

U.S. NUCLEAR REGULATORY COMMISSION  
REGION I

Report No. 50-333/85-12

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: April 22-26, 1985

Inspectors:

R. L. Nimitz  
R. L. Nimitz, Senior Radiation  
Specialist

6/6/85  
date

R. L. Nimitz for  
K. L. Holsopple, Radiation Specialist

6/6/85  
date

Approved by:

Marie T. Miller for  
W. J. Pasciak, Chief, BWR Radiation  
Protection Section

6/11/85  
date

Inspection Summary: Inspection on April 22-26, 1985 (Report No. 50-333/85-12).

Areas Inspected: Routine, unannounced inspection of the licensee's Radiological Controls Program during an outage. The following areas were reviewed: organization and staffing; training and qualification; ALARA; external and internal exposure controls, radiation and contaminated material control; and radiological controls program implementation. The inspection involved 68 inspection hours on site by two region-based inspectors.

Results: Two violations were identified in two areas (failure to adhere to radiation protection procedures in accordance with T.S. 6.11, section 6; and failure to control high radiation area keys in accordance with T.S. 6.11(A), Section 6.) The licensee was found to be implementing an effective internal exposure control program.

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## DETAILS

### 1.0 Individuals Contacted

#### 1.1 Power Authority of the State of New York

- \*E. Mulcahey, Radiological and Environmental Superintendent
- \*T. Teifke, Security/Safety Superintendent
- \*D. Simpson, Training Coordinator
- \*J. Kerfien, QC Supervisor
- \*J. Wurouwski, Radiation Protection Training Specialist
- \*J. J. Kelly, Manager, Radiological Health and Chemistry
- \*C. J. Gannon, HP General Supervisor
- \*H. H. Glovier, Resident Manager
- \*W. Fernandez, Operation Superintendent
- \*D. Lindsay, Assistant Operation Superintendent
- \*A. McKeen, Assistant Radiological and Environmental Superintendent
- R. Converse, Superintendent of Power

#### 1.2 Nuclear Regulatory Commission

- \*L. Doerflein, Senior Resident Inspector

\*Denotes those individuals attending the exit meeting on April 26, 1985.

The inspectors also contacted other individuals.

### 2.0 Purpose of Inspection

The purpose of this routine, unannounced, radiological controls program inspection was to review the following program elements:

- Organization and Staffing
- Training/Qualification
- ALARA
- Exposure Control:
  - External Exposure Control
  - Internal Exposure Control
- Radioactive and Contaminated Material Control
- Radiological Controls Program Implementation

### 3.0 Organization and Staffing

The inspector reviewed the Radiological Controls Organization and staffing with respect to criteria contained in the following:

- Technical Specification 6.2, "Plant Staff Organization"
- Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupation Radiation Exposures at Nuclear Power Station Will Be As Low As Reasonably Achievable."

The evaluation of the licensee's performance in the area was based on:

- discussions with cognizant licensee personnel
- observation of in-field activities

Within the scope of the review, no violations were identified. The licensee's in place organization was consistent with Technical Specification descriptions. Regarding staffing, the licensee appeared to be adequately staffed to support on-going work.

Within the scope of the review, one matter requiring licensee attention was identified:

Insufficient staffing was utilized to support in Reactor Cavity work on the evening of April 24, 1985.

When brought to the licensee's attention, additional radiological controls personnel were assigned to oversee in Reactor Cavity Work. The licensee's actions on this matter were timely.

### 4.0 Training and Qualifications

#### 4.1 Radiation Workers

The inspector reviewed the training and qualification of radiation workers with respect to criteria contained in the following:

- 10 CFR 19.12, "Instructions to Workers"
- Procedure ITP-3, Revision 6, "General Employee Training"

The evaluation of the licensee's performance in this area was based on the following:

- review of inspector selected training documentation including worker examination grades
- discussion with cognizant licensee personnel

- observation of work in progress

Within the scope of this review, no violations were identified. The licensee was adequately training and qualifying radiation workers.

