

U.S. NUCLEAR REGULATORY COMMISSION
REGION I

Report No. 50-333/82-26

Docket No. 50-333

License No. DPR-59 Priority -- Category C

Licensee: Power Authority of the State of New York

P.O. Box 41

Lycoming, New York 13093

Facility Name: James A. FitzPatrick Nuclear Power Plant

Inspection At: Scriba, New York

Inspection Conducted: December 13-17, 1982

Inspectors: *J. R. White for* 3/1/83
D. J. Collins, Radiation Specialist, Facilities date
Radiation Protection Section, RPB

Approved by: *J. R. White for* 3/1/83
M. M. Shanbaky, Chief, Facilities Radiation date
Protection Section, Radiological Protection
Branch, DETP

Inspection Summary:

Inspection on December 13-17, 1982 (Inspection Report 50-333/82-26)

Areas Inspected: Routine unannounced safety inspection to review licensee actions taken or anticipated in response to the findings of the Health Physics Appraisal (Inspection Report No. 50-333/80-20), and previous inspection findings. The inspection consisted of selective examination of procedures; representative records; review of equipment and facilities; measurements and interviews with personnel by the inspector. The inspection involved 41 hours onsite by one regionally based inspector.

Results: No violations were identified.

DETAILS

1. Persons Contacted:

1.1 James A. FitzPatrick Plant

- * W. Berzins, Public Relations Department
- * R. A. Burns, Vice President, BWR Support, PASNY
- * R. Converse, Superintendent of Power
- M. Cosgrove, Quality Assurance Superintendent
- N. Gannon, Radiation Protection Supervisor
- A. McKeen, Assistant to the RES Superintendent
- * C. A. McNeil, Jr., Resident Manager
- * E. Mulcahey, Radiological & Environmental Services (RES)
 Superintendent

1.2 USNRC

- * L. Doerflein, Resident Inspector
- * J. Linville, Senior Resident Inspector

1.3 Others

Other personnel, licensee and contractor, were contacted during the inspection.

- * Attended exit interview on December 17, 1982.

2. Purpose

The purpose of this routine inspection was to review the licensee's radiation protection program with respect to the completion or scheduling of actions to implement the licensee's commitments as a result of the Health Physics Appraisal findings, and actions taken to correct and prevent recurrence of previously identified violations.

3. Posting, Labelling and Control

The inspector toured the facility upon arrival on December 13, 1982, and at intervals during the inspection, examined and independently performed radiation surveys of a waste shipment being prepared and made measurements for comparison with licensee postings and surveys for radiation exposure levels. Personnel working in radiation and/or contaminated areas were observed to determine compliance with radiation work permits (RWP); and RWP's were examined to verify that accurate radiological data had been used to write the document. Radiation and contamination surveys were examined for supervisory review and adequacy. High radiation areas required to be locked were examined for locks, egress and posting. Personnel were interviewed to determine understanding of radiological conditions in their work areas.

No violations were identified.

4. Review of Health Physics Appraisal Items and Notices of Violation

4.1 References

1. NRC Inspection Report No. 50-333/80-20, transmitted January 20, 1982, Health Physics Appraisal inspection
2. PASNY letter to NRC Region I, April 30, 1982, response to NRC Inspection Report No. 50-333/80-20
3. NRC letter to PASNY dated July 2, 1982, requesting additional information
4. PASNY letter to NRC Region I, dated August 5, 1982, supplemental response to Inspection Report 50-333/80-20
5. NRC Inspection Report No. 50-333/82-13, transmitted August 18, 1982, initial followup to inspection 50-333/80-20

- 4.2 (Closed) Inspector Followup Item (50-333/80-20-01):
 (Open) Inspector Followup Item (50-333/80-20-02):
 (Closed) Inspector Followup Item (50-333/82-13-01):
 Department requires improvement in documentation of assignments of supervisors and technicians. Additional professional personnel needed within the department.

