

U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No. 50-333/82-13

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: June 14-18, 1982

Inspectors: M. M. McBride for  
C. M. Hosey, Senior Radiation Specialist

8/16/82  
date signed

M. M. McBride  
M. H. McBride, Ph.D., Radiation Specialist

8/16/82  
date signed

M. M. McBride for  
C. Rowe, Radiation Specialist

8/16/82  
date signed

Approved By: E. G. Greenman  
E. G. Greenman, Acting Chief,  
Facilities Radiation Protection Section

8/17/82  
date signed

Inspection Summary:

Inspection on June 14-18, 1982 (Inspection Report 50-333/82-13)

Areas Inspected: Routine, unannounced inspection to review licensee corrective actions in response to the Health Physics Appraisal (Inspection Report 50-333/80-20) and other aspects of the Radiation Protection Program. The inspection consisted of selective examinations of procedures and representative records, review of equipment and facilities, and interviews with personnel. The inspection consisted of 80 hours on-site by three NRC region based inspectors.

Results: Three violations were identified (failure to use process and engineering controls to limit the concentration of airborne radioactive material, Detail 3.4.7; failure to survey for airborne radioactive material, Detail 3.5.2; and failure to post an area containing radioactive materials, Detail 5).

## DETAILS

### 1. Persons Contacted

- \*B. Baker, Superintendent of Power
- \*R. Converse, Operations Superintendent
- \*M. Cosgrove, Quality Assurance Superintendent
- \*J. Kelley, Manager Radiological Health and Chemistry, Corporate
- \*R. Locy, Water Systems Supervisor
- \*C. McNeill, Resident Manager
- \*E. Mulcahey, Radiological and Environmental Service Superintendent

#### NRC (Other Than Team Members)

- \*L. Doerflein, USNRC Resident Inspector

\*denotes those present at the exit interview on June 18, 1981.

Other individuals including radiation protection technicians and supervisors were also interviewed during this inspection.

### 2. Inspection Purpose

The purpose of this inspection was to review the licensee's response to the Significant Appraisal Findings identified in Appendix A of the Health Physics Appraisal, conducted November 10-21, 1980, at the James A. FitzPatrick Nuclear Power Plant. Licensee actions on previously identified inspection findings were also reviewed.

### 3. Review of Licensee Corrective Actions for Significant Health Physics Appraisal Findings

#### References:

- NRC Health Physics Appraisal Report No. 80-20, dated January 20, 1982.
- Response to Health Physics Appraisal by the Power Authority of the State of New York, dated April 30, 1982.

The Significant Appraisal Findings, the licensee's response to these findings, and the implementation of licensee corrective action are discussed below.

### 3.1 Radiation Protection Organization

#### 3.1.1 Significant Appraisal Finding A.1

"Formally document and issue assignments of supervisors and technicians to the major functions of the department."

##### Inspector Finding

The April 30, 1982 licensee response stated that the following assignments would be made by July 1, 1982:

<u>Position</u>	<u>Assignments*</u>
Radiological and Environmental Services Superintendent	ALARA Program
Assistant to Radiological and Environmental Services Superintendent	Internal Dosimetry Program
Training/QC Supervisor	Respiratory Protection Program, Quality Control, Training
Radiological and Environmental Services Senior Technicians	Radiation Protection, Dosimetry

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\*Additional assignments were also made in the areas of emergency planning, off site dose assessment, chemistry and radiochemistry. These latter assignments were not reviewed during this inspection.

At the time of the inspection, the licensee Radiological and Environmental Services (RES) Department organization was structured as shown in Figure 1. Formal job descriptions for the RES department did not cover the following activities and personnel:

- Respiratory Protection Program. The Respiratory Protection Program is currently conducted by personnel from the following departments: RES (equipment procurement, issuance, storage, maintenance, and inspection), Training (worker training and fit testing), and Maintenance (equipment decontamination and cleaning). In the RES department, respiratory protection responsibilities are further divided between the Assistant Radiological and Environmental Services Superintendent

(equipment issuance, storage, maintenance, and inspection) and the Training and QC Supervisor (procedure review, technician respiratory protection program training, and equipment procurement). The inspector noted that overall responsibility for the respiratory protection program was not formally assigned, and that Respiratory Protection Program responsibilities are not currently included in the RES supervisors' job descriptions.