#### 4.2 Radiological Control Technicians

The inspector reviewed the training and qualification of contracted radiological control technicians. The review was with respect to criteria contained in the following:

- Technical Specification 6.3, "Plant Staff Qualifications"
- ANSI N18.1, 1971, "Selection and Training of Nuclear Power Plant Personnel"

The evaluation of the licensee's performance in this area was based on:

- review of inspector selected training documentation including technician examination grades
- observation of on-going work including observations of technician performance on back shifts
- discussion with personnel

Within the scope of this review, no violations were identified. The licensee was training and qualifying contractor radiological control technicians consistent with procedures requirements.

Within the scope of this review, the following items for improvement were identified:

- Document (as necessary) the training qualification, and retraining of dosimetry clerical personnel. Currently, no such documentation is maintained.
- Establish uniform acceptance/evaluation criteria for use in evaluating a technician's capabilities relative to performance of practical factors. Currently no uniform guidance in this area is established.

Within the scope of this review, the following was noted:

- Contractor radiation protection personnel, acting in responsible positions, meet experience requirements specified in Technical Specifications.

## 5.0 ALARA

The inspector reviewed implementation and adequacy of selected aspects of the licensee's program for maintaining occupational radiation exposure as low as reasonably achievable (ALARA). The review was with respect to criteria contained in the following:

- Regulatory Guide 8.8, Revision 3, "Information Relevant to Ensuring that Occupational Exposure At Nuclear Power Plants Will Be As Low As Is Reasonably Achievable."
- Regulatory Guide 8.10, Revision 1R, "Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As Is Reasonably Achievable."
- Procedure REP 1, "ALARA Review."

The evaluation of the licensee's performance in the area was based on:

- review of in-field work including Control Rod Drive Removal
- discussions with cognizant personnel
- review of documentation

Within the scope of this review, the following was noted:

- the licensee provides generally effective ALARA preplanning for radiological work
- the licensee provides generally effective ALARA controls of on-going work

Within the scope of this review, the following item for improvement was identified:

- include all personnel normally "stationed" at an access control point into the ALARA review for that particular control point. The licensee normally includes only one individual (i.e. security guard) in this ALARA review. The inclusion of these other personnel (e.g. control point radiological control technicians) would allow inclusion of the dose sustained by these personnel to be factored into appropriate control point cost/benefit analyses. As many as 4 individuals were observed at such control points.

Within the scope of this review, the following violation was identified:

Technical Specification 6.11, "Radiation Protection Program", requires, in part, that procedures for personnel radiation protection be prepared and adhered to and that these procedures be formulated to maintain radiation

exposure received during operation and maintenance as far below the limits specified in 10 CFR 20 as practicable.

Procedure REP 1, "ALARA Reviews", requires, in part, in section 2.1.6 and 5.2.3, that ALARA reviews for jobs whose man-rem total exceeds 10 man-rem be approved by the Radiological Engineer, the Radiological and Environmental Services Superintendent, and the Superintendent of Power, as evidenced by their signatures thereon.

Contrary to the above, as of April 24, 1985, an ALARA review performed February 17, 1985 for Removal, Transport and Replacement of Control Rod Drives, which indicated a man-rem total of 12.6 man-rem was not reviewed as required as evidenced by the lack of signature of the Radiological Engineer, the Radiological and Environmental Services Superintendent, and the Superintendent of Power. Work commenced on this task on or before April 23, 1985.

This item is assigned Item No. 50-333/85-12-01.

## 6.0 Exposure Controls

### 6.1 External Exposure Controls

The inspector reviewed the following elements of the licensee's External Exposure Control Program:

- posting, barricading, and access control (as necessary) of radiation and high radiation areas
- adequacy of radiation surveys made to support on-going work
- adequacy and implementation of the radiological controls specified on Radiation Work Permits
- issuance and use of personnel monitoring equipment

The review was with respect to criteria contained in:

- 10 CFR 20, "Standards For Protection Against Radiation"
- Applicable Licensee Procedures

The evaluation of the licensee's performance in this area was based on:

- observation by the inspector of on-going work during tours of the facility including tours performed during backshifts
- independent radiation surveys by the inspector



- discussions with licensee personnel
- review of documentation

Within the scope of this review, the following violations were identified:

1. Technical Specification 6.11, "Radiation Protection Program", requires, in part, that procedures for personnel radiation protection be prepared and adhered to and that these procedures be formulated to maintained radiation exposures received during operation and maintenance as far below the limits specified in 10 CFR 20 as practicable.

