

U.S. ATOMIC ENERGY COMMISSION

DIRECTORATE OF REGULATORY OPERATIONS

REGION I

RO Inspection Report No.: 50-219/73-23

Docket No.: 50-219

Licensee: Jersey Central Power and Light Company

License No.: DPR-16

Madison Avenue at Punch Bowl Road

- Priority: I

Morristown, New Jersey 07960

Category: C

Location: Oyster Creek Station

Type of Licensee: BWR, 670 MWe

Type of Inspection: Routine, Unannounced

Dates of Inspection: December 26-28, 1973

Dates of Previous Inspection: September 5-7, 1973

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

1-25-74
Date

Accompanying Inspectors: _____

_____ Date

_____ Date

_____ Date

_____ Date

Other Accompanying Personnel: _____

_____ Date

Reviewed by: *Paul B. Nelson*
P. J. Knapp, Section Chief, Radiological and
Environmental Protection Branch

1-25-74
Date

_____ Date

SUMMARY OF FINDINGS

Enforcement Action

A. Violations

1. Failure to follow requirements of the Technical Specifications.
(Details, Section 4)

Licensee Action on Previously Identified Enforcement Items

A. Violations*

Corrective actions described in the licensee's letters** were reviewed and found to be as described. (Details, Section 2)

The effectiveness of these actions will continue to be reviewed during subsequent inspections.

B. Safety Items*

Inspection findings showed that action has been taken to correct previously identified safety items and that these actions are consistent with those described in the licensee's letters.** (Each item is discussed in the Details, Section 2.)

The effectiveness of these actions will continue to be reviewed during subsequent inspections.

Unusual Occurrences

Up to 3000 gallons of contaminated, chromated water leaked from a storage tank truck onto the ground on December 20, 1973. The leakage was reported by telephone the same day. (Details, Section 3)

Other Significant Findings

A. Current Findings

The plant was operated at 95% of rated power. The offgas rate was 24 $\mu\text{Ci}/\text{sec}$ which is 10% of Technical Specification limits.

* RO:I Inspection Report 50-219/73-14.

** Letters, Donald A. Ross to Directorate of Regulatory Operations, Region I, dated November 20, 1973 and December 12, 1973.

Inspection findings showed that a very decided effort has been made to improve radiological safety conditions. Most contamination areas have either been eliminated or reduced to easily manageable size. Step-off pads are clearly marked. Protective clothing is available at the step-off areas when required. Area dose rates are generally 50% lower than those observed during the previous inspection. Staffing in the Radiation Protection group has been completed. A revised Radiation Safety manual and policy statement on disciplinary action reflect the licensee's positive attitudes toward station radiation safety.

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. L. Reeves, Chief Engineer
- E. D. Scalsky, Radiation Protection Supervisor

A summary of the interview was also held via telephone with Mr. D. A. Ross, Manager, Nuclear Generating Stations, on January 3, 1974, due to his absence from the meeting at the conclusion of the inspection.

The following subjects were discussed:

1. The inspector stated that an apparent violation of the RWP Procedure 902.5.5 was observed. It was noted that the violation was corrected immediately after it was noticed in an effective manner. The inspector also stated that the violation was a technical one, in that the posted area in fact did not need to be posted as a contamination zone because of the low levels of contamination existing at the time of the violation. The licensee agreed. (Details, Section 4)
2. The inspector noted that, at present, there are no health physics technicians assigned to shift duty. The licensee stated that shift technicians will be assigned. The status of this program will be reported by February 1, 1974. (Details, Section 2.a)
3. The inspector asked for information on the status of the station disciplinary program. The licensee stated that a formal program will be put into effect the week of January 7, 1974. (Details, Section 2.d)