At the exit meeting, the licensee stated that functional responsibilities covering all aspects of the respiratory protection program will be formally assigned by July 1, 1982, and that responsibility for the entire program will be assigned to a single, qualified RES supervisor, although segments of the program may be routinely performed by other departments.

- Dosimetry and Radiation Protection. Senior Technicians currently function as first line supervisors in these areas. However, no formal assignment of supervisory responsibilities have been made to the senior technicians (see section 3.1.2).

At the exit meeting, the licensee stated that a plan to reorganize the RES department will shortly be submitted to licensee corporate management for approval and should be in place by December 31, 1982. In the interim, the licensee stated that all major functional areas in the RES department will be included in supervisory-level job descriptions and that senior technicians in charge of the dosimetry and radiation protection programs will be made aware of their job responsibilities.

- ALARA Program. The licensee currently employs a contractor engineer to oversee the ALARA program. However, there is no formal description of the duties and responsibilities of this individual.

At the exit meeting, the licensee stated that as part of the reorganization, ALARA functional job responsibilities will be formally assigned in supervisory level job descriptions and that the ALARA engineer would be made aware of his job responsibilities.

The formal staff assignment of RES job responsibilities in the area of respiratory protection, dosimetry, radiation protection, and ALARA will be reviewed in a future inspection (333/82-13-01).

### 3.1.2 Significant Appraisal Finding A.2

"Assign additional qualified personnel at the professional level to the Radiological and Environmental Services Group."

### Inspector Finding

The licensee's April 30, 1982, response stated that two RES supervisory positions (Radiation Protection and Radiochemistry Supervisor, and Dosimetry and ALARA Supervisor) were expected to be filled by July 1, 1982. The licensee filled the Radiation Protection and Radiochemistry supervisor position on July 1, 1982.

The licensee does not, however, expect to fill the Dosimetry and ALARA Supervisor position, due to the pending RES department reorganization. At the time of the inspection an RES Supervisor, a contract ALARA Engineer, and an RES Senior Technician managed the program assigned to the Dosimetry and ALARA supervisor position.

At the exit meeting, the licensee stated that, pending the reorganization, the RES personnel would be made aware of the functional areas formally assigned to the Dosimetry and ALARA position (see Detail 3.1.1).

## 3.2 Training

### 3.2.1 Significant Appraisal Finding B

"Implement a formal training and retraining program including lesson plans, acceptance criteria, and formal examinations to maintain technician competence at a prescribed level."

### Inspector Finding

Training and retraining of licensee technicians is outlined in licensee Indoctrination and Training Procedure No. 7, "Training for Radiological and Environmental Services (RES) Technicians," Revision No. 1, November 20, 1981. This procedure contains training topics but does not include formal requirements for examinations, or outline formal acceptance criteria.

Entry level technicians were, at the time of the inspection, completing three-credit hour courses in nuclear radiation physics, radiation biology, and health physics at Manhattan College.

A practical factor training checklist was used to qualify technicians in 1) radiation protection, and 2) plant chemistry and radiochemistry skills. The licensee plans to formally require use of the checklist in a revision to a Department Standing Order.

Training and Indoctrination Procedure No. 7 requires that annual retraining of RES technicians consist of a minimum of 40 hours of classroom instruction. The procedure outlines training topics, but does not include formal requirements for examinations and formal acceptance criteria. The licensee has a detailed retraining lesson plan for 1982 outlined in a memo and has completed twelve hours of retraining this year. A written examination with an informal acceptance criteria of 70 percent was used to evaluate the performance of each technician.

The licensee stated that contractor technicians were required to complete a two-day indoctrination course covering such topics as:

- Respiratory protection
- Radiation standards and regulations
- Radiation detection and measurement
- Plant layout and systems
- Radiation protection procedures

The licensee uses oral interviews and an informal examination performance criteria of 70 percent to evaluate contractor technician performance.

The licensee stated that technician training and retraining procedural guidance will be revised to include more formal requirements for examinations and a formal acceptance criteria. The licensee stated the revisions will be completed by September 30, 1982.

The procedure revisions for licensee and contractor technician training will be reviewed during a future inspection (333/82-13-02).

### 3.3 External Exposure Control

#### 3.3.1 Significant Appraisal Finding C.1

"Select and implement a method for personnel neutron exposure monitoring and provide training in this method."

