U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF INSPECTION AND ENFORCEMENT

Region I

Report No. 50-333/78-28

Docket No. 50-333

License No. DPR-59 Priority -- Category C

Licensee: Power Authority of the State of New York

10 Columbus Circle

New York, New York 10019

Facility Name: James A. FitzPatrick Nuclear Power Plant

Inspection at: Scriba, New York

Inspection conducted: December 4-7, 1978

Inspectors: Karl E. Plumlee, Radiation Specialist — 1/4/79 date signed

Ronald L. Nimitz, Radiation Specialist (Intern) — 1/4/79 date signed

-- — date signed

Approved by: Hilbert W. Crocker, Acting Chief, Radiation Support Section, FF&MS Branch — 1/4/79 date signed

Inspection Summary:

Inspection on December 4-7, 1978 (Report No. 50-333/78-28)
Areas Inspected: Routine, unannounced inspection by regional based inspectors of the radioactive waste system operations and of the radiation protection program including: adherence to regulatory limits and design objectives for releases; monitoring and analyses of effluents; records and reports of radioactive effluents; effluent instrument trip settings, calibrations and tests; procedures; tests of containment air cleaning systems; tests and control of reactor coolant water quality; solid radioactive waste; bulletins; and, licensee event reviews and corrective actions. The initial inspection and area examination was conducted during non-regular hours (10:00 p.m., December 4 to 2:30 a.m., December 5, 1978). This inspection involved 54 inspector-hours onsite by two NRC regional based inspectors.

272 343

Region I Form 12
(Rev. April 77)

7907030068

Results: Of the ten areas inspected, no items of noncompliance were identified in eight areas. Seven items of noncompliance were identified in two areas (Infraction - failure to adhere to procedures, Paragraph 5; Infraction - failure to maintain adequate respiratory protection procedures, Paragraph 6; Infraction - exceeded quarterly limit on gaseous release, Paragraph 8; two Deficiencies - posting 10 CFR 19.11 information, Paragraph 4; Deficiency - failure to control a procedure change, Paragraph 5.c; and Deficiency - labeling of containers of radioactive materials, Paragraph 7.)

DETAILS

1. Persons Contacted

E. Abbott, Operations Superintendent
P. Abbott, Station Shift Supervisor
*R. Burns, Superintendent of Radiological and Environmental Services (RES)
*V. Childs, Assistant to the Resident Manager
M. Cosgrove, Site Quality Assurance Engineer
J. Flaherty, Instruments and Controls Foreman
H. Keith, Assistant Instruments and Controls Supervisor
*J. Leonard, Resident Manager
*A. McKeen, Assistant to the Superintendent of RES
*E. Mulcahey, Radiation Protection and Radiochemistry Supervisor
W. Sanborn, Station Shift Supervisor

Several additional individuals were interviewed to determine whether they had their dosimeters, or what instructions or training they had received.

* denotes presence at the exit interview, 3:15 p.m., December 7, 1978

2. Licensee Action on Previous Inspection Findings

(Closed) Noncompliance (333/78-21-01): A failure to adhere to an RWP condition and a failure to wear dosimeters in the restricted areas. Review of the licensee's corrective actions, and observation of work practices throughout the facility did not identify any remaining problems involving RWP adherence or wearing of dosimeters on this inspection.

(Closed) Noncompliance (333/78-21-02): Control of access to high radiation areas. Review of the licensee's corrective actions, and tours of the facility to check doors, gates, barricades and posting did not identify any remaining items of noncompliance on this inspection.

(Closed) Inspector Followup Item (333/78-21-03): Licensee's control of temporary changes to procedures. Review of this item identified a recent item of noncompliance (Paragraph 5).

(Open) Noncompliance (333/78-16-01): Provision of continuously indicating dose rate devices to individuals permitted to enter high radiation areas. Review of the corrective actions indicated that an earphone will be supplied to provide each of these individuals a continuous audible indication of the instrument count rate, and a proposed change to the Technical Specifications will be submitted that, when authorized, would re-define the dose rate device requirement. The licensee expects to complete these actions during December, 1978.