4. The status of the Radiation Protection Supervisor's membership on the PORC was discussed. The supervisor attends PORC meetings now as an unofficial member. A Technical Specification change making him an official member will be submitted by March 15, 1974.
5. The licensee stated that the revised Radiation Safety Manual will be approved by January 31, 1974 and will be distributed to all employees in a pocket-size edition.
6. The inspector recommended that the licensee conduct a study of the turbine building ventilation system in order to eliminate this as a source of unmonitored effluent air. The licensee agreed to do so. (Details, Section 5)
7. The status of the chromated water storage tank-trailers was discussed:
 - a. All trailers are now heated and/or heat-traced.
 - b. Surveillance frequency has been increased to hourly.
 - c. A 50,000 gallon rubber storage bag will be placed outside to provide interim storage until a chromate processing system can be installed. (Details, Section 3)

DETAILS

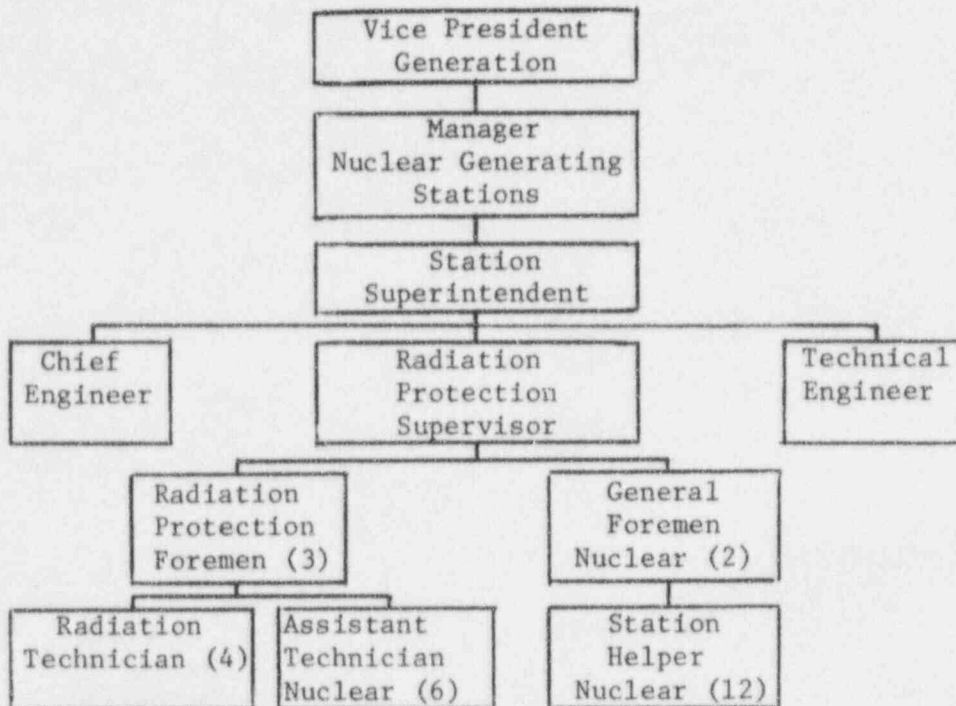
1. Persons Contacted

D. L. Reeves, Chief Engineer
E. D. Scalsky, Radiation Protection Supervisor
A. Maloney, Operations Supervisor

2. Administration

a. Organization

A re-organization of the Radiation Protection Department was put into effect during the third quarter of CY 1973 as shown:



A new Radiation Protection Supervisor and two new Radiation Protection Foremen have been hired since September 1973. There are presently seven technicians, instead of the ten specified in the organization. The licensee explained that the normal turnover rate and job posting and bidding procedures account for this. These vacancies were filled earlier, and are expected to be filled again within two months. Qualifications of these personnel appear to meet the requirements of ANSI N18.1.