Inspector findings during inspection 82-13 (Reference 5), paragraph 3.1 indicate that although improvements had been made, formal staff assignments to Radiological and Environmental Services (RES) professional positions had only been made to the ALARA (As Low As Reasonably Achievable) engineering and the Radiation Protection and Radiochemistry Supervisor positions. Since that time, the ALARA Engineer became the Health Physics General Supervisor. The ALARA Engineer position was not filled. The licensee stated that a reorganized staffing plan had been submitted to corporate management for approval. The approval is expected to enable implementation by December 31, 1982. The inspector reviewed memoranda which made temporary formal assignments of responsibilities to the individuals performing the ALARA and dosimetry functions.

- 4.3 (Closed) Inspector Followup Item (50-333/80-20-03):
 (Closed) Inspector Followup Item (50-333/82-13-02):
 Implement a formal training and retraining program for RES technicians.

The licensee has revised the Indoctrination and Training Program Procedures (ITP). Procedure No. 7 "Training for Radiological and Environmental (RES) Technicians," dated October 2, 1982, established criteria for verification of the adequacy of technician training. RES Department Standing Order (DSO) Number 9, "Request for Training Services," provides the mechanism for demonstration of technician

competence. The inspector verified, through examination of training records and interviews, that licensee management routinely reviewed the technician training records.

DSO #4, "Contractor Radiation Protection Technicians," mandates equivalent performance standards and review for contracted technicians. In addition, seven licensee technicians successfully completed an eight week course of study at an accredited college which included courses in nuclear radiation physics, radiation biology, health physics, nuclear instrumentation and mathematics.

- 4.4 (Closed) Inspector Followup Item (50-333/80-20-04):
 (Closed) Inspector Followup Item (50-333/82-13-03):
 Selection, implementation and training in a method for personnel neutron monitoring.

The licensee has selected the Landauer Neutrak-ER badge for neutron monitoring. The badge was in use during inspection 50-333/82-13, and this inspection. A contractor study of personnel dosimetry (including neutron dosimetry) was performed. The inspector reviewed the study report, dated June 17, 1982, and determined that the dosimetry system including neutron dosimetry is adequate. Radiation Protection Operating Procedure (RPC?) No. 8, "Neutron Surveys and Personnel Monitoring," has been issued for use. The inspector reviewed training sheets and determined by interview that technicians understood the methods used for neutron personnel monitoring.

- 4.5 (Closed) Violation (50-333/82-13-20):
 Failure to properly post an area used to store radioactive material.
 (Closed) Inspector Followup item (50-333/80-20-05):
 Improve surveillance requirements to assure radiation areas are posted properly.

The licensee issued RPOP No. 5, "Plant Radiation/Contamination Surveillance Program," dated December 21, 1982. The procedure contains adequate guidance to identify, report, post, and control areas of radiological concern within the plant grounds.

The procedure contains instructions as to approved areas for storage of radioactive materials and establishes surveillance frequencies to confirm the adequacy of posting and controls of these areas. The inspector determined through area tours and interviews that the procedure was being followed.

- 4.6 (Closed) Inspector Followup Item (50-333/80-20-06):
Provide adequate controls and oversight of high radiation area work.

RPOP No. 5 (above), and RPOP No. 11, "Posting and Control of Areas Containing Radiological Hazards," provide adequate guidance to RES technicians and supervisors to enable them to properly identify and control work within high radiation areas. The inspector verified, through his plant tour, that these procedures were adequately implemented.

- 4.7 (Closed) Inspector Followup Item (50-333/80-20-33):
(Closed) Inspector Followup Item (50-333/82-13-04):
Establishment of procedural guidance in cases of exposures in excess of established limits.

Note: Report 50-333/80-20, page 15, Section 3.1.4, indicates this concern to be item 50-333/80-20-32. To correct duplicate numbering within the report, this item has been designated 50-333/80-20-33.