(Open) Noncompliance (333/78-19-01; 333/78-12-02; and 333/78-05-06): Securing of high radiation area doors and gates. The licensee's corrective action includes door closer installation and adjustments which appear incomplete. Door No. T-252-5 on the 252 foot level of the Turbine Building was found not to be closed tight enough to latch shut at 1:00 a.m., December 5, 1978. This door leads to the condenser bay wherein, with the reactor shutdown, the measured radiation dose rate was up to 350 mrem/hr.

3. Circulars

IE Circular 78-03 Packing greater than Type A quantities of Low Specific Activity radioactive material for transport. The licensee representative stated that a timely submission is planned pursuant to 10 CFR 71.51, by January 1, 1979, of the description of the quality assurance program for transport packages.

The licensee's implementation of the program will be reviewed on a subsequent routine inspection (333/78-28-01).

Examination of shipping records for the period December, 1977 to December, 1978, did not identify any failure to register as the user of a container, failure to retain copies of certificates of compliance, or items of noncompliance with the terms and conditions of any certificate. The inspector had no further questions on this item.

4 Review of Licensee's Posted Information to Workers

10 CFR 19.11, "Posting of notices to workers," states in paragraph (a), "Each licensee shall post current copies of the following documents: (1) the regulations in this part and in Part 20 of this chapter; (2) the license, license conditions . . . ; and amendments thereto; (3) the operating procedures . . . ; and, (4) any notice of violation involving radiological working conditions issued pursuant to Subpart B of Part 2 of this chapter, and any response from the licensee." 19.11 paragraph (b) states, "If posting of a document specified in (a)(1), (2) or (3) of this section is not practicable, the licensee may post a notice which describes the document and states where it may be examined." 19.11(e) states, "Commission documents posted pursuant to paragraph (a)(4) of this section shall be posted within 2 working days after receipt . . . ; the licensee response, if any, shall be posted within 2 working days after dispatch by the licensee. Such documents shall remain posted for a minimum of 5 working days . . ." 10 CFR 19.11(d) states that documents, notices, or forms posted pursuant to this section shall appear in a sufficient number of places to permit individuals engaged in licensed activities to observe them on the way to or from any particular licensed activity location to which the document applies.

Part of the inspection effort was to review the licensee's compliance with the requirements of 10 CFR 19.11. The inspector reviewed the official posted information, which is on two official controlled bulletin boards, one on the 272 foot elevation and the other on the 286 foot elevation of the Administration Building. Each bulletin board is on an access route to the controlled areas of the plant and to the reactor control room.

On December 6, 1978, the inspector observed and the licensee's representative acknowledged that no copy was posted of the licensee's response dated December 1, 1978, to a notice of violation involving radiological working conditions issued pursuant to 10 CFR 2.B in connection with Inspection No. 50-333/78-19. Additional omissions were identified on the controlled bulletin board on the 286 foot elevation, where there was no posted information pursuant to 10 CFR 19.11(a) or (b).

The inspector identified the licensee's omission to post the above response within 2 working days after dispatch, and the omission to post required information on the 286 foot elevation bulletin board, as examples of noncompliance with the above requirements (333/78-28-02). The licensee's representative promptly corrected the posted information and established a checklist to prevent any recurrence.

The inspector had no further questions on this matter.

5. Procedures

Technical Specification Section 6.11, "Radiation Protection Program" requires that procedures for personnel radiation protection shall be prepared and adhered to for all plant operations, and that the procedures shall include planning, preparation and training for operation and maintenance activities.

a. Respirator Negative Pressure Testing

The "Radiation Protection Operating Procedures" in Section IIIB.3.5.3 "Use of Respirators - Facepiece Fitting and Testing" requires that each time a respirator is donned it should be checked for a proper fit, by sealing the inlet opening and inhaling to slightly collapse the facepiece.

The inspectors observed, at 11:20 p.m. on December 4, 1978, that two workers who were required to wear half-mask respirators to perform work under RWP No. 9765 failed to perform the negative pressure test or any test of the respirator fit. One individual stated that he had not been trained in negative pressure testing of the half-mask respirator fit and neither appeared to know how to perform the test.

