

U. S. ATOMIC ENERGY COMMISSION
DIRECTORATE OF REGULATORY OPERATIONS
REGION I

RO Inspection Report No.: 50-219/74-06
Licensee: Jersey Central Power and Light Company
Madison Avenue at Punch Bowl Road
Morristown, New Jersey 07960

Docket No.: 50-219
License No.: DPR-16
Priority: I
Category: _____

Location: Oyster Creek Station

Type of Licensee: BWR, 640 MWe

Type of Inspection: Routine, Announced

Dates of Inspection: April 22-26, 1974

Dates of Previous Inspection: December 26-28, 1973

Principal Inspector: *John Mann*
John Mann, Radiation Specialist

5-9-74
DATE

Accompanying Inspectors: _____

DATE

DATE

DATE

Other Accompanying Personnel: _____

DATE

Reviewed By: *R. J. Mayer*
for P. J. Knapp, Section Chief, Radiological
and Environmental Protection Branch

DSSI

5/14/74
DATE

SUMMARY OF FINDINGS

Enforcement Action

None

Licensee Action on Previously Identified Enforcement Items

None

Unusual Occurrences

None

Other Significant Findings

A. Current Findings

The plant was in the second week of the scheduled outage. Twenty-eight temporary radiation protection personnel have been hired for the duration of the outage. Personnel exposures and all aspects of the health physics program are well controlled.

B. Status of Previously Reported Unresolved Items

None

Management Interview

The following individuals attended the management interview held at the conclusion of the inspection:

- D. A. Ross, Manager, Nuclear Generating Stations (via telephone intercom)
- D. L. Reeves, Chief Engineer
- E. D. Scalsky, Radiation Protection Supervisor
- J. T. Carroll, Jr., Station Superintendent

The following subjects were discussed:

1. The first revision to the Radiation Protection Manual will go to the printer on June 15, 1974. This revision will include management statements on ALAP, according to the licensee. (Details, Paragraph 8)

2. The licensee stated that a new Respiratory Protection Manual which incorporates ANSI Z88.2 recommendations for procedures will be completed by September, 1974. (Details, Paragraph 7)
3. Three constant air monitors for particulates, iodines and radiogases are on order and will be into service in the Turbine Building, Drywell and Control Room as soon as they are received. A fourth unit is now in continuous operation on the 119 ft. level in the Reactor Building. (Details, Paragraph 4b)
4. A new training manual covering orientation, training and re-training in radiation protection has been drafted and is being reviewed. The program will start as soon as management approval is obtained. (Details, Paragraph 2c)
5. The inspector stated that the radiation protection program setup for the shutdown period appeared to conform with the general concepts of Regulatory Guide 8.8, "ALAP".

DETAILS

1. Persons Contacted

E. D. Scalsky, Radiation Protection Supervisor
R. A. Heffner, Engineering Assistant
D. A. Arbach, Radiation Protection Foreman
T. Rayment, Radiation Technician
R. L. Stoudnour, Staff Engineer
J. R. Pelrine, Chemistry Foreman
J. R. Molnar, Shift Foreman, Training
R. McKeon, Shift Foreman, Operations

2. Administration

a. Organization

Organization and staffing are as shown in RO:I Report 73-23, except that all technician positions have been filled. In addition, 26 radiation technicians and 2 supervisors have been hired from an outside firm for the duration of the outage. This group reports to the radiation protection supervisor and assists in the special radiation protection activities necessary during the outage. Qualifications of these personnel are in accord with ANSI N18.1 standards. Thirteen technicians and one supervisor from this group are assigned to each of two 12 hour shifts, in addition to the JCPL shift foreman and technicians. All radiation protection personnel on shift report to the radiation protection supervisor.

b. Disciplinary Program

A three page document titled "Guide for Correcting Violations of the Radiation Protection Procedures through Disciplinary Action" was issued to all employees in February 1974. The guide clearly sets forth specific actions for each violation based on its severity.

c. Training

The training of personnel in plant radiation protection procedures includes:

- (1) A 3 week orientation for all new plant employees, technical and non-technical.
- (2) Operator retraining for re-qualification.

- (3) The requirement that maintenance, station helper, and other personnel attend those portions of operator re-training sessions pertaining to radiation protection.
- (4) Re-training for all personnel in basic radiation protection annually, in addition to more detailed, specialized retraining for certain personnel.
- (5) A four-hour orientation for all contractor personnel in radiation protection including respiratory protection, ALAP responsibilities and controlled area procedures.

A complete training manual containing all these programs has been drafted and will be approved. All training is documented with dates, test scores, and subject matter.

3. Records

a. Radioactive Liquid Releases

TS 4.6.B.(2) requires that records of releases be maintained and that releases shall be analyzed such that 10 CFR 20 limits are not exceeded. Dilution flow is calculated for one-tenth of 10 CFR 20 limits. Records from December 2, 1973 to date were examined. It was noted that processed water was returned to the hotwell when capacity permitted, rather than being discharged to the canal. All laboratory results, calculations and dilution water capacities were recorded as required. No releases exceeded 1/10 10 CFR 20 limits.

b. Radioactive Gas Releases

TS 4.6.B.(1) requires that records of releases be maintained. TS 3.6.A.1 and .2 states the limit for gaseous activity released. Records of release rates from December 29, 1973 thru April 23, 1974 were examined. No releases exceeded 2% of TS limits.

c. Personnel Exposure Records

Dosimeter results from September, 1973 to date and personnel files were examined. The highest exposure recorded for the 4th quarter of 1973 was 2000 mrem. Film badges have been replaced with TLD badges as of January, 1974. A commercial services reads a portion of each dosimeter and supplies a record of dose readings. The licensee has the option of reading out certain areas of the TLD element as often as necessary for interim dose determinations.

d. Radiation Work Permits

RWP's for 1974 were examined for content and completeness of necessary information. The inspector examined two of these jobs in detail, as described below, to determine if the necessary precautions, measurements and samples had been taken before, during and after the job to determine whether good radiation protection principles were followed by the licensee.