- a. Procedure RPOP-4, "Radiation Work Permits", specifies in part, in section 4.10.2 that it is the leadman's responsibility to assure that all personnel who sign in on a Radiation Work Permit (RWP) comply with any conditions on the RWP.

- 1) RWP No. 3997, dated April 24, 1985 required that hoods be worn during removal/replacement of IRM/SRM Drytubes

Contrary to the above, at about 6:00 p.m. on April 24, 1985, the leadman for RWP no. 3997 did not assure that all personnel complied with the RWP. Two individuals, signed in on the RWP and standing by to perform work, did not have on hoods.

- 2) RWP No. 3930-S, dated April 23 1985 required that hoods be worn in the CRD Rebuild Room when respirators are worn.

Contrary to the above, at about 2:30 p.m., on April 23, 1985, the leadman for RWP No. 3930-S did not assure that all personnel complied with the RWP. One individual inside the CRD Rebuild Room, with a respirator, did not have on a hood.

- b. Procedure RPOP-4, "Radiation Work Permit," requires in part in section 4.10.4 that if a regular Radiation Work Permit (RWP) is needed for more than one shift, the leadman shall return it to the Radiation Protection Office so that it can be turned over to the new leadman for acceptance and re-approval by Radiation Protection.

Contrary to the above, on April 22, 1985 Regular RWP No. 3900 was needed and used for more than one shift; was not returned to the Radiation Protection Office for turnover to the new leadman for acceptance, and was not reapproved by Radiation Protection.

- c. RPOP-9, "Radiological Survey Techniques" specifies in part in section 5.6, that the general guidance of Table 6 shall be used in performing radiation work permit surveys. Table 6 requires that a conservative approach to monitoring shall be taken until it is shown a less conservative approach is justified.

Contrary to the above, at about 6:00 p.m. on April 24, 1985 a conservative approach to monitoring a Drytube Cutting Tool was not taken in that personnel pulled the tool out at the reactor cavity and were permitted to handle the tool prior to radiation surveys being made of the tool. A radiation protection technician with a survey meter was about 15 feet away when the tool was removed, handled, and bagged by two workers.

This matter was immediately brought to the licensee's attention who initiated timely action to ensure equipment is surveyed prior to its handling by personnel and to provide additional technicians to support on-going work on the Refueling Floor.

The above matters will be followed using Item No. 50-333/85-12-01.

When the above matters were brought to the licensee's attention, the licensee initiated a number of actions to strengthen oversight and control of on-going radiological work. These actions included the following:

- The Superintendent of Power met with all appropriate Radiation Protection Personnel to discuss the need for personnel to adhere to Radiation Work Permits and Radiological Controls procedures and were reminded of their responsibilities in this area.
- The Superintendent of Power directed that once each normal shift an Radiological and Environmental Services (RES) Supervisor will observe the more radiological "sensitive" jobs in progress (tentatively indicated as those needing ALARA reviews) for purposes of verifying that procedures are being followed. Observations are to be reported to the Superintendent of Power.
- Pre-Job planning of the more "sensitive" jobs were to be conducted by an RES Supervisor with the Radiation Protection Technician assigned coverage of the job.



- The Superintendent of Power specified that proper corrective action, including disciplinary action will be initiated for individuals found violating procedures.

The Superintendent of Power issued a memorandum to all plant workers, relative to the above, on April 25, 1985.

2. Technical Specification 6.8, "Procedures", requires in part, that procedures be established, implemented, and maintained which meet the requirements and recommendations of Regulatory Guide 1.33, 1972. Regulatory Guide 1.33, 1972, recommends that procedures for restrictions and activities in high radiation areas be established. In addition, Technical Specification 6.11 (A), "High Radiation Area", requires that, locked doors be provided to prevent authorized entry into areas in which the intensity of radiation is greater than 1,000 millirem/hour, and that the keys to such areas be maintained under the administrative control of the Shift Supervisor on duty and/or the Radiological Environmental Services Superintendent.
  - a. Contrary to the above, as of April 26, 1985, and for an undetermined period of time prior to that time, 'MR' keys, which provide general (master) access to areas with radiation intensities typically less than 10,000 mR/hr were under the administrative control of the Security and Safety Group. In addition, the Security Procedure used to control issuance of the 'MR' keys neither specified the minimum training and qualification of personnel needed to obtain an 'MR' key nor specified the level of authorization (e.g. Radiological and Environmental Services Superintendent) needed to obtain such a key.
  - b. Procedure No. 19, "Procedure for Control of Non-Security Related Keys Issued to the Operations Department," which controls among other things, issuance of individual area high radiation area access keys by shift supervision, requires in part in section 7, that the on-coming Shift Supervisor reviews the key log prior to taking shift to determine if any keys are out or missing.