The inspector identified the lack of training as noncompliance with the above requirement (333/78-28-03).

The regulatory requirements applicable to half-mask respirators are described in paragraph 6.

b. Posting of Restricted Areas

The "Radiation Protection Operating Procedures" in Section IIA.1.3 "Restricted Area" states: "Restricted Area means any area to which access is controlled for the purpose of protection of individuals from exposure to radiation and radioactive materials. Access points to restricted areas are posted with a sign bearing the radiation caution symbol and the words:

RESTRICTED AREA
AUTHORIZED PERSONNEL ONLY
CAUTION
RADIOACTIVE MATERIALS

From time to time, it may be necessary to establish a Restricted Area outside of a building for temporary storage of radioactive material (new fuel shipments, radioactive waste trucks, etc.) The temporary area shall be properly posted."

The inspector observed on December 6, 1978, that two temporary storage areas outside of buildings were not posted with the sign described above, and contained radioactive materials and posted radiation areas, up to 5 mrem/hr at the boundaries. One area was near the railroad track into the reactor building, and the other was near the radwaste building truck bay.

The inspector identified this as noncompliance with the above requirement (333/78-28-03).

c. Revised Procedures

TS 6.8(A) requires written procedures and administrative policies to be established, implemented and maintained that meet or exceed the requirements and recommendations of Section 5, "Facility Administrative Policies and Procedures" of ANSI N18.7-1972 and Appendix A of Regulatory Guide 1.33, November, 1972.

ANSI N18.7-1972 in Section 5.1, "Rules of Practice", 5.1.2 "Procedure Adherence" and 5.5 "Temporary Procedures" require the establishment of written administrative policies to control the issuance, review and approval of documents and changes or revisions to documents; adherence to written procedures and establishment of methods by which temporary changes to approved procedures can be made including the designation of a person or persons authorized to approve such changes; and require the review and approval of temporary procedures and temporary revisions to procedures by the management representative assigned approval authority.

Procedure No. 1.4 "Control of Plant Procedures" developed pursuant to the above requirements requires that plant procedures shall be controlled, distributed and maintained in accordance with the provisions of this procedure. Section 7.3 "Revisions" and 7.4 "Temporary Changes" require documentation of all revisions and changes to plant procedures using a Procedure Initiation/Revision Request Form. Section 7.6 requires that a current effective copy of the Radiation Protection Operating Procedures shall be maintained in the Control Room.

On Inspection No. 333/78-21, paragraph 4, the inspector noted that the Radiation Protection Operating Procedures, Revision 0, June 12, 1978, which had PORC and also the Resident Manager's approval were being changed to update Section IIA.1.3.3 "High Radiation Area" following a change in Technical Specification Section 6.11(A)2.

On this inspection, the inspector noted that the change was approved on November 17, 1978, as incorporated in Revision 1 of the above procedures. The licensee representatives stated that no temporary change to this procedure was documented during the period July 1, 1978 to November 17, 1978, affecting Section IIA.1.3.3.

Nevertheless, a memorandum issued to the RES technicians on October 16, 1978, contained the following instructions:

> In areas where the dose rate is ≥ 100 but < 1000 mrem/hr a barricade must be placed. The barricade must be a warning type such that inadvertent entries can not be made. Walls and locked doors are not required for these areas. Instead, the use of stanchions and ropes will suffice but the rope must extend around the entire area even across step off pads. It should be noted that we will maintain existing high radiation area gates in the closed and locked position to the extent possible.
>
> In areas where dose rates are > 1000 mrem/hr either the area must be guarded or a wall and a locked door be provided to prevent unauthorized entries.

Review of the memorandum showed that it was signed by the Superintendent of RES and contradicted the approved Radiation Protection Operating Procedure, Revision 0, in Section IIA.1.3.3 "High Radiation Area" which requires locked gate control of access to areas where the radiation dose rate is greater than 100 mrem/hr.

The Superintendent of RES stated that he intended the Technicians to adhere to the instructions in the memorandum pending the revision to the Radiation Protection Operating Procedures.

Technicians and intermediate personnel between the Technicians and the Superintendent level stated that they had in fact done as the Superintendent of RES directed them in this matter.