- (1) RWP SD-93-74 April 17, 1974 0945 hrs. "Remove and Replace Control Rod Drives in CRD Room".

The job was still in progress during the inspection; the inspector observed several phases of the job.

The inspector requested the following supportive data obtained by the licensee before and during the job:

Radiation Surveys
Smear Surveys
Airborne Contamination and Radiogas Samples
Personnel Dosimetry Results

The data was made available as requested. The inspector's review of the data showed that all necessary surveys, samples and procedures had been carried out by the licensee.

- (2) RWP SD-213-74 April 22, 1974 1100 hrs. "Inspect Miscellaneous Torus Underwater Structures, Canal Fittings, Support Brackets, etc".

Special Instructions: Use life-line Protective Equipment: Diving Suit.

Other job requirements, data and records were complete as with the previously examined job.

4. Use of Radiation and Radioactivity Measuring Instrumentation

a. Area Radiation Monitors

A total of 42 Area Radiation Monitors (ARM) units are in use. Units in the personnel lock to the Reactor Building and on the Turbine Building operating floor are equipped with evacuation alarms. With the exception of certain units in the Radwaste Building, set points are 5-10 mr/hr. Locations are:

<u>Area</u>	<u>Number of Units</u>
Reactor Building	22
Turbine Building	13
Radwaste Building	5
Pipe Tunnel	<u>2</u>
TOTAL	42

b. Airborne Radioactivity Monitoring

At present only one Constant Air Monitor (CAM) is in use for fixed, routine area sampling. This is a NMC Model CRM located on the Fuel Pool Floor. It monitors and records particulate, iodine and radiogas activity. Three additional CAM's of this type were ordered and are due to arrive at any time. These will be put into service in the Turbine Building, Drywell and Reactor Control Room. All units are semi-portable for ease in changing locations. A dual stack sampling system is located in the stack building with read-out in the control room. A steam jet air-ejector monitor also has a control room read-out. These two samplers were designed and installed by G. E.

Portable samplers with filter paper and charcoal cartridge heads are used extensively at all job locations involving potential airborne activity. A detailed procedure is used to calculate occupancy time for xenon, iodine and particulate activity levels. Inspection findings showed adequate coverage of jobs in process.

c. Portable Instruments

A check of available instruments showed all to have had an up-to-date calibration and to be in good working order. A new calibration record log has been put into effect to insure quarterly calibration frequency. A total of 60 instruments are on hand covering a wide range of detector types and dose ranges.

5. General Health Physics Operation

The inspector examined control point locations and procedures for controlling the spread of contamination and personnel exposures. All areas with a potential for contamination or external exposure are zoned and under the control of a full-time health physics technician around-the-clock. Step-off-pads are clearly marked. Protective clothing requirements are posted. A supply of necessary items is available at the entry-way. RWP's are posted nearby, for

all jobs in process. Personnel are required to log in and out and record dosimeter readings. Daily dose accumulations for all personnel are furnished to each control point. No personnel may enter unless their accumulated exposures are below certain administrative limits as of that day.

TLD badges are used for exposure accumulations. Although pocket dosimeters are used for daily dose accumulations, the TLD's can be read out immediately if necessary, without losing the record of monthly accumulation. Personnel are generally aware of ALAP concepts. Work practices observed by the inspector support this observation. All personnel leaving the main control point are required to exit through portal monitors. Special procedures have been written for certain non-routine jobs. These procedures are posted at the control point.

6. Radiation Areas and Contamination Zones

Housekeeping, contamination control and use of radiation and high radiation areas are in accord with ANSI N45.2.3, 10 CFR 20 and generally accepted health physics practices. For the duration of the shutdown, contamination zones with access control points have been setup on several levels of the Reactor and Turbine Buildings. These zones are defined for personnel access control and control of potential contamination of personnel and equipment rather than to define actual areas of contaminated floor or equipment.

7. Respiratory Protection

The radiation protection supervisor is responsible for the program. Day-to-day operation of the program is assigned to one of the radiation protection foreman who issues, fits, inspects, trains the users and oversees the cleaning, maintenance and storage of the respirators. A manual incorporating existing procedures and new procedures covering fitting, selection and use is in preparation and will be completed by September, 1974.

8. ALAP

The radiation protection supervisor is responsible for the ALAP program. His qualifications are consistent with ANSI N18.1 and Regulatory Guide 8.8. A management statement on minimizing exposures is found in a newly written and issued pocket sized radiation protection manual, dated January, 1974. A more definitive statement on managements ALAP position and worker's responsibilities and practices will be included in a revision to the manual. The revision will be approved and delivered to the printer by June 15, 1974, according to the licensee.

The radiation protection supervisor reports directly to the plant superintendent and states that he is independent of the operations function.

Technical and non-technical personnel receive training or orientation in radiation protection fundamentals such that the purpose and restrictions of controlled areas are made known to them. ALAP considerations are included in both orientation and training programs.

All non-routine jobs have written, approved procedures which are available at the location of the job. A complete breakdown of radiation exposures for each job is being made during the current shutdown. This data will be used for future planning in exposure control and reduction of exposures the next time the job is performed.