

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-146-92-01

Docket No. 50-146

License No. DPR-4

Licensee: Saxton Nuclear Experimental Corporation/GPUN Corporation
1 Upper Pond Road
Parsippany, New Jersey 07054

Facility Name: Saxton Reactor

Inspection At: Saxton, Pennsylvania

Inspection Conducted: June 24-25, 1992

Inspector: J. Roth
J. Roth, Project Engineer, Facilities Radiation
Protection Section, Facilities Radiological Safety
and Safeguards Branch
Division of Radiation Safety and Safeguards

7/24/92
Date

Approved By: W. Pasciak
W. Pasciak, Chief, Facilities Radiation Protection
Section, Facilities Radiological Safety and
Safeguards Branch
Division of Radiation Safety and Safeguards

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Areas Inspected: Special announced inspection by a region-based inspector to observe demolition activities initiated by the licensee on site out-buildings, to review training records and to examine the status of the remainder of the site.

Results: The licensee was taking appropriate actions to control demolition activities in a safe manner. There did not appear to be any degradation in the status of the containment vessel. No safety concerns or violations of regulatory requirements were identified.

DETAILS

1.0 Individuals Contacted

B. Good, Vice President and General Manager
R. Holmes, Site Manager
R. Rolf, Radiation Safety Officer

Other licensee representatives and employees and demolition contractor employees were also interviewed during this inspection.

2.0 Background

On May 28, 1992, NRC issued Amendment No. 11 to Facility License No. DPR-4. This amendment revises the description of the facility site by removing the Control and Auxiliary Building (C&A), the Radioactive Waste Disposal Facility (RWDF), the Refueling Water Storage Tank (RWST) pad, the Filled Drum Storage Area (FDSA) and the Pipe Tunnel (the out-buildings) from the license. As a result of this amendment the licensee was authorized to initiate demolition of the out-buildings. Preparations for demolition, to be accomplished in accordance with a licensee approved Demolition Plan were initiated on June 22, 1992. These preparations included radiation worker training for the demolition contractor employees, conduct of site status and characterization radiation surveys, and staging of demolition equipment (cranes, front end loaders, wrecking balls, etc.)

3.0 Status of the Site

The inspector observed that the licensee had removed soil adjacent to each out-building out to about 4 to 8 feet to preclude the soil from falling into the buildings after demolition. It was noted that several ground water monitoring wells had been removed as a result of this work. According to licensee representatives, a hydrologist will be retained during the Fall of 1992. This individual will perform a site ground water flow evaluation and will recommend placement of new ground water monitoring wells so that a complete evaluation and characterization of ground water in the area of the site can be performed prior to the start of any work on the reactor containment building. This work is expected to start in 1997. Analyses performed by the licensee on soil from the bottom of the excavations indicated the presence of radionuclides below the NRC guideline values (i.e., values that would allow that soil to be released for unrestricted use) as indicated below. However, no such release was requested or is being granted at this time.

<u>Radionuclide</u>	<u>Activity Level</u> (picocuries per gram of soil)	<u>NRC Guideline</u>
Cs-137	0.33 to 10.0	15
Th-232	1.1 to 1.5	10

4.0 Demolition Activities

4.1 Hold Point Surveys

Prior to the start of demolition, the licensee reviewed the status of each demolition hold point identified in the Site Demolition Plan. Those hold points that were accessible were examined, remediated as needed, and surveyed by the licensee. During this inspection, the inspector conducted verification surveys on the following licensee identified demolition hold points:

- Electrical Panel, C&A Auxiliary Equipment Room
- Door Frame, Chem Lab Prep Room, North Door
- Door Frame, Control Room, South Door
- Door Frame, C&A Equipment Room
- Door Frame, Control Room, North Door
- Light Fixture, C&A First Floor Corridor
- Emergency Light, C&A Vestibule
- Hole Edge, RWDF Drum Shipping Room Floor

The verification surveys on these locations indicated a maximum contamination level of 8,400 beta-gamma dpm/100 cm² (maximum allowable 15,000 dpm/100 cm²) and an average contamination level of 2,100 dpm beta-gamma dpm/100 cm² (average allowable 5000 dpm/100 cm²).

4.2 Filled Drum Storage Area

The inspector observed as the demolition contractor demolished portions of the Filled Drum Storage Area. All of the timbers (railroad ties) embedded in the soil were removed from the embankment surrounding the storage area. These timbers were staged for eventual contamination survey by the licensee prior to release for unrestricted use or disposal. Preliminary surveys conducted by the licensee indicated that several of the timbers located at ground level may have been contaminated as a result of previously leaking stored drums. During this inspection, the inspector performed random contamination surveys of the retained timbers. These surveys confirmed the contamination level on several of the timbers which were disposed of by the licensee as rad waste and indicated that the remaining timber did not appear to be contaminated. This observation will be confirmed by the licensee through a thorough survey of each of the timbers prior to disposal. During examination of this area, the inspector requested the licensee to perform analyses on the soil to determine the extent of radioactive contamination. Licensee representatives stated that these analyses would be performed and the results of these analyses will be retained for review by the inspector during a subsequent inspection.

4.3 Yard Pipe Tunnel

The inspector observed as the demolition contractor initiated demolition of the roof and side walls of the Yard Pipe Tunnel. This work was being done with a two ton wrecking ball. Once the concrete was broken up, the embedded reinforcement bar was removed and staged for disposal. As previously identified "hold points", such as potentially contaminated small diameter pipes, were dislodged from the concrete, they were removed and disposed of as radioactive waste. The side walls of the tunnel were being completely demolished in order to preclude the potential for restricted flow (bathtub effect) of ground water in this area of the demolished plant.

5.0 Training

The inspector reviewed records of site access training provided to all individuals assigned to the site during demolition activities. These individuals included health physics technicians and demolition contractor personnel. Training applicable to the demolition project including security access, industrial safety, hazmat safety, radiological safety, OSHA safety, emergency planning and applicable portions of the 10 CFR Part 19 and 20 requirements were provided. The records reviewed indicated that each individual assigned to the site had been trained. No inadequacies were identified.

6.0 Containment Vessel Tour

During examination of the containment vessel, the inspector observed that most of the equipment and piping associated with reactor operation was still in place. There did not appear to be any noticeable degradation in the condition of any of this equipment since the last containment vessel tour conducted during July 1990. According to licensee representatives, the licensee has initiated a characterization study to determine the radiological status of each piece of equipment, piping, ventilation system and jumper cable observed. This information will be used to determine the best method to facilitate decommissioning and decontamination of the containment vessel and contained equipment.

During this tour, the inspector observed that once the Control and Auxiliary (C&A) Building was demolished, there would no longer be a continuous enclosure of the containment vessel from the rest of the site. Licensee representatives stated that a fence would be erected on the south side of the containment vessel to replace the current north wall of the C&A Building. This fence will provide secondary confinement of the containment vessel.

7.0 Exit Interview

The inspector met with the licensee representatives denoted in Paragraph 1.0 at the conclusion of the inspection on June 25, 1992. The inspector summarized the scope and findings of the inspection.