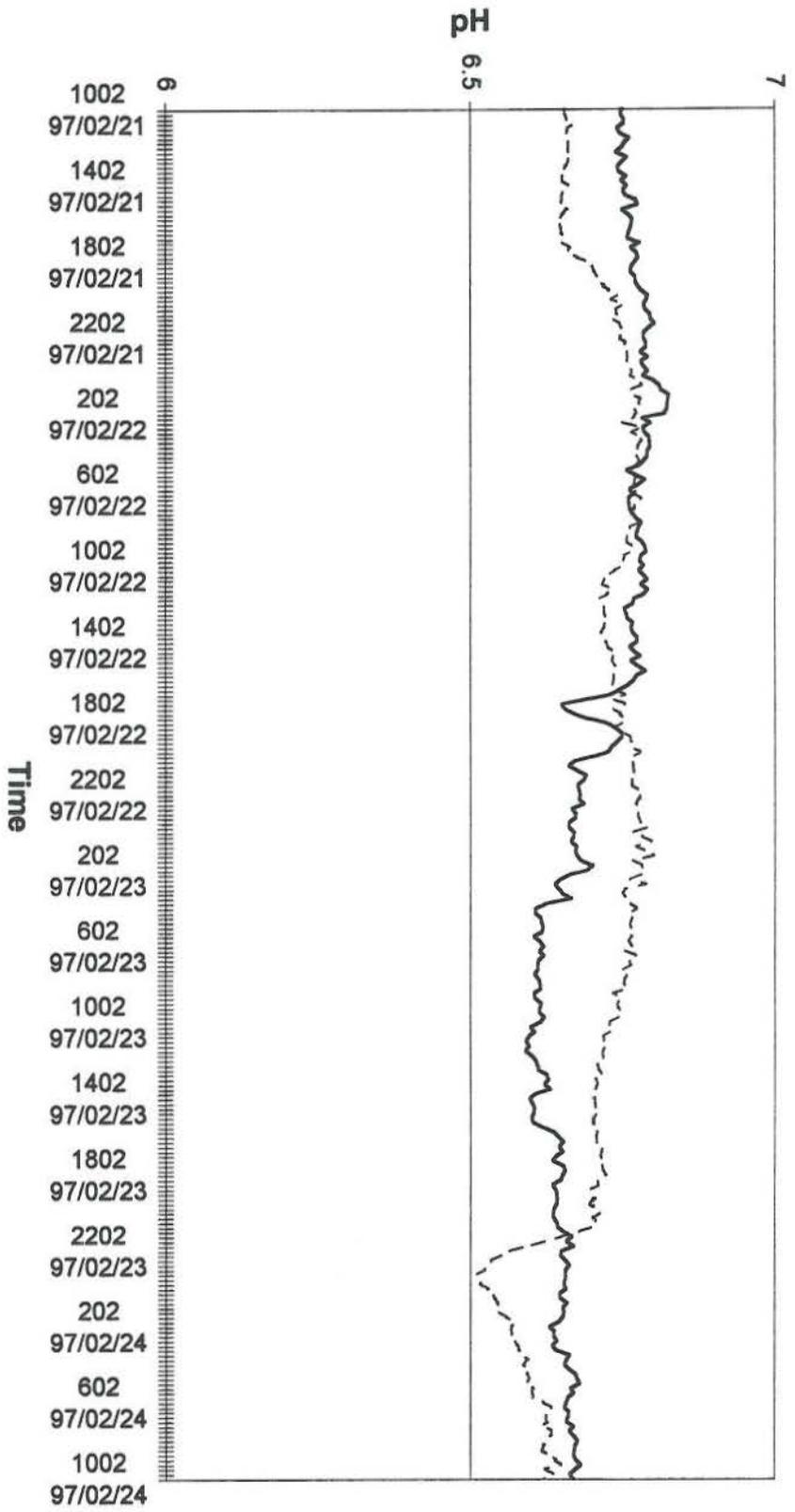
R.G. Chevalier
Vice President

Attachments

cc: J.G. Andrews - NHDES
Joy Palmer - USEPA

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**Merrimack Station pH Data
2/21/97 to 2/24/97**



**Upstream (N5)
Versus
Outfall 003 (S0)**

--- pH-003
—— pH-N5