The inspector noted that although the memorandum was clearly an instruction, it did not state that it superceded or changed the existing Radiation Protection Operating Procedures; did not appear to have been documented, reviewed and approved by PORC, or approved by the Resident Manager; and copies had not been distributed to the holders of controlled copies of the Radiation Protection Operating Procedures or added to the copy kept in the Control Room.

The inspector identified the issuance of the memorandum dated October 16, 1978 as noncompliance with requirements of TS 6.8(A) and ANSI N18.7-1972, Sections 5.1 and 5.5, and Procedure No. 1.4 (333/78-28-04).

6. Respiratory Protection Program

10 CFR 20.103(c) "Exposure of individuals to concentrations of radioactive materials in air in restricted areas" requires in part that: When respiratory protective equipment is used to limit the inhalation of airborne radioactive material pursuant to paragraph (b)(2) of this section, the licensee may make allowance for such use in estimating exposures of individuals to such materials provided that such equipment is used as stipulated in Regulatory Guide 8.15, "Acceptable Programs for Respiratory Protection." Section C.4 "Regulatory Position" of Regulatory Guide 8.15 requires the licensee to maintain and implement a respiratory protection program that includes, as a minimum, the following items: (partial list) c. written procedures to ensure the adequate individual fitting of respirators, as well as such procedures to ensure the testing of respiratory protective equipment for operability immediately prior to each use.

Section C.7 of Regulatory Guide 8.15 states, "Unless otherwise authorized by the Commission the licensee is not to assign protection factors in excess of those specified in Table I. Footnote d(2) to Table I states that the protection factors apply only for trained individuals wearing properly fitted respirators, and footnote f. to Table I states that the half-mask respirator is to be tested for fit with irritant smoke, prior to use, each time it is donned.

The previous review of the respiratory protection program (on Inspection No. 333/78-21, paragraph 10, September 25-28, 1978) indicated that the use of half-mask respirators would be continued but the licensee would not take credit for any respiratory protection factor for half-mask respirators.

Nevertheless, the licensee implemented Revision 1 of the Radiation Protection Operating Procedures on November 17, 1978, which states in Section IIIB "Respiratory Protection Program," Subsection 2.2 "Protection Factors for Respirators"; "the Table gives the various protection factors for respiratory protection factors used at

JAFNPP." The referenced Table (IIIB.2.2-1) shows a protection factor of 10 for half-face masks. A following Table (IIIB.3.2-1) provides guidance for the issuance of respirators to users that is more conservative than Table IIIB 2.2-1 but does not state that credit is not to be taken for the protection factors stated in Table IIIB2.2-1. No issuance of respirators contrary to Table III B.3.2-1 guidance was identified.

The inspector noted that the "Radiation Protection Operating Procedures" in Section III 3.5.3 "Use of Respirators - Facepiece Fitting and Testing" does not require the half-mask respirator to be tested for fit with irritant smoke, prior to use, each time it is donned, and that the users made no such test (Paragraph 5.a).

The inspector identified the above as noncompliance with requirements of 10 CFR 20.103(c) and Sections C.4 and C.7 of Regulatory Guide 8.15 (333/78-28-05).

7. Labelling of Containers of Radioactive Materials

10 CFR 20.203(f) requires, in part, that each container of radioactive material shall bear a durable, clearly visible label identifying the radioactive contents and the label shall bear the radiation caution symbol and the words "Caution, Radioactive Material" or "Danger, Radioactive Material".

Part of the inspection effort was to review the licensee's compliance with the above requirement during tours of the facility.

The inspector identified the following containers of radioactive materials which were unattended, accessible to personnel, and contrary to the above requirements, did not bear the prescribed label. The licensee corrected these items promptly after they were identified.

Item	Measured Surface Mrem/hr (Contact)	Location	Day and Time
4 ft.X 8 ft. boxes*	up to 25	272 ft. elevation, Reactor Building	12/4/78 11:10 p.m.
4 ft.X 8 ft. boxes*	up to 16	272 ft. elevation, Turbine Building	12/5/78 00:30 a.m.
4 ft.X 10 ft. box**	up to 5	On ground, outdoors	12/5/78 10:20 a.m.
8 55 gallon drums***	up to 4	272 ft. elevation, Turbine Building	12/6/78 3:30 p.m.