Six of the Station Helper-Nuclear personnel are responsible for decontamination and general housekeeping. The other six are presently assigned to the Operations Engineer.

b. Radiation Protection Courage on Shift

The inspector suggested that health physics activities on the PM and Midnight shifts be handled by Radiation Technicians. A licensee representative stated that this subject was already under consideration as a result of a corporate management audit. It has been discussed with bargaining unit representatives. The licensee stated that the status of implementing shift technicians will be reported by February 1, 1974.

c. Administrative Controls

The new Radiation Protection Supervisor now has the responsibility for investigating all violations or deficiencies found by internal audit, or reported to him by his radiation protection personnel. He has the authority to require the appropriate station supervision to correct deficiencies and to discipline violators. In addition, he has the authority to modify or suspend an operation that is not in keeping with the "as low as practicable" concept for personnel radiation exposures. A licensee representative stated that the Radiation technicians are backed by the Radiation Protection Supervisor to any extent necessary to insure that station radiation protection procedures are followed.

d. Discipline Program

The licensee stated that a three page policy statement on discipline has been written and approved. It is to be issued to all employees during the week of January 7, 1974. A summary of the policy statement is also included in the Radiation Safety manual and will be issued to each station employee as soon as it is printed.

e. Plant Operating Review Committee (PORC)

Minutes of the PORC from September 1973 to date were reviewed. The inspector observed that the deficiencies noted in the previous inspection* had been corrected. The Radiation Protection Supervisor has been made an ex-office member of the PORC. A TS change making the Radiation Protection Supervisor a regular member will be submitted by March 15, 1974.

* RO:I Inspection Report 50-219/73-14.

f. Procedures and Records

Radiation Protection procedures were reviewed. It was noted that all changes were properly dated, initialled and approved. A new procedure for the removal of contaminated filter elements had also been written, approved and implemented. The Radiation Safety Manual has been revised and was reviewed by the inspector. It is to be approved by January 31, 1974 and issued to all employees in a pocket-size edition as soon as it is printed, according to the licensee.

Radioactive Work Permits from September 1973 to date were reviewed. The inspector observed that the revised RWP's were properly filled out and included all required information.

g. Training

Additional on-the-job training is now given daily to employees working in posted areas. The Radiation Protection Supervisor and his foremen make daily tours through the station and conduct brief, "question-and-answer" sessions with groups of employees. Radiation survey sheets are now posted in each area. The inspector observed that employees are much better informed of hazards and exposure levels in their work areas as a result of these programs. The foremen now spend approximately two-thirds of their time in the field, according to the licensee.

3. Chromated Water Spill

On December 20, 1973, up to 3000 gallons of chromated water leaked from a tank truck onto the ground. The activity concentration in the water was estimated to be 4.5×10^{-4} $\mu\text{Ci/ml}$ of Cs-134, Cs-137 and Co-60. The area affected was roped off and posted as a contamination zone. There are approximately 100,000 gallons of chromated water, according to the licensee, stored as follows:

- a. Three fiber glass tanks, 12,000 to 15,000 gallons each, heated and located on curbed, concrete pads.
- b. One steel tank, capacity not stated.
- c. Eleven trailer tank-trucks, 3,000 to 5,000 gallons each.
- d. A 50,000 gallon rubber bag, located under the torus, approximately half-full.

The inspector stated that this storage can no longer be considered temporary and asked the licensee how they plan to solve the problem. The licensee stated that:

- a. Temporary heaters and heating tape were installed on the trailers on December 27 to prevent freezing of the valves and tank contents.
 - b. Permanent heaters will be installed as soon as a supplier can deliver.
 - c. Surveillance of the trailers has been increased to one tour per hour. A visual inspection of tanks and valves for leaks is made on each tour.
 - d. A second 50,000 gallon rubber bag will be placed out-of-doors in a suitable, lined pool or trough and fenced in. It is planned to eliminate all or at least all but one of the trailer tanks. This will be done within 3 months.
 - e. A chromate processing system will be installed to remove chromates from the water to permit its re-use. Plans for completion of the system hinge upon a research pilot study now in process. This will be the permanent solution to the problem.
4. During the inspection of the area, the inspector and a licensee representative observed four contractor employees working inside of the roped-off area, preparing to drill some test-wells. The employees were not wearing any protective clothing. An RWP had been issued for the job and was observed to be properly filled out including the requirement for surgeon's cap, 1 pair coveralls, rubbers, disposable booties and neoprene gloves. The licensee took immediate corrective action and within 5 minutes the inspector observed that all improper conditions had been corrected. Data from a contamination survey taken earlier in the day became available shortly after the incident which showed that contamination levels were low enough that the area did not need to be roped-off and posted. The inspector stated that although the violation was a technical one, it still emphasized the need for surveillance of all RWP type jobs in process. The ropes and signs were subsequently removed by the licensee.