##### Inspector Finding

The licensee is currently using the Landauer Neutrak-ER badge for neutron monitoring. In the response, dated April 30, 1982, the licensee stated that procedural guidance for use of neutron dosimetry, as well as guidance for routine neutron radiation surveys will be completed by August 31, 1982.

At the exit meeting, the licensee stated that studies on Neutrak-ER sensitivity would be conducted if the licensee decided to use the badge as the primary means for establishing personnel neutron dose.

The implementation of personnel neutron exposure monitoring will be reviewed during a future inspection (333/82-13-03).

#### 3.3.2 Significant Appraisal Finding C.2

"Establish a procedure to require and specify investigations of personnel external exposures in excess of established limits."

### Inspector Finding

The licensee's response, dated April 30, 1982, states that a procedure entitled "Radiological Incident Investigation," to be issued by July 31, 1982, will give guidance on investigations of exposures in excess of established limits. The licensee stated that no personnel overexposures occurred during the 1981-1982 refueling outage.

The procedural guidance provided for investigating excess personnel exposure will be reviewed during a future inspection (333/82-13-04).

#### 3.3.3 Significant Appraisal Finding C.3

"Include in the external dosimetry program provisions and procedures for quality assurance of extremity dose and neutron dose equipment and evaluations. Include a provision for irradiation of whole body and extremity equipment by known amounts of low energy beta radiation. Include procedural requirements for review and sign-off on all quality assurance measures by responsible supervision."

### Inspector Finding

The licensee stated that quality assurance checks of extremity TLD's are currently conducted annually without formal procedural guidance. Personnel neutron dosimetry badges have been tested by a contractor laboratory within the last year for energy response, but no routine quality assurance tests have been conducted. The licensee does not plan to conduct routine quality assurance tests on TLD badge low energy beta response.

No formal sign-off system is currently being used to document review of TLD quality assurance data. A senior RES technician is primarily responsible for reviewing the TLD quality assurance data in conjunction with RES management review of all TLD quality assurance data.

The licensee stated that procedural guidance for quality assurance testing (including formal review and sign-off) of personnel extremity TLD badges will be implemented by September 30, 1982. The licensee further stated the quality assurance program for neutron dosimetry will be evaluated (see Detail 3.3.1).

The quality assurance program for extremity and neutron personnel dosimetry will be reviewed in a future inspection (333/82-13-05).

#### 3.4 Internal Exposure Control - Respiratory Protection

##### 3.4.1 Significant Appraisal Finding D.1

"Establish a formal program to identify, evaluate and implement corrective actions for personnel airborne radioactivity exposures in excess of 40 MPC-hours."

### Inspector Finding

The licensee's response, dated April 30, 1982, stated that a procedure for identifying, evaluating, and implementing corrective action for cases of airborne radioactivity exposure in excess of 40 MPC-hours will be developed, and training completed by September 30, 1982.

At the exit meeting, the licensee agreed to have this procedure implemented prior to any planned outage occurring after August 1, 1982 or by September 30, 1982, whichever occurs first.

The inspector reviewed a sampling of the licensee MPC-hour tabulations and verified that the licensee took appropriate actions to identify, evaluate, and implement corrective actions for one instance of personnel exposure to airborne radioactivity levels in excess of 40 MPC-hours during the 1981-1982 refueling outage.

The implementation of a procedure to identify, evaluate, and take corrective action for cases of personnel exposure to more than 40 MPC-hours of airborne radioactivity will be reviewed in a future inspection (333/82-13-06).

#### 3.4.2 Significant Appraisal Finding D.2

"Establish an approved, documented program to relate direct and indirect bioassays to the effectiveness of the respiratory protection program."

### Inspector Finding

The inspector noted that the licensee, on occasion, relates direct (in-vivo) bioassay results to the effectiveness of the respiratory protection program. Procedural guidance for this comparison is being developed. The licensee does not routinely conduct indirect (in-vitro) bioassays.

The licensee response, dated April 30, 1982, states that a procedure for comparing whole body count data to MPC-hour exposures will be implemented by September 30, 1982. This procedure will be reviewed during a future inspection (333/82-13-07).

#### 3.4.3 Significant Appraisal Finding D.3

"Establish a quantitative respiratory equipment fit testing and training program and procedures."

### Inspector Finding

The licensee stated that qualitative respiratory equipment fit testing with a challenge atmosphere is currently in use and that purchase of quantitative fit testing equipment will be considered for 1983.