Contrary to the above, on April 23, 1985, neither the on-coming second shift Shift Supervisor nor his assistant reviewed the key log prior to taking shift to determine if any keys are out or

missing. One key was identified missing by the inspector.

The above matters are assigned Item No. 50-333/85-12-04.

The above matters were brought to the licensee's attention. On April 25, 1985, the Superintendent of Power issued a memorandum to the Security/Safety Superintendent providing guidance relative to issuance of "MR" keys. Also, on April 23, 1985, the licensee initiated action to 1) locate a missing key from the key locker, and 2) clarify the guidance contained in Procedure No. 19. The licensee actions on this matter were timely.

Within the scope of the review, the following additional matters were identified which should be addressed by the licensee:

- On April 22, 1985, at about 8:00 p.m., the licensee's dosimetry personnel did not implement Procedure PDP-1 relative to completion of all applicable dosimetry forms. One NRC inspector was not provided all applicable dosimetry forms prior to being provided dosimetry. Also, dosimetry personnel provided incorrect allowable exposure limits to the inspectors.

The licensee counseled dosimetry personnel relative to this matter to preclude recurrence.

- The licensee's Radiation Work Permit Program contained no guidance relative to revising or modifying the radiological controls specified on a Radiation Work Permit. The inspector identified changes made in-field. Inadequately reviewed or unapproved changes could degrade the quality of RWP radiological controls.

Licensee representatives indicated guidance in this area would be established by April 29, 1985. (50-333/85-12-02)

- The licensee's Radiation Work Permit Program contained no guidance relative to performing "intermittent" surveys of Radiation Work Permit Areas. Inspector discussions with individual radiological controls personnel indicated a large variation in the interpretation of "intermittent."

Licensee representatives indicate general guidance will be established by April 29, 1985. (50-33/85-12-03)

## 6.2 Internal Exposure Controls

The inspector reviewed the following elements of the licensee's Internal Exposure Control Program:

- posting (as necessary) airborne radioactivity areas
- adequacy of airborne radioactivity surveys to support on-going work
- use of engineering controls in-lieu of providing respiratory protective equipment to personnel
- proper use of respiratory protection equipment

The review was with respect to criteria contained in:

- 10 CFR 20 "Standards for Protection Against Radiation"
- Applicable Licensee Procedures

The evaluation of the licensee's performance in this area was based on:

- observation by the inspector of on-going work during tours of the facility including tour performed during backshifts
- discussion with licensee representatives
- review of documentation

Within the scope of the review, no violations were identified.

Within the scope of this review, the following was noted:

- the licensee made effective use of engineering controls (e.g. portable ventilation system) to limit airborne radioactivity and preclude use of respiratory protective equipment
- review of data for the past two years did not indicate an intake by personnel of airborne radioactivity in excess of 40 MPC-hours.

## 7.0 Radioactive and Contaminated Material Control

The inspector reviewed the posting, labeling and control of radioactive and contaminated material with respect to criteria contained in 10 CFR 20, "Standards for Protection Against Radiation."

The evaluation of the licensee's performance in this area was based on:

- observation by the inspector during tours of the facility including tours performed during back shifts
- independent radiation surveys performed by the inspector

Within the scope of this review, no violations were identified. The licensee was implementing an adequate radioactive and contaminated material control program.

## 8.0 Exit

The inspector met with licensee representatives, denoted in section 1 of the report, on April 20, 1985. The inspector summarized the purpose of, scope and findings of the inspection.

At no time during this inspection did the inspector provide written material to the licensee.