* Boxes of radioactive waste from the cleanup of the controlled area following a refueling outage.

** Shipping container for GE equipment, located near railroad track into Reactor Building.

*** Drums containing protective clothing.

The inspector identified these as examples of noncompliance with the above requirement (333/78-28-06).

8. Liquid and Gaseous Radioactive Effluent Releases

a. Gaseous Releases

Environmental Technical Specification (ETS) 2.3.B.2 requires that the airborne release rate of halogens and particulates with half-lives greater than eight days shall not exceed a rate Q in curies/sec of I-131 equivalent such that:

$$\frac{Q_s\ Fitz}{2.6*10^{-5}} + \frac{Q_s\ NMP\text{-}1}{2.3*10^{-6}} + \frac{Q_v\ Fitz}{8.9*10^{-8}} \leq 1$$

Where:

Q_sFitz = stack gas release rate Ci/sec FitzPatrick

272 358

Q_s NMP-1 = stack gas release rate Ci/sec Nine Mile Point 1

Q_v Fitz = vent gas release rate Ci/sec FitzPatrick

ETS 2.3.B.3 requires that the release rate of gaseous activity shall not exceed 8 percent of the above 2.3.B.2 averaged over any calendar quarter, ETS 2.3.B.4 requires appropriate corrective action if the ETS 2.3.B.3 limit is exceeded and ETS 2.3.B.5 requires a written report to NRC within 30 days of exceeding 4 percent of the above 2.3.B.2, identifying the causes of activity and describing the proposed program of action to reduce such release rates to the objectives.

Part of the inspection effort was to review the licensee release records and reports of gaseous effluent releases and to review compliance with the regulatory requirements during the period including the fourth calendar quarter of 1977 through November, 1978.

The inspector noted that the release rate of gaseous activity averaged over the second calendar quarter of 1978 was greater than 5% of the above ETS 2.3.B.2 limit and, pursuant to the requirements of ETS 2.3.B.5, the licensee had submitted a timely report identifying the causes of the activity and describing the proposed program of action to reduce such release rates to the objectives (LER 78-51).

Nevertheless, the release rate averaged over the third calendar quarter was nearly twice as great as during the second calendar quarter. The licensee had reported releasing in excess of 10% of the ETS 2.3.B.2 limit during the third calendar quarter of 1978 (LER 78-85).

The inspector noted that the third calendar quarter release in excess of the ETS 2.3.B.3 limit was a reported item of noncompliance (333/78-28-06).

The review of LER 78-85 showed that the release rate was 2.75% greater than the rate defined in ETS 2.3.B.3 and 6.75% greater than the rate defined in ETS 2.3.B.5.

The inspector observed that the corrective actions to correct the release rate appeared to be essentially completed by the date of this inspection.

The inspector reviewed the licensee records and reports including the semiannual gaseous effluent release reports for the period July 1 - December 31, 1977 and January 1 - June 30, 1978.

The inspector performed checks of sample data and records. The inspector has no further questions on this item.

9. Liquid Radioactive Effluent Releases

The inspector reviewed the licensee's records of waste sample analyses, waste liquid discharge permits, and release records for the period January 1, 1978 through December 1, 1978, to review compliance with the regulatory limits and with the licensee's procedure PSP-4, "Waste Liquid Sampling and Analysis."

The inspector performed checks of sample data and records. No errors were identified. No items of noncompliance were identified.

10. Solid and Solidified Waste

The inspector reviewed the licensee's records of solid and solidified waste shipments, sample analyses, and also the semiannual summaries for the period January 1, 1978 through June 30, 1978. The inspector observed waste management during the inspection.

No items of noncompliance were identified.

11. Review of Effluent Control Instrumentation Tests, Calibrations and Setpoints

The inspector reviewed the records of surveillance tests, calibrations and setpoints of the refuel area, reactor building, turbine building and radwaste building ventilation monitors, the main control room ventilation monitor, off-gas, liquid radwaste discharge, and mechanical vacuum pump isolation monitors during the period January 1 to November 30, 1978, to review compliance with the alarm and trip points required by TS 3.2-4.