#### 3.4.4 Significant Appraisal Finding D.4

"Establish adequate respiratory protective equipment testing, storage, control, and issuance program and procedures."

##### Inspector Finding

The licensee stated in the response of April 30, 1982 that the use of respirators is controlled by the licensee Radiation Work Permit program. Only workers who have been respirator trained, fit tested, and have a current physical exam on file are allowed to sign in on work permits requiring respiratory protection equipment. The inspector reviewed a sampling of recent work permits requiring respiratory protection equipment and found the respiratory protection qualification documentation for all listed workers was complete.

Respiratory protection equipment is currently stacked in unmonitored open bins, in the corridor leading to the Reactor and Turbine Buildings. The inspector found unused respiratory protection equipment at various locations in the reactor building: on floors, tables, and stairs. This storage method could allow unauthorized individuals to obtain and use respiratory protection equipment, although no cases of equipment misuse were identified. No jobs requiring respiratory protective equipment were in progress during the inspection.

The licensee stated that respiratory protection equipment storage and issue control would be reviewed. The licensee plans to store all respirators one deep on shelving which has been ordered but not received.

The licensee does not currently have the equipment required to quantitatively test respiratory protection equipment. The licensee stated in the April 30, 1982 response that consideration will be given to purchasing quantitative test equipment in 1983. The licensee is revising the health physics procedure containing equipment storage, testing, and issuing instructions and expects to implement the modified procedure by September 30, 1982.

The licensee procedure covering equipment storage, testing and issuing will be reviewed in a future inspection (333/82-13-08).

#### 3.4.5 Significant Appraisal Finding D.5

"Establish an internal dosimetry quality assurance program and procedures consistent with ANSI N343 and Chapter 10 of NUREG-0041."

##### Inspector Finding

The licensee stated in the response of April 30, 1982 that the quality assurance requirements of ANSI N343, American National Standard for Internal Dosimetry for Mixed Fission and Activation Products, 1978, and Chapter 10 of NUREG-0041, Manual of Respiratory Protection Against Airborne Radioactive Materials, 1976, which pertain to internal dosimetry will be

implemented by procedure by September 30, 1982. Among the requirements will be the use of additional source types for routine operational checks of the whole body counter and the use of a wider range of source activities for routine calibration of the whole body counter.

The licensee currently uses a Na-22 source for daily energy and efficiency calibrations, a Co-60 source for weekly efficiency checks, and a variety of nuclides for annual energy and efficiency calibrations.

The licensee procedures covering QA of the whole body counter will be reviewed during a future inspection (333/82-13-09).

#### 3.4.6 Significant Appraisal Finding D.6

"Establish means to ensure respiratory protective equipment is not routinely used in airborne radioactivity concentrations whose MPC fraction exceeds the protection factor of the equipment."

##### Inspector Finding

The licensee stated in the response of April 30, 1982 that procedures will be developed to require investigations and recommend corrective actions for incidents where the MPC fraction of airborne radioactivity exceeds the protection factor of respiratory protective equipment. The procedures under development include: RPOP-6, "Respiratory Protection;" RPOP-7, "Radiological Incident Reporting and Review;" and CRI-6, "Whole Body Counter - Operation and Calibration."

The inspectors reviewed a sampling of airborne radioactive material surveys for radiation work permits which required the use of respiratory protective equipment and found no cases where the licensee knowingly used respiratory protective equipment with insufficient protective factors. However, the inspector noted one case where failure to properly use engineering controls lead to the use of respiratory protective equipment with insufficient protection factors (Detail 3.4.7).

At the exit meeting, the licensee stated that administrative controls to prevent the use of respiratory protective equipment with insufficient protection factors will be reviewed. The licensee program to prevent the routine use of respiratory protective equipment in cases where the equipment has an insufficient protection factor will be reviewed during a future inspection (333/82-13-10).

#### 3.4.7 Significant Appraisal Finding D.7

"Establish a program and procedures to assure that process or other engineering controls are used to the extent practicable to limit the concentrations of airborne radioactive materials."

### Inspector Finding

The licensee stated in the response dated April 30, 1982, that use of engineering controls will be formally included in the licensee ALARA program (see Detail 3.7.1).