5. Turbine Building Vents

The inspector observed that ventilation air in the turbine building can leave via roof-vents. There are presently no air samplers or

monitors in the building. The inspector stated that this constituted a potential unmonitored gaseous effluent path. It was suggested that the licensee investigate the possibility of re-routing exhaust air to a monitored stack or else installing an air sampler near the roof vents. The licensee agreed to do this.

6. Liquid Radioactive Waste Disposal

A schematic diagram of the system is shown in Appendix A. The licensee stated that at the present time the only waste discharged to the canal is from the laundry drain tank. All other liquids are processed and recycled for re-use. All sample tanks are recirculated during sampling.

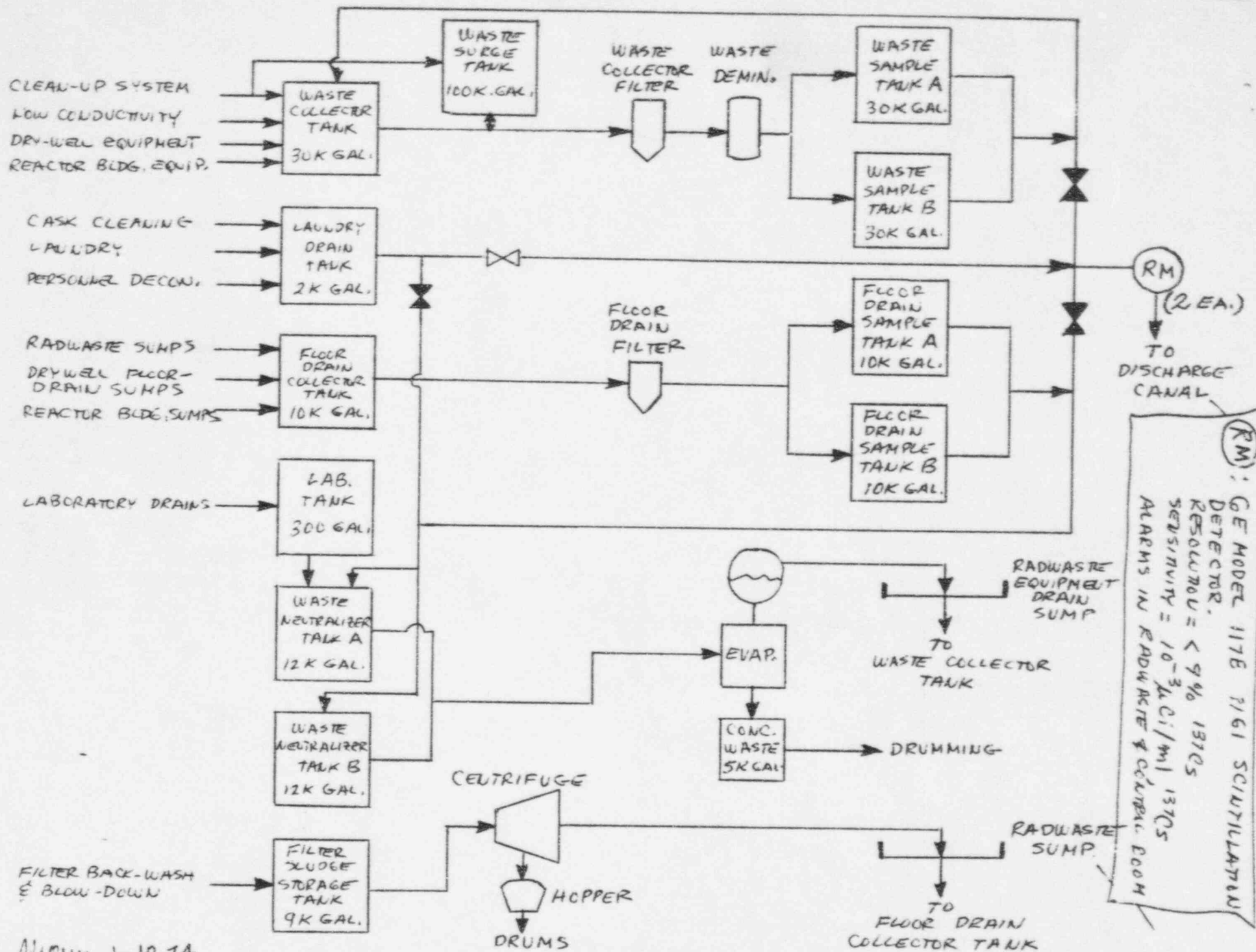
High purity, low conductivity wastes are filtered and demineralized in the waste collector portion of the system. These are primarily drywell and reactor building equipment wastes of known purity. This water is all recycled. Laundry waste is from the laundry, personnel decontamination showers and cask cleaning pool. This waste is discharged directly to the canal after sampling.