RPOP No. 7, "Radiological Incident Investigation," provides technician guidance to identify the procedures and techniques to be used when plant exposure limits are exceeded. The procedure provides for appropriate management involvement in the investigation, evaluation and resolution of these incidents. The procedure further provides for identification and implementation of actions to be taken to preclude recurrence.

- 4.8 (Closed) Inspector Followup Item (50-333/80-20-07):
(Closed) Inspector Followup Item (50-333/82-13-05):
Include provisions for extremity dosimetry, low energy beta, formal reviews in the dosimetry quality assurance/quality control program.

The licensee has issued "Part C, Plant Dosimetry Procedures," which addresses the following:

- QA for extremity dosimetry
- Supervisory review of dosimetry QA testing results
- Low energy beta testing
- Neutron dosimetry
- Independent Testing Laboratory Program.

Inspector review indicates the procedures would provide appropriate actions to assure adequate performance of the dosimetry program, supervisory review and appropriate actions to resolve discrepancies regarding personnel exposures.

- 4.9 (Closed) Inspector Followup Item (50-333/80-20-08):
 (Closed) Inspector Followup Item (50-333/82-13-06):
 Establishment of procedural guidance to identify, evaluate and take corrective action to prevent recurrence of airborne radioactivity exposures in excess of 40 Maximum Permissible Concentration (MPC) hours.

RPOP No. 7, "Radiological Incident Investigation," and RPOP No. 6, "Respiratory Protection Procedure," provide the guidance to identify, evaluate and specify corrective actions to prevent recurrence when the 40 MPC-hour limit is exceeded.

- 4.10 (Closed) Inspector Followup Item (50-333/80-20-09):
 (Closed) Inspector Followup Item (50-333/82-13-07):
 Establish a program to relate direct and indirect bioassays to the effectiveness of the respiratory protection program.

The licensee has issued RPOP No. 10, "Internal Dosimetry," which provides acceptable guidelines for relating whole body counts and excreta bioassay to exposure to airborne radioactive materials and provide indication of the effectiveness of the respiratory protection program.

- 4.11 (Closed) Inspector Followup Item (50-333/80-20-10):
 (Closed) Inspector Followup Item (50-333/82-13-08):
 Establish an adequate control and issue program for respiratory protection equipment.

Inspector review shows that RPOP No. 6, "Respiratory Protection Procedure," supplies adequate instructions and precautions to provide for equipment storage and issuing. The inspector noted adequate storage and controls were implemented for issue and retrieval of equipment.

- 4.12 (Open) Inspector Followup Item ((50-333/80-20-11):
 Institute quantitative fit testing and certification of respiratory protection devices for each individual prior to use.

The licensee has proposed purchase of equipment to perform quantitative fit testing of individuals and equipment in 1983. This is a change in the licensee position noted in paragraph 3.4.3 of Inspection Report 82-13. This item will be inspected in a future inspection.

- 4.13 (Closed) Inspector Followup Item (50-333/80-20-12):
 Establish an adequate program or procedures for respiratory protective equipment testing, storage, issuance and control that meet the requirements of items c.4.b, c, d and e of Regulatory Guide 8.15.

Paragraph 3.4.4, Inspection Report 82-13 noted that control of respiratory protection devices within the plant was lacking. Devices were found on floors, tables and chairs within plant buildings. During this inspection, the inspector noted that controls had been placed on the handling of respiratory protective devices with

the result that there were no instances of potential unauthorized use evident in the plant buildings.

- 4.14 (Closed) Inspector Followup Item (50-333/80-20-13):
 (Closed) Inspector Followup Item (50-333/82-13-10):
 Ensure respiratory protective equipment not routinely used where airborne radioactivity exceeds the protection factor of the equipment.