Licensee procedure RPOP-4, "ALARA Review," Revision I, February 1982, requires that process or engineering controls be considered if airborne radioactivity levels exceed 1 MPC. This is not consistent with 10 CFR 20.103(b)(1) which requires that process or engineering controls be used to the extent practicable to limit airborne radioactivity levels to below 25 percent of the amounts specified in 10 CFR 20, Appendix B, Table I, Column I, when averaged over the occupancy time in any seven days.

On November 1, 1981, an auxiliary ventilation unit was installed but not properly operated during approximately 60 percent of chipping and grinding work performed in accordance with RWP 4883(s). The work took place on the reactor building refuel floor, inside a tent. Prior to using the auxiliary ventilation, the concentration of airborne radioactivity inside the tent reached 176 times the amounts specified in 10 CFR 20 Appendix B, Table I, Column I. The average level of airborne radioactive material in the tent was greater than 100 times the values specified in 10 CFR 20 Appendix B, Table I, Column I, when averaged over the duration of the job. Failure to use the auxiliary ventilation unit, to the extent practicable, is a violation of 10 CFR 20.103(b)(1) (333/82-13-11).

#### 3.4.8 Significant Appraisal Finding D.8

"Establish a program and procedures for calibration and quality assurance checks of the whole body counter consistent with the recommendations of ANSI N343."

### Inspector Finding

See Detail 3.4.5.

#### 3.5 Surveillance Program

##### 3.5.1 Significant Appraisal Finding E.1

"Establish and implement a formally documented and approved routine plant radiation and contamination Surveillance Program."

### Inspector Finding

The licensee stated in the response of April 30, 1982, that a formal procedure will be developed by September 30, 1982. The procedure will include instructions on the performance and frequency of routine radiation and contamination surveys as well as reporting criteria and corrective actions. The licensee response also stated that the surveillance program is presently assigned to an RES Technician on an informal basis with regard to instructions and frequency.

The inspector interviewed the licensee personnel in charge of routine surveillance activities who stated that the reactor building was routinely surveyed once a week for both radiation and contamination. However, the inspector found no records of routine radiation surveys of the Reactor Building for the period May 10 to June 11, 1982. The licensee had documented contamination surveys of the Reactor Building for this period and also had radiation surveys of the areas in the Reactor Building where work requiring an RWP was conducted.

At the exit meeting, the licensee stated that a formal procedure for routine radiation and contamination surveys of the Reactor, Turbine, and Rad Waste Buildings showing survey frequencies and locations will be implemented by June 30, 1982.

The routine radiation and contamination survey program will be examined during a future inspection (333/82-13-12).

### 3.5.2 Significant Appraisal Finding E.2

"Establish formal procedures on the type of radiation surveys required prior to issuance of Radiation Work Permits."

#### Inspector Finding

The licensee stated in the response of April 30, 1982, that formal procedures specifying which types of radiation surveys are required for various kinds of Radiation Work Permits will be implemented by September 30, 1982.

The inspectors reviewed a sampling of Radiation Work Permits for the 1981-82 refueling outage and found one instance on December 28, 1981, where a work permit required the use of respiratory protective equipment, but did not require air samples to be taken during the work. The work permit, RWP 8824(s), was for snubber work on the 292 foot level of the drywell. No air samples were taken during the work under this permit, although later snubber work produced airborne concentrations of radioactive material of 36 percent of the values in 10 CFR 20 Appendix B, Table I, Column I.

Failure to conduct air sampling during the work covered by Radiation Work Permit 8824(s) is a violation of 10 CFR 20.201 (333/82-13-13).

At the exit meeting, the licensee stated that formal procedures specifying which types of radiation surveys will be required for various kinds of radiation work permits will be implemented prior to any planned outage occurring after August 1, 1982, or by September 30, 1982, whichever occurs first (333/82-13-14).

### 3.5.3 Significant Appraisal Finding E.3

"Obtain and utilize appropriate airborne radioactivity sampling equipment and media with known sampling, collection, and retention efficiencies for iodine."

#### Inspector Finding

The licensee stated in the April 30, 1982 response that sampling equipment has been upgraded and that certified charcoal cartridges are now being used.

The inspector verified that the licensee has equipment capable of taking both high volume and low volume air samples. The inspector also verified that the licensee is using media with known sampling collection and retention efficiencies for iodine.