Low purity, high-conductivity wastes are processed in the floor drain collector tank and lab tank portion of the system. The floor drain collector tank receives water from the Radwaste Building sumps, drywell floor drain sumps and Reactor Building sumps. This water is filtered and stored in the two Floor Drain Sample Tanks. These tanks are recirculated for sampling, then the waste is put into the Waste Neutralizer Tanks. Laboratory drain waste from the Lab Tank is routed to Waste Neutralizer Tank A only. Caustic or acid is added to the solutions in the Waste Neutralizer Tanks to adjust the pH to 8-10. This pH value allows the evaporator to operate at maximum efficiency. Liquid from these two tanks is then processed in the evaporator. The distillate will be a high-purity, low conductivity waste so it is returned to the waste collector for re-use via the Radwaste Equipment Drain Sump. Evaporator bottoms are stored in the concentrated waste tank. The bottoms are then solidified and barrelled for offsite disposal. This last step is presently done by an outside contractor in a large, steel-lined concrete cask, according to the licensee.

Back-wash and blowdown waste from the filters is accumulated in the Filter Sludge Storage Tank. The centrifuge then removes free water, and the sludge is placed into drums. The decantate is returned to the Floor Drain Collector Tank via the Radwaste Sump.

Fuel Pool Water is processed and recycled in a separate loop (not shown) consisting of a filter and demineralizer. Make-up is from Condenser Demineralizer Water.

The licensee stated that the station will eventually recycle all water for reuse with none being discharged to the canal.



(RM): GE MODEL 117B 7161 SCINTILLATION DETECTOR.
 RESOLUTION = < 9% 137CS
 SENSITIVITY = 10⁻³ μCi/ml 137CS
 ALARMS IN RADWASTE & CONTROL ROOM

March 1-10-74

APPENDIX A

MEMO ROUTE SLIP Form C-93 (Rev. May 14, 1947) AUCM 0.		See me about this. Note and return.	For concurrence. For signature.	For information.
TO (Name and unit) J. G. Keppler, Chief RT&OB	INITIALS DATE	REMARKS JERSEY CENTRAL POWER & LIGHT COMPANY OYSTER CREEK RO INSPECTION REPORT 50-219/7302		
TO (Name and unit) cc: RO:HQ (5) DR Central Files RS (3) L (13)	INITIALS DATE	REMARKS The subject report is forwarded for your information.		
TO (Name and unit) 1 2	INITIALS DATE	REMARKS		
FROM (Name and unit) Raymond H. Smith, Acting Senior, Facilities Section Region I	REMARKS			
PHONE NO. 201 645-2370	DATE 4-05-73			

USE OTHER SIDE FOR ADDITIONAL REMARKS

GPO : 1971 O - 445-469