

NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-443/90-03

Docket No. 50-443

License No. NPF-56

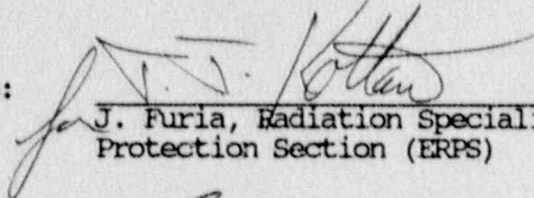
Licensee: Public Service Company of New Hampshire  
P. O. Box 330  
Manchester, New Hampshire

Facility Name: Seabrook Nuclear Station

Inspection At: Seabrook, New Hampshire


Inspection Conducted: January 8-12, 1990

Inspectors:

  
J. Furia, Radiation Specialist, Effluents Radiation  
Protection Section (ERPS)

1-22-90  
date

Approved by:

  
R. Bores, Chief, ERPS, Facilities Radiological  
Safety and Safeguards Branch

1/19/90  
date

Inspection Summary: Inspection on January 8-12, 1990 (Inspection Report No. 50-443/90-03)

Areas Inspected: Preoperational announced inspection of the solid radioactive waste systems and processing program including: management controls, audits, quality assurance, and training.

Results: Within the areas inspected, the facility is ready for full power operations.

## DETAILS

### 1.0 Personnel Contacted

#### 1.1 Licensee Personnel

- \* H. Anderson, Radwaste/Utilities Department Supervisor
- \* D. Antal, System Engineer
- \* S. Buchwald, Quality Assurance Supervisor
- \* W. Cash, Health Physics Supervisor
- R. Cyr, Maintenance Manager
- \* W. Dickson, Jr., Systems Engineering Supervisor
- \* W. DiProfio, Assistant Station Manager
- \* P. Falman, Lead Auxiliary Systems Engineer
- J. Gallagher, Jr., Plant Chemist, Chemistry Department
- \* J. Kwasnik, Principle Health Physicist
- W. Leland, Chemistry/Health Physics Manager
- J. Linville, Chemistry Department Supervisor
- N. Levesque, Maintenance Training Coordinator
- \* J. Malone, Operations Administration Supervisor
- D. Moody, Station Manager
- D. Perkins, Licensing Engineer
- J. Rafalowski, Health Physics Department Supervisor
- \* E. Sovetsky, Technical Projects Supervisor
- \* W. Sturgeon, Jr., Nuclear Services Manager
- \* W. Temple, NRC Coordinator
- \* C. Vincent, Quality Control Department Supervisor
- \* M. Yergeau, Sr., Reliability and Safety Engineer
- W. Ziemek, Plant Engineer

#### 1.2 NRC Personnel

R. Fuhrmeister, Resident Inspector

\* Denotes those present at the exit meeting on January 12, 1990.

### 2.0 Purpose

The purpose of this preoperational inspection was to review the licensee's program to properly collect, process, prepare, and package licensed radioactive materials for transport and disposal.

### 3.0 Transportation and Solid Radwaste

The licensee's program for the collection, processing and shipment of radwaste has changed significantly during the past several years. At the time of this inspection, the licensee was in the process of transferring responsibility for these programs to the Utilities Department Supervisor to create a Radwaste/Utilities Department within the Maintenance



Department. Prior to 1986, this was the location of radwaste program responsibility, however this program was then transferred to the Operations Department and Nuclear Services Department. Within the newly created Radwaste/Utilities Department there is to be a Radwaste Supervisor, Radwaste Foreman and two Radwaste Technicians. The positions of Radwaste Supervisor and one of the Radwaste Technician positions has not as yet been filled. The Radwaste/Utilities Department Supervisor, Radwaste Foreman and one of the Radwaste Technicians held similar positions prior to the 1986 transfer of responsibilities.

### 3.1 Quality Assurance/Quality Control

The licensee's Quality Assurance program was divided into three areas: vendor audits; inplant audits; and Quality Control inspections/surveillances. Vendors were qualified by audits conducted by the Yankee Atomic Quality Assurance Group. Upon completion of these audits, and the resolution of all open items, the vendors are placed on an approved vendors list. All procurements were checked against the approved vendors list prior to the placement of any orders for services or supplies. Both IN Technology and Chem-Nuclear Systems, Inc. (CNSI), which were identified by the radwaste staff as being approved to provide radwaste services and supplies, were on the approved vendors list, and the licensee maintained copies of the vendor audit reports.

Audits of inplant operations are required to be conducted biennially. The last audit was performed in 1988. Due to the lack of operations within the radwaste area, in conjunction with the movement of responsibility for radwaste operations within the licensee's organization, the scope of these audits had been limited to a review of procedures and equipment status. Another audit is scheduled for the Spring of 1990, and at this time, a review of the new radwaste organization will occur.

Surveillances/inspections of radwaste activities were to start once all appropriate radwaste procedures had been reviewed, and based upon these procedures, the scheduling and frequency of surveillances in this area could be established. A preliminary review of radwaste operations conducted by Quality Control identified those areas which were most likely to require surveillance.

### 3.2 Transportation

Transportation activities, including the preparation of shipping documents were the responsibility of the Nuclear Services Department. This responsibility was to be transferred to the newly created Radwaste/Utilities Department upon completion of transportation of radioactive materials training by the Radwaste/Utilities Department staff (Section 3.4). Since the licensee has only conducted low power

testing, there have been no shipments of radwaste from the facility, and only a limited number of low activity radioactive material shipments have occurred. Shipments were made in accordance with Procedure EC 5.4, Rev 0, "Shipment of Radioactive Material", which was reviewed by the inspector and discussed with licensee personnel.