The licensee has implemented RPOP No. 6 "Respiratory Protection Program." The inspector verified that the procedure provides guidance in the selection and prescription of respiratory protection equipment. The procedure provides for pre-work air samples and requires estimation of potential airborne hazards. The guidance provides assurance that equipment used will provide adequate protection factors. The protection factors used in the procedure are those in Appendix A, 10 CFR 20.

- 4.15 (Closed) Inspector Followup Item (50-333/82-20-14):
 Establish program and procedures to assure process or engineering controls are used to the extent practicable to limit concentration of airborne radioactive materials.
 (Closed) Violation (50-333/82-13-11):
 Failure to use engineering controls to the extent practicable to limit concentration of airborne radioactive material.

The licensee stated that use of engineering controls will be formally included in the ALARA program. As an interim measure, RPOP No. 4, "ALARA Review," has been issued. Pre-work and pre-RWP check sheets provide guidelines for review. These worksheets require assessment of radiation and contamination hazards of the task. Inspector review of training documents and interviews showed that the use of engineering controls was emphasized during RES technicians and Leadmen training. These are in accord with the corrective action indicated by the licensee in a letter to NRC on September 17, 1982.

- 4.16 (Closed) Inspector Followup Item (50-333/80-20-15):
 (Closed) Inspector Followup Item (50-333/82-13-09):
 Establish a whole body counting calibration and Quality Assurance (QA) program to meet the recommendations of ANSI N343, "Internal Dosimetry for Mixed Fission and Activation Products (1978)."

The licensee has issued RPOP No. 10, "Internal Dosimetry," and Counting Room Instrumentation (CRI) No. 6, "Whole Body Counter - Operation and Calibration." Inspector review of these procedures shows guidelines for operators, supervisory review and acceptance criteria are mandated. Management attention is directed when discrepancies are encountered. CRI No. 6 requires calibration with an adequate energy range of radioisotopes. The calibration also provides for a range of quantities up to 5 microcuries (μCi). Nine

radioisotopes are used in the calibration. Daily and weekly operational verifications are used to provide continuity and traceability of the calibration.

The procedure identifies action levels of identified radioisotopes and indicates when unidentified peaks are detected on the system.

- 4.17 (Closed) Inspector Followup Item (50-333/80-20-16):
 (Closed) Inspector Followup Item (50-333/82-13-12):
 Establish a formally documented and approved routine plant radiation and contamination surveillance program. Establish formal guidance for technicians as to the type of radiation surveys prior to issuance of RWP's.

The inspector reviewed RPOP No. 5, "Plant Radiation/Contamination Surveillance Program," implemented by the licensee. The procedure describes and mandates survey requirements throughout the plant site. RPOP No. 9, "Radiological Survey Techniques," provides guidance to technicians in equipment selection and the type of survey needed prior to issuing an RWP.

- 4.18 (Closed) Inspector Followup Item (50-333/80-20-17):
 Purchase and use appropriate air sampling equipment for radioiodine analysis.

As indicated within Inspection Report 82-13, paragraph 3.5.3, inspectors verified purchase and use of appropriate airborne sampling equipment. Included are high and low volume air samplers, charcoal cartridges and silver zeolite charcoal cartridges. The equipment is adequate to quantify airborne radioiodine activities.

- 4.19 (Closed) Inspector Followup Item (50-333/80-20-19):
 (Closed) Inspector Followup Item (50-333/82-13-15):
 Enforce personnel frisking policies, provide adequate portal monitors.

The inspector determined that a licensee program for personnel contamination self-survey emphasized frisking techniques. The licensee has restricted the number of access points to potentially contaminated areas. Additional frisking equipment had been provided. As a result of the inspector's findings in paragraph 3.5.4, Inspection Report 82-13, the licensee is evaluating portal units prior to ordering additional units.

- 4.20 (Closed) Inspector Followup Item (50-333/80-20-20):
 Formally assign responsibilities for radioactive waste.