### 3.5.4 Significant Appraisal Finding E.4

"Enforce personnel contamination self-survey requirements upon departure from contaminated areas and furnish an adequate number of portal monitors at appropriate locations."

#### Inspector Finding

The inspector observed that licensee personnel did not routinely frisk prior to leaving the radiologically controlled area at the radiation protection office access point. Instead, most individuals exited the area through a National Nuclear portal monitor.

The licensee representative stated that the portal monitor was set to routinely detect 405 nCi (891,000 dpm) or more of radioactivity. The inspector obtained plant contamination swipes and observed that the portal monitor would occasionally detect activity as low as 123 nCi (273,000 dpm).

The inspector noted that the licensee had friskers available (Eberline RM-14 Radiation Monitors with HP-210 probes) which could routinely detect 2 nCi (5,000 dpm) of activity or less in normal background radiation fields.

The licensee stated in a telephone conversation on June 23, 1982, with Region I personnel that all personnel who enter areas with known radioactive contamination or areas with high potential to become contaminated will do a complete whole-body frisk, after exiting the contaminated area and prior to leaving the radiologically controlled area. In addition, all personnel will be required to conduct a minimum of a hand and foot frisk at the exit points to the radiologically controlled area. The licensee stated that licensee personnel will begin implementing the new frisking requirements by June 25, 1982, and that appropriate procedural

changes and training will be completed by July 30, 1982. The licensee stated that the sensitivity of portal monitors would be reviewed prior to purchasing additional units.

The inspector subsequently reviewed a memo from the Resident Plant Manager to all plant personnel, dated June 25, 1982, which outlined the sensitivity problem with the portal monitors and instituted the above frisking policy.

The licensee program for personnel contamination self-survey will be reviewed during a subsequent inspection (333/82-13-15).

### 3.6 Radioactive Waste Management Program

#### 3.6.1 Significant Appraisal Finding F.1

"Formally assign radioactive waste shipping responsibilities."

##### Inspector Finding

The inspectors review of this finding indicated that the licensee established and implemented Procedure No. F-DP-488, "Waste Packaging and Handling" on May 11, 1982. The procedure formally assigns the Operations Superintendent responsibility for ensuring contaminated material is correctly packaged and shipped. Also, the procedure formally assigns responsibility for collection and transportation of waste to the assembly area, as well as compacting, surveying, and labeling of waste.

#### 3.6.2 Significant Appraisal Finding F.2

"Promptly repair and utilize the off gas treatment system."

##### Inspector Finding

This finding was not reviewed during the inspection. The repair and use of the off gas treatment system will be reviewed during a subsequent inspection. (333/82-13-16).

#### 3.6.3 Significant Appraisal Finding F.3

"Review radioactive waste storage areas, including temporary storage areas which had not been previously reviewed, to ensure a documented 10 CFR 50.59 evaluation is on file."

##### Inspector Finding

This matter was not reviewed during this inspection. The status of 10 CFR 50.59 evaluations will be reviewed during a future inspection (333/82-13-17).

#### 3.6.4 Significant Appraisal Finding F.4

"Establish and implement radioactive waste shipping cask loading and closure procedures to meet the requirements of 10 CFR 71.54."

##### Inspector Finding

The inspectors review indicated that the licensee had established and implemented handling procedures in January 1982 for all shipping casks used at the FitzPatrick Nuclear Power Plant. The procedures include loading and closure of the casks and appeared to meet the requirements of 10 CFR 71.54.

#### 3.6.5 Significant Appraisal Finding F.5

"Establish and implement means to maintain and update documents required to be on hand prior to shipment of radioactive waste."

##### Inspector Finding

The inspectors review indicated that the licensee had established and implemented procedures which assigned responsibility to maintain and update documents required to be on hand prior to shipment of radioactive waste. The inspectors reviewed documents for three radioactive waste shipments by the licensee in 1982 and noted no violations.

#### 3.6.6 Significant Appraisal Finding F.6

"Establish and implement a radioactive waste shipping records program which meets the requirements of 10 CFR 71.62."

##### Inspector Finding

The inspectors review indicated that the licensee established and implemented procedures in March 1982 which contain copies of the records required for shipment of radioactive waste and instructions for completing the records. The inspectors reviewed records of three radioactive waste shipments by the licensee in 1982. No violations of 10 CFR 71.62 were noted.

