December 6, 2002

Mr. G. A. Kuehn, Jr.
Vice President SNEC and
Program Director SNEC Facility
GPU Nuclear, Inc.
Route 441 South
P.O. Box 480
Middletown, PA 17057-0480

SUBJECT: NRC INSPECTION REPORT NO. 50-146/2002-201

Dear Mr. Kuehn:

This refers to the inspection conducted on October 21-24, 2002 at your Saxton Nuclear Experimental Facility. The inspection included a review of activities authorized for your facility. The enclosed report presents the results of that inspection.

Areas examined during the inspection are identified in the report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations of activities in progress. Based on the results of this inspection, no safety concerns or noncompliances of NRC requirements were identified. No response to this letter is required.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at (the Public Electronic Reading Room) http://www.nrc.gov/NRC/ADAMS/index.html.

Should you have any questions concerning this inspection, please contact Mr. Thomas Dragoun at 610-337-5373.

Sincerely,

/RA/

Patrick M. Madden, Section Chief
Research and Test Reactors Section
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No.: 50-146
License No.: DPR-4

Enclosure: NRC Inspection Report No. 50-146/2002-201

cc w/enclosure: Please see next page

cc:

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Patrick M. Madden, Section Chief
Research and Test Reactors Section
Operating Reactor Improvements Program
Division of Regulatory Improvement Programs
Office of Nuclear Reactor Regulation

Docket No.: 50-146
License No.: DPR-4
Enclosure: NRC Inspection Report No. 50-146/2002-201
cc w/enclosure: Please see next page

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U. S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION

Docket No.:	50-146
License No.:	DPR-4
Report No.:	2002-201
Licensees:	GPU Nuclear/ First Energy Corporation and Saxton Nuclear Experimental Corporation
Facility:	Saxton Nuclear Experimental Facility
Location:	Saxton, Pennsylvania
Dates:	October 21 - 24, 2002
Inspector:	Thomas F. Dragoun
Approved by:	Patrick M. Madden, Section Chief Research and Test Reactors Section Operating Reactor Improvements Programs Division of Regulatory Improvement Programs Office of Nuclear Reactor

EXECUTIVE SUMMARY

Saxton Nuclear Experimental Facility
Report No.: 50-146/2001-201

The primary focus of this routine, announced inspection was the on-site review of selected aspects of the licensee's decontamination and dismantlement activities including: 10 CFR 50.59 change reviews; transportation of radwaste; quality assurance program; emergency preparedness; and status of the Containment Vessel Decommissioning Support Building ventilation system.

Change Reviews

- The regulatory requirements for change reviews were satisfied.

Waste Transportation

- Shipment of concrete removed from the Containment Vessel satisfied regulatory requirements.

Quality Assurance

- The Quality Assurance program satisfied the requirements specified in the Technical Specifications.

Emergency Preparedness

- The emergency plan was implemented satisfactorily. Follow up on weaknesses identified during the drill was satisfactory.

CV/DSB Ventilation System

- The limiting conditions specified in Technical Specification No. 2.1 for the operability of Containment Vessel Decommissioning Support Building Ventilation system were satisfied.

REPORT DETAILS

Summary of Plant Status

About 8,400 tons of soil and concrete that was excavated from the steam plant was pulverized in anticipation of its use as clean backfill. Development of a training program for technicians who will perform the final status survey was nearing completion. This included lesson plans and written examinations. The project to remove all concrete from the reactor containment vessel was a few days from completion. Two shift operations during this project resulted in shipment of three truck loads of packaged concrete per day. About 2,677 tons of concrete have been shipped.

1. Change Reviews

a. Inspection Scope

The inspector reviewed the following change reviews to ensure that the requirements of 10 CFR 50.82 and 50.59, and Technical Specification (TS) Amendment No. 16, dated August 10, 2000, Sections 3.5.1 and 3.5.2 were being met:

- Procedure No. E900-ADM-4500.52, "SNEC Facility Regulatory Review Process," Revision 2, dated October 24, 2001.
- Work Instruction SWI-00-006, "Containment Vessel Structural Concrete Removal," Revision 0, dated May 30, 2000.
- Work Instruction SWI-01-003.2, "SNEC Facility Containment Vessel Anchorage System," Revision 2, dated July 3, 2002.
- Work Instruction SWI-01-003.2.1, "Anchor Bolt Installation, "Revision 0, dated December 20, 2001. Old process change review completed December 19, 2001. New process review completed May 13, 2002. Results were similar.
- Work Instruction SWI-01-003.2.2, "Installation of CV Anchoring Bracing System," Revision 0, dated April 3, 2002.

b. Observations and Findings

The licensee's change review program was reviewed during NRC inspection 50-146/2001-201 and is discussed in detail in that inspection report. A synopsis of the elements of the program are:

- All work performed on site requires a work instruction (SWI).
- The process for creating a SWI requires a change review in accordance with 10 CFR 50.59.
- Change reviews were completed in accordance with a highly detailed SNEC procedure. This procedure incorporated NRC and Nuclear Energy Institute (NEI) guidance and provided examples to assist with the proper completion of the change review.