Responsibilities for radioactive waste have been formally assigned to the Operations Supervisor. Radiological matters are assigned to the RES Supervisor. The finding was previously addressed in Inspection Report 82-13, paragraph 3.6.1. Inspector review determines this item is closed.

- 4.21 (Open) Inspector Followup Item (50-333/80-20-22):
 (Closed) Inspector Followup Item (50-333/82-13-16):
 Promptly repair and utilize the augmented off-gas treatment system (AOG).

The licensee is currently evaluating the AOG repairs made to date. The system is operating with the hydrogen recombiner only. High moisture content at the entrance to the charcoal beds precludes their use. Reports are being made periodically to NRC.

- 4.22 (Closed) Inspector Followup Item (50-333/80-20-23):
 Establish and implement radioactive waste cask loading and closure procedures to meet the requirements of 10 CFR 71.54.

Inspector review, as noted in paragraph 3.6.4, Inspection Report 82-13, concludes that the procedure establishment and implementation in January 1982 is adequate to satisfy the requirements of 10 CFR 71.54 regarding loading and closure of radioactive waste shipping casks.

- 4.23 (Closed) Inspector Followup Item (50-333/80-20-24):
 Establish and implement means to maintain and update all documents required to be on hand prior to shipment of radioactive waste.

Inspector review, as noted in paragraph 3.6.5, Inspection Report 82-13, concludes that the licensee had established and implemented procedures which assigned responsibility to maintain and update records required to be on hand prior to shipping radioactive waste. This item is closed.

- 4.24 (Open) Inspector Followup Item (50-333/80-20-26):
 (Closed) Inspector Followup Item (50-333/82-13-17):
 Review radioactive waste storage area, including temporary storage areas to ensure a 10 CFR 50.59 evaluation is on file.

For administrative purposes, item 82-13-17 is closed. Inspection Report 82-13, paragraph 8.6.3 indicates that the inspectors did not review the waste storage areas. No inspection of this area, including 10 CFR 50.59 reviews, was made during this inspection.

- 4.25 (Closed) Inspector Followup Item (50-333/80-20-25):
 Establish and implement a radioactive waste shipping records program.

Inspector review, noted in paragraph 3.6.6, Inspection Report 82-13, determined that the licensee had established and implemented a radioactive waste shipping records program. The inspectors determined the program to be adequate. This item is closed.

- 4.26 (Open) Inspector Followup Item (50-333/80-20-27):
 (Closed) Inspector Followup Item (50-333/82-13-18):
 Establishment and implementation of a quality assurance program to assure proper handling of radioactive waste.

For administrative purposes only, item 82-13-18 is closed. No inspection regarding this item was conducted during Inspection 82-13 or 82-26.

- 4.27 (Open) Inspector Followup Item (50-333/80-20-28):
- (Closed) Inspector Followup Item (50-333/82-13-19):
- (Closed) Inspector Followup Item (50-333/81-23-01):

For administrative purposes, items 81-23-01 and 82-13-19 are closed.

The ALARA findings in the Health Physics Appraisal are:

- 4.27.1 Establish, document and implement a formal corporate and plant ALARA program that conforms to the guidance in Section C, Regulatory Guide 8.8, "Information Relevant To Ensuring That Occupational Radiation Exposures At Nuclear Power Stations Will Be As Low As Reasonably Achievable," and Regulatory Guide 8.10, "Operating Philosophy For Maintaining Occupational Radiation Exposures As Low As Reasonably Achievable."
- 4.27.2 Full-time professional level manning plus the necessary supporting personnel must be provided to operate the ALARA program. The necessary corporate level manpower should be provided.

As noted in paragraph 3.7.1, Inspection Report 82-13, the licensee was utilizing an RES technician to assist a contractor ALARA engineer. Since then, the contracted engineer has accepted the licensee's position of Health Physics General Supervisor. The duties of the ALARA position have remained assigned to him in addition to his new duties. The RES technician's functions have not changed. The Radiation Exposure Management (REM) computer system is capable of providing accumulated exposure versus time.