#### 3.6.7 Significant Appraisal Finding F.7

"Establish and implement a quality assurance program to assure radioactive waste is packaged, transported, and transferred in accordance with applicable regulatory requirements."

##### Inspector Finding

This finding was not reviewed during the inspection. The transportation QA program will be reviewed during a future inspection (333/82-13-18).

### 3.7 ALARA

#### 3.7.1 Significant Appraisal Findings G.1 and G.2

- "Establish, document, and implement a formal corporate and plant ALARA program that conforms to the guidance in Section C of Regulatory Guide 8.8, and to Regulatory Guide 8.10."
- "Provide full-time professional level manning plus the necessary supporting personnel to operate the plant ALARA program and provide the necessary corporate level manpower."

#### Inspector Finding

The licensee April 29, 1982 response states that ALARA activities are performed by both corporate and plant staff. The response also states that major aspects of the program will be completed prior to the May 1983 outage. The licensee has issued a plant ALARA procedure: RPOP-4, "ALARA Review", Revision I, February 1982, containing basic ALARA control techniques and an ALARA review check list.

The licensee currently uses a contract ALARA engineer to coordinate the ALARA program. An RES technician assists the ALARA engineer. The inspector found that the ALARA engineer was actively involved in the planning and evaluation of work with radiological significance.

The licensee is in the process of installing a dose tracking computer system (the Radiation Exposure Management or REM system). The system is currently able to print graphs showing plant accumulated occupational doses vs. time. The system is expected to be fully operational by the end of 1982.

At the exit meeting, the licensee stated that full ALARA evaluations will be conducted and radiation dose goals established prior to the next planned outage (expected later this year). In addition, the licensee will implement the full ALARA program with procedures prior to the 1983 refueling outage.

Implementation of the ALARA program will be examined during a future inspection (333/82-13-19).

#### 3.7.2 Significant Appraisal Finding G.3

"Provide procedural action levels in Radiation Work Permit review, planning and job review, consistent with good ALARA principles."

#### Inspector Finding

The licensee has incorporated action levels for initiating ALARA reviews into Procedure RPOP-4, "ALARA Review," Revision I, February 1982. These



action levels appear consistent with good ALARA principles. The inspector had no further questions.

### 3.8 Facilities and Equipment

#### 3.8.1 Significant Appraisal Finding H.1

"Locate clothing change areas and personnel access control points consistent with ALARA principles."

##### Inspector Finding

The inspector verified that radiation exposure rates in and around licensee change areas and access control points during the time of the inspection were consistent with ALARA principles. The inspector had no further questions.

#### 3.8.2 Significant Appraisal Finding H.2

"Reinstitute quantitative fit testing program using appropriate equipment for quantitative fitting of respirators and for retesting of repaired equipment."

##### Inspector Finding

See Details 3.4.3 and 3.4.4.

#### 3.8.3 Significant Appraisal Finding H.3

"Provide additional personnel contamination frisking stations at appropriate locations to create conditions under which the procedure for personnel contamination self-surveys can be conscientiously followed."

##### Inspector Finding

See Detail 3.5.4.

### 4. Licensee Action on Previously Identified Inspection Findings

(Closed) IFI (333/81-10-02): Document an on-the-job training program for radwaste operators with sign-off sheets. The inspector verified by review of radwaste operator training records that the licensee had implemented documented on-the-job training, with a training outline and completed training sign-off for radwaste operators.

(Closed) Noncompliance (333/81-22-01; 333/81-28-01; 333/81-29-01): Liquid waste transferred in prohibited form; Liquid leaking from waste drum; Liquid leaking from LSA box. The inspector verified that corrective actions were adequate and as described in the licensee's response to Region I dated February 8, 1982.