Selected change reviews for the containment vessel (CV) concrete removal project were examined during this inspection and were found to be well documented, detailed, and comprehensive.

c. Conclusions

The regulatory requirements for change reviews were satisfied.

2. Waste Transportation

a. Inspection Scope (Inspection Procedure [IP] 86740)

The inspector reviewed the following to ensure that the shipment of the concrete removed from the CV was in compliance with requirements specified in 49 CFR Parts 173-178 and 10 CFR Parts 20 and 71:

- SNEC Standing Order: 6575-97-01, "Subject: Shipment of Radioactive Material and Radioactive Waste," Revision 0, dated February 18, 1997.
- SNEC Calculation No. E900-02-004, "CV Concrete Isotopic Composite," Revision 1, dated July 15, 2002.
- SNEC Procedure E900-IMP-4500.17, "Surveying Radioactive Material for Shipment or Receipt," Revision 0, dated July 16, 1999.

b. Observations and Findings

All rubblized concrete removed from the CV was shipped to a contractor (Duratek) for segregation and recovery of uncontaminated material. The licensee stated that about 70 percent of the shipped concrete was categorized as non-radioactive material in accordance with 10 CFR 71.10 and 49 CFR 173.403. This material was exempt from all requirements in 10 CFR 71 and 49 CFR 173. The classification was based on waste stream analysis for the various areas inside the CV and surveying, sampling, and laboratory analysis of the concrete after removal from the CV. However, the exempted material was handled as if it was radioactive material for consistency and record keeping purposes. This included the preparation of an unofficial waste manifest as described in 10 CFR 20 Appendix G.

The remainder of the concrete was classified as "limited quantity" and shipped in accordance with 49 CFR 173.421. Packaging for both exempt and limited quantity concrete consisted of 25-cubic foot steel boxes that were certified as meeting 49 CFR 173.421 by the contractor. The boxes were emptied at the contractor's facility and returned to the site for reuse. Boxes were receipt-inspected and inventoried using a bar code system after arrival on-site in accordance with the SNEC Box Loading Form. This form was also used to record the gross weight, radiation survey results, and sealing of the box lid prior to shipment. The radioactivity in the box was calculated using a generally accepted computer program (RADMAN).

Radiation protection technicians performed dose rate and surface contamination surveys during the transfers of loaded boxes from inside CV to the outside staging area.

c. Conclusions

Shipment of concrete removed from the CV satisfied regulatory requirements.

3. Quality Assurance

a. Inspection Scope

The inspector reviewed the following to verify compliance with the requirements specified in TS 3.6.2.4:

- SNEC Policy No. 1000-PLN-3000.05, “Saxton Nuclear Experimental Corporation Facility Decommissioning Quality Assurance Plan,” Revision 3, dated October 17, 2000
- SNEC Procedure E900-QAP-4220.02, “SNEC Count Room Quality Assurance Program,” Revision3, dated February 6, 2002.
- Report, “SNEC Facility Count Room Quality Assurance Report - July 01,2001-December 31, 2001" by W. G. Stoner, SNEC Quality Assurance Officer, and A. Paynter, SNEC Radiation Safety Officer.
- Report, “SNEC Facility Count Room Quality Assurance Report - January 01, 2002-June 30, 2002" by W. G. Stoner, SNEC Quality Assurance Officer, and A. Paynter, SNEC Radiation Safety Officer.
- SNEC Procedure E900-QAP-4220.01, “Quality Assurance Program for Radiological Instruments,” Revision 4, dated July 30, 2001.
- Report, “Radiological Instrumentation Quality Assurance Report,” January 01 - December 31, 2001.

b. Observations and Findings

The SNEC engineering manager, who has the overall responsibility for the QA program, stated that no audits were performed recently due to the corporate merger with FirstEnergy. Efforts were underway to arrange for the direct involvement of the new corporate management with the SNEC QA program. In the interim, a contractor (Duke Engineering/Framatome) was hired to conduct periodic “monitoring” in lieu of audits. A review of the last two monitoring reports did not identify any major weaknesses.