The licensee has issued and implemented RPOP No. 4, "ALARA Review." This procedure contains basic ALARA control techniques such as ventilation, shielding, and contamination control. A check list provides for pre-work and post-work reviews by management.

The licensee reiterated their response of April 29, 1982, that the major aspects of the ALARA program will be completed prior to the May 1983 scheduled outage. An increased management awareness of ALARA principles is evident among the plant staff, as found during inspector review and interviews during this inspection. The ALARA documentation, implementation and staffing will be reviewed in a future inspection.

For administrative purposes only, item 82-13-18 is closed. No inspection regarding this item was conducted during Inspection 82-13 or 82-26.

- 4.27 (Open) Inspector Followup Item (50-333/80-20-28):
- (Closed) Inspector Followup Item (50-333/82-13-19):
- (Closed) Inspector Followup Item (50-333/81-23-01):

For administrative purposes, items 81-23-01 and 82-13-19 are closed.

The ALARA findings in the Health Physics Appraisal are:

- 4.27.1 Establish, document and implement a formal corporate and plant ALARA program that conforms to the guidance in Section C, Regulatory Guide 8.8, "Information Relevant To Ensuring That Occupational Radiation Exposures At Nuclear Power Stations Will Be As Low As Reasonably Achievable," and Regulatory Guide 8.10, "Operating Philosophy For Maintaining Occupational Radiation Exposures As Low As Reasonably Achievable."
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The licensee reiterated their response of April 29, 1982, that the major aspects of the ALARA program will be completed prior to the May 1983 scheduled outage. An increased management awareness of ALARA principles is evident among the plant staff, as found during inspector review and interviews during this inspection. The ALARA documentation, implementation and staffing will be reviewed in a future inspection.

- 4.27.3 Provide procedural action levels in RWP review, planning and job review, consistent with good ALARA principles.

As noted in Inspection Report 82-13, paragraph 3.7.2, the licensee has issued RPOP No. 4, "ALARA Review." Implementation verification by the inspector indicates that the action levels in the procedure appear consistent with good ALARA principles. The inspectors had no further questions.

- 4.28 (Closed) Inspector Followup Item (50-333/80-20-29):
Locate change areas and access control points consistent with ALARA principles.

The inspector examined the locations and arrangements of access control points to the radiation control area (RCA). Given the physical constraints of the buildings, the areas provide good control of access. Egress provisions are adequate so that personnel are afforded room to frisk adequately and for RES personnel to observe techniques and respond to potential contamination incidents.

Separate access points are provided for licensee and contractor personnel. The radiation levels in these areas appear to be ALARA. This finding is also discussed in Inspection Report 82-13, paragraph 3.8.1. The inspectors had no further questions.

- 4.29 (Closed) Inspector Followup Item (50-333/80-20-30):
(Closed) Inspector Followup Item (50-333/80-20-32):
Provide additional frisking stations for self-monitoring to facilitate frisking and ALARA principles.

The inspector determined that additional frisking instrumentation had been provided. The numbers of frisking instruments was adequate and allowed licensee personnel to perform adequate self-monitoring. The frisking stations were located in low radiation background areas. This resulted in improvement in the detection of low contamination levels.

- 4.30 (Closed) Inspector Followup Item (50-333/82-13-14):
Establish and implement procedure(s) to specify kinds of surveys required for various RWPs by September 30, 1982.

Inspector review of RPOP No. 9, "Radiological Survey Techniques," issued December 29, 1982, contains adequate guidance for an RES technician to determine and perform the appropriate surveys required.

5. Exit Interview

The inspector met with the licensee representatives (denoted in paragraph 1) on December 17, 1982. The inspector presented the purpose, scope and findings of the inspection. The inspector noted that future inspections would be conducted to verify the licensee's progress on licensee committed improvements in the area of radiological controls.