The inspector reviewed the following calibration procedures to review the content and compliance with the Technical Specification requirements for frequency and calibration and for detection limits and setpoints.

Procedure	Number	Channel Number
- Refuel Area Exhaust Monitor Calibration	F-ISP-17	17RIS-456A/B
- Reactor Building Exhaust Monitor Calibration	F-ISP-18	17RIS-452A/B
- Turbine Building Exhaust Monitor Calibration	F-ISP-25	17RIS-431/2
- Rad Waste Building Exhaust Monitor Calibration	F-ISP-26	17RIS-458A/B
- Mechanical Vacuum Pump Isolation	F-ISP-64-1	-
- Reactor Building Exhaust Monitor Calibration	F-ISP-18	17RIS-452A/B
- Turbine Building Exhaust Monitor Calibration	F-ISP-25	17RIS-431/2
- Rad Waste Building Exhaust Monitor Calibration	F-ISP-26	17RIS-458A/B
- Mechanical Vacuum Pump Isolation	F-ISP-64-1	-
- Control Room Vent Monitor Calibration	FRTP-28	-

Procedure	Date Completed
- "Liquid Radwaste Effluent Monitor Simulated Automatic Actuation Test, #12J Data Sheet F-ST-12J	9/5/78
- "Liquid Radwaste Effluent Monitor Automatic Isolation Logic System Functional Test" #12I Data Sheet F-ST-12I	7/22/78

No omission, errors or items of noncompliance were identified.

12. Testing of Containment Air Systems

The inspector reviewed records of tests during 1978 of the Standby Gas Treatment System to review compliance with the following requirements:

- Technical Specification 3.7B/4.7B, Standby Gas Treatment System, Limiting Conditions for Operation/Surveillance Requirements.

- Technical Specification 3.7.C/4.7C, Secondary Containment, Limiting Conditions for Operation/Surveillance Requirements.

- ANSI N510-1975, "Testing of Nuclear Air Cleaning Systems."

- ANSI N45.2.6-1973, "Qualifications of Inspection, Examination and Testing Personnel for the Construction Phase of Nuclear Power Plants."

- 10 CFR 50, Appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants."

- Procedure #7A, "Standby Gas Treatment Manual Bypass Valve Operation, Heater DT, Fitter DP and Simulated Automatic Actuation Test."

The review did not identify any omissions of required periodic tests or any failures to comply with test criteria required by the Technical Specifications.

The review of contractor test procedures did not identify any indication that the licensee QA organization had reviewed the contractor-supplied services involved in filter and charcoal system tests. This item will be followed up on a subsequent routine inspection in order to review compliance with requirements of 10 CFR 50, Appendix B, Section VII, "Control of Purchased Material, Equipment and Services." (333/78-28-07)

The inspector has no further questions on this item at this time.

13. Reactor Coolant Water Quality

The inspector reviewed records of reactor coolant system chemistry to review compliance with the requirements of Technical Specification 3.6.C Coolant Chemistry (Limiting Conditions for Operations) and Technical Specification 4.6.C Coolant Chemistry (Surveillance Requirements) for the period January 1, 1978 thru December 6, 1978.

Technical Specification 3.6.C.3 states, "For reactor startup the maximum value for conductivity shall not exceed 10 umho/cm and the maximum chloride ion concentration shall not exceed 0.1 ppm, for the first 24 hour after placing the reactor in the power operating condition."

The licensee had identified an anomalous high (0.18 ppm) chloride analysis on December 5, 1978, review of the licensee's planned Occurrence Report #78-141 did not identify any remaining problem.

The licensee subsequently reported this as LER 78-96. Review of this submission did not identify any problems.

No items of noncompliance were identified.

14. Exit Interview

The inspector met with the licensee's representatives (denoted in paragraph 1) at the conclusion of the inspection, 3:15 p.m., December 7, 1978.

The inspector reviewed the scope and findings of the inspection.

272 358