The licensee is currently prohibited from shipping radioactive wastes to any of the operational low-level radwaste disposal sites. Licensee plans call for interim radwaste storage on site (Section 3.5).

### 3.3 Radwaste

As described in the Final Safety Analysis Report (FSAR), the licensee has the equipment to process plant water through filters and demineralizers, waste water through evaporators, and concentrates and process materials through a crystallizer, resin centrifuge and/or evaporator/extruder. At the time of this inspection, the licensee did not foresee utilizing the waste evaporator or crystallizer, although both were to be tested and maintained ready for future potential use. In addition, during the first fuel cycle, the licensee had plans to test the extruder/evaporator, which was to produce a waste stabilized in asphalt (bitumen). Due to the current restrictions at the low-level radwaste disposal sites, the licensee has elected not to utilize the asphalt system until a disposal site is made available and the criteria for waste stabilization at the site are determined.

As an interim measure, the licensee has placed a CNSI Mobile Demineralization system in its facility, bypassing the waste evaporator. In addition, the licensee had contracted with CNSI for the dewatering of spent resins, both inplant and those from the Mobile Demineralization System, into polyethylene High Integrity Containers (poly-HICs). The licensee was in the process of amending the FSAR to reflect the utilization of this alternate radwaste processing equipment.

Dry active wastes (DAW) are currently segregated within the plant and then stored in the fuel handling building. The licensee has contracted with Bartlett Nuclear to bring a waste sorting trailer on site with which to sort through the existing backlog of DAW and segregate the wastes, and to segregate additional wastes generated in the Radiation Controlled Area.

As part of this inspection, the following procedures were reviewed by the inspector:



- WN0595005, Rev 0, "Asphalt System Start-Up and Shutdown"
- WN0595014, Rev 0, "Waste Feed Systems Operation"
- WN0596006, Rev 0, "CGR Trash Compactor"
- WN0596008, Rev 1, "Spent Filter Transfer Cask Operations"
- WN0597001, Rev 0, "Receipt of Radwaste Shipment Vehicles"
- WN0597002, Rev 0, "Receipt, Inspection, and Storage of Radioactive Material Shipping Packages"
- WN0598002, Rev 0, "System Setup/Removal Procedure for NUSPC Radwaste Solidification System No. 8815"
- WN0598003, Rev 0, "Operational Procedure for NUSPC Radwaste Solidification System No. 8815"
- WN0598001, Rev 0, "Process Control Program for NUSPC Radwaste Solidification System"
- WN0598004, Rev 0, "Process Control Program for Dewatering Liners with NUSPC Internals"
- CP5.1, Rev 7, "Isotopic Characterization of Radwaste"
- UD0599.052, Rev 0, "Processing Waste Using the Bartlett Nuclear Dry Active Waste Trailer"
- UD0599.053, Rev 0, "Routine RCA Trash and Laundry Collection"
- UD0599.055, Rev 0, DRAFT "Filter and Waste Segregation and Handling"
- UD0599.057, Rev 0, "Operating Guidelines for Use of Polyethelene High Integrity Containers"
- UD0599.058, Rev 0, "Bead Resin/Activated Carbon Dewatering Procedure for CNSI 14-215 or Smaller Liners"
- US0599.059, Rev 0, "Process Control Program for the CNSI Demineralization Systems"
- US0599.060, Rev 0, "Operating Procedure for the CNSI Modular Fluidized Transfer Demineralization System"
- US0599.061, Rev 0, "Operating Procedure for the Mobile Cement Solidification Unit No. 221"

US0599.062, Rev 0, "Process Control Program for CNSI Cement  
Solidification Unit"

These procedures were under licensee review at the time of this inspection. They appear to provide adequate direction to the plant staff for the safe operation of radwaste processing equipment and to aid in ensuring a stable radwaste product.

### 3.4 Training

Training programs in the areas of transportation and radwaste were under development at the time of this inspection. Three levels of radwaste technician training had been identified, and the training necessary to perform at each level had been developed. During the next 3-4 months, the Maintenance Department Training Coordinator is to develop training goals for each training module, which will then be sent to the licensee's Training Department for course development. Training of Quality Control personnel was expected to consist of selected attendance at some of the radwaste technician training courses and vendor supplied training. Training for Radwaste/Utility department management personnel is to consist of biennial attendance at vendor supplied training courses, especially in the area of radwaste, transportation, shipping and burial regulations. The first training for radwaste management personnel is scheduled for March, 1990.

### 3.5 Interim Radwaste Storage

The licensee has begun to address the issue of interim onsite storage, since it is currently prohibited from utilizing the three existing low-level radwaste disposal sites. Facilities currently available include the Waste Processing Building high level storage area, which appears to have sufficient space to store at least five years' worth of plant generated spent resins, and the Fuel Handling Building, which can be utilized temporarily for DAW storage. Interim storage of DAW appears to be the one area where the licensee does not as yet have a designated storage area, although with the licensee's aggressive efforts to minimize DAW generated in the plant, the volume of DAW needing storage should be low.

### 4.0 Exit Interview

The inspector met with the licensee representatives (denoted in Section 1) at the conclusion of the inspection on January 12, 1990. The inspector summarized the purpose, scope, and findings of the inspection.