5. Additional Inspector Findings

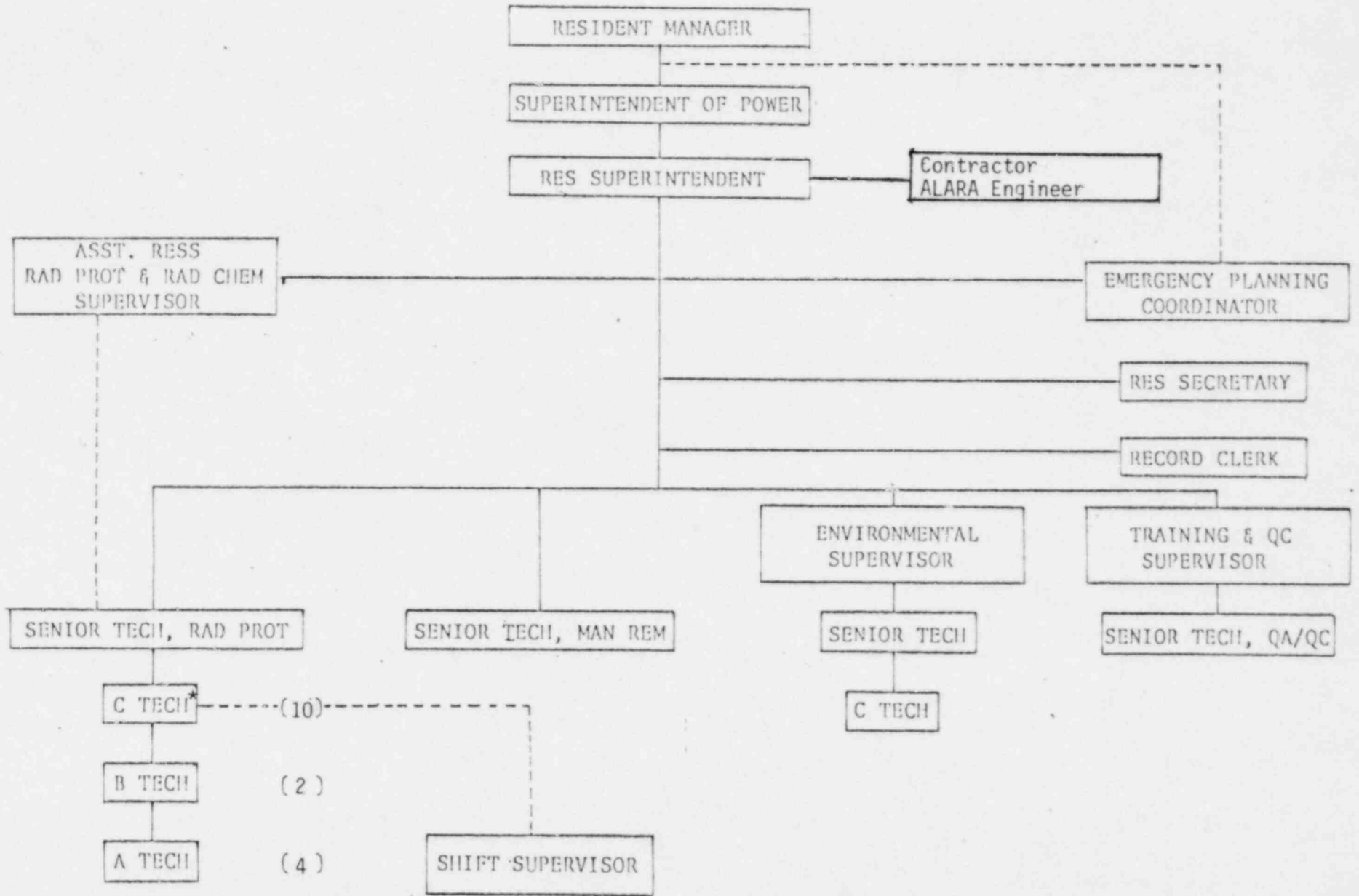
On June 16, 1982, the inspector found several boxes (labeled condenser tubes) stored in an unposted outside area, adjacent to the building housing the C Auxiliary Boiler. The box labels stated the boxes had contact readings of 0.4 to 0.8 mR/hr, which indicate activity greater than ten times the amounts specified in 10 CFR 20, Appendix C. Failure to post the area is a violation of 10 CFR 20.203(e)(1), which requires that any area in which radioactive material is stored in quantities greater than ten times the amounts listed in 10 CFR 20, Appendix C be posted with a sign bearing the radiation caution symbol and the words: Caution (or Danger), Radioactive Materials (333/82-13-20).

6. Exit Interview

The inspectors met with licensee representatives (denoted in paragraph 1) at the conclusion of the inspection on June 18, 1982. The purpose, scope, and findings of the inspection were summarized at that time.

FIGURE 1

RADIOLOGICAL AND ENVIRONMENTAL SERVICES DEPARTMENT ORGANIZATION



\*One C Technician works with ALARA Engineer.