With site remediation nearing completion, emphasis has shifted to the quality assurance in the site analytical laboratory and portable survey meter programs. Audits of these programs were conducted every six months. These audits identified trends that are indicated by the sample deviation reports (SDR) which are completed when errors in the radiological measurements are reported. For example, there were 11 SDR reported during the last half of 2001 and 7 SDR reported for the first half of 2002. However, the trends identified during the QA audit are followed up using the Corrective Action Program (CAP).

The inspector reviewed the action for CAP S2001/016 regarding the incorrect gamma scan results for the 100 ml soil sample configuration. An investigation revealed that there were small inaccuracies in filling the sample container. The corrective measures to be taken were described in letter SNEC-01-035, “Gamma Spectroscopy System Counting Geometries for Soil, Sediments, and Liquids,” dated December 5, 2001 from W. Stoner, SNEC QA Officer to All Radcon Personnel. Additional measures were contained in a letter, same subject, dated October 16, 2002, to All Radcon Personnel from J. Duskin, SNEC Laboratory Systems Manager. The inspector concluded that the follow up for this CAP was satisfactory.

c. Conclusions

The quality assurance program satisfied the requirements specified in the TSs.

4. Emergency Preparedness

a. Inspection Scope

The inspector reviewed the following to verify implementation of the emergency plan:

- SNEC Procedure E900-ADM-4500.06, "Emergency Response Procedure and Emergency Plan" revision 5, dated May 2, 2002.
- CAP 2002-007, radiological drill event - potentially contaminated/injured person
- Quarterly inventory of the Contaminated/Injured Person Emergency Response Kit. Records for 2002.

b. Observations and Findings

On March 8, 2002, a contaminated/injured person drill was conducted. The drill critique identified some confusion on the part of the hospital emergency room staff, who initially denied admittance to the simulated injured person. A CAP was generated for this problem. The root causes for the confusion were determined to be the unfamiliarity of the on-duty emergency room staff with the SNEC emergency plan and with the terminology being used by the SNEC staff.

Corrective action included a meeting between the SNEC RSO and hospital management and training for the hospital staff. These actions were completed on April 4, 2002. To resolve the communications problem, the RSO discussed the use of proper terminology with the group radiological control supervisors.

Records indicated that the inventory of contents in the Contaminated/Injured Person Emergency Response Kit were conducted quarterly during 2002 and verified that the contents were as described in Exhibit 1 of the emergency plan.

c. Conclusions

The emergency plan was implemented satisfactorily. Follow-up on weaknesses identified during the drill was satisfactory.

5. CV/DSB Ventilation System

a. Inspection Scope

The inspector reviewed the following to verify compliance with the requirements specified in TS 2.1:

- SNEC Procedure E900-SUR-4524.41, "CV/DSB Ventilation System Operation and Alarm Responses," Revision 5, dated September 4, 2002.
- SNEC Procedure E900-SUR-4523.04, "Daily RMA 1 Operational Checks," Revision 2, dated November 7, 2000. Data for January 1, 2002, to date.
- SNEC Procedure E900-SUR-4523.03, "Weekly RMA-1 Sampling and Operations Checks," Revision 4, dated June 10, 2002. Data for January 1, 2002, to October 7, 2002.

- SNEC Procedure E900-SUR-4523.05, “RMA-1 AMS-3 Channel Calibration,” Revision 0, dated October 20, 1999. Data for October 12, 2000, May 14, 2001, November 15, 2001, and May 21, 2002.

b. Observation and Findings

The records, personnel interviews, and inspector observations indicated that the CV/DSB ventilation system was maintained and operated as required.

c. Conclusion

The limiting conditions specified in TS 2.1 for the operability of CV/DSB Ventilation system were satisfied.

6. Exit Interview

The inspection scope and results were summarized on October 24, 2002, with members of licensee management. The inspector described the areas inspected and discussed, in detail, the inspection findings. No dissenting comments were received from the licensee.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

J. Byrne, SNEC Engineering Manager
A. Paynter, SNEC Radiation Safety Officer
W. Stoner, SNEC Radiological Engineering
M. Williams, SNEC D&D Engineering

Independent Inspector

R. Granlund

INSPECTION PROCEDURES USED

IP 86740	Inspection of Transportation Activities

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

LIST OF ACRONYMS USED

CAP	Corrective Action Program
CFR	Code of Federal Regulations
CV	Containment Vessel
DSB	Decommissioning Support Building
GRCS	Group Radiological Controls Supervisor
IP	Inspection Procedure
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
RSO	Radiation Safety Officer
SNEC	Saxton Nuclear Experimental Corporation
TS	Technical Specification