

Enclosure 5

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

REGION III

Reports No. 50-254/84-13(DRSS); 50-265/84-11(DRSS)

Docket Nos. 50-254; 50-265

Licenses No. DPR-29; DPR-30

Licensee: Commonwealth Edison Company  
Post Office Box 767  
Chicago, IL 60690

Facility Name: Quad-Cities Nuclear Power Station, Units 1 and 2

Inspection At: Quad-Cities Site, Cordova, IL

Inspection Conducted: July 30 through August 3, 1984

Inspector: *L. J. Hunter for*  
D. E. Miller

8/21/84  
Date

Approved By: *L. J. Hunter for*  
L. R. Greger, Chief  
Facilities Radiation  
Protection Section

8/21/84  
Date

Inspection Summary

Inspection on July 30 through August 3, 1984 (Reports No. 50-254/84-13(DRSS);  
50-265/84-11(DRSS))

Areas Inspected: Routine, unannounced inspection of radioactive waste management programs, including solid radioactive wastes, liquids and liquid radioactive wastes, gaseous radioactive wastes, and transportation of radioactive materials. Also reviewed were past open items and an inquiry from an attorney representing a former contractor employee. The inspection involved 36 inspector-hours on site by one NRC inspector.

Results: No violations or deviations were identified.

~~50-254-13-2421~~ *Supp.*



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## DETAILS

### 1. Persons Contacted

- B. Bielasco, Health Physics Coordinator
- R. Carson, Lead Health Physicist
- J. Forrest, Radwaste Coordinator
- \*L. Gerner, Assistant Superintendent, Administrative and Support Services
- \*D. Gibson, QA Supervisor
- \*T. Kovach, Rad/Chem Supervisor
- V. Neels, Chemist
- J. Piercy, ALARA Coordinator
- \*J. Sirovy, Plant Chemist
- R. Tank, Dosimetry/Records Coordinator
- R. Wiebanga, Chemist
  
- \*A. Madison, NRC Senior Resident Inspector
- \*A. Morrongiello, NRC Resident Inspector

The inspector also contacted several other licensee employees including members of the technical and engineering staffs.

\*Denotes those present at the exit meeting.

### 2. General

This inspection, which began at 10:00 a.m. on July 30, 1984, was conducted to examine the operational radwaste and radioactive material transportation programs. Also reviewed were previous open items and an inquiry from an attorney representing a former contractor employee. Handling of solid radwaste in preparation for transport was observed during the inspection.

### 3. Licensee Action on Previous Inspection Findings

(CLOSED) Open Item (254/84-03-01): Information concerning calibration of high range gaseous effluent monitors. This information has been furnished to the NRC Region III office as committed by the licensee. Several possible problems concerning the calibration were noted during Region III review. Since this detection system is also used at other CECo stations, the problems may exist there also. Adequacy of calibration of Eberline SA-9 monitors is considered an open item; this matter will be pursued generically with CECo (254/84-13-01; 265/84-11-01).

(OPEN) Open Item (254/84-03-02): Lack of documentation to demonstrate compliance with Clarification Item 2 of NUREG-0737, Task Item II.F.1.2. A study was performed by a contractor. The study, which includes calculation of dose rates as a function of time post-accident from all sources, was reviewed by the inspector. The inspector noted that it appeared that the study properly used the NUREG-0737 required design basis shielding envelope for materials contained in the collectors, but different values were used for radioactive concentrations in the sampling piping. This



matter was discussed with the licensee. The licensee stated that the matter would be further reviewed and proper calculations performed. This matter will be further reviewed during a future inspection.

#### 4. Solid Radioactive Waste

The inspector reviewed the licensee's solid radioactive waste management program, including: determination whether changes to equipment and procedures were in accordance with 10 CFR 50.59; adequacy of implementing procedures to properly classify and characterize waste, prepare manifests, and mark packages; overall performance of the process control and quality assurance programs; adequacy of required records, reports, and notification; and experience concerning identification and correction of programmatic weaknesses.

Except for minor changes, solidification of radioactive wastes is being performed in accordance with the Quad-Cities Station Process Control Program, Revision 3, dated March 1983; this program is also described in Inspection Report No. 50-254/83-02; 50-265/83-02. Within the past year, the licensee has changed the type of resin used in some of the stations demineralizers to obtain better removal of organics. The licensee found, while attempting to solidify test samples, that the increased organic content in spent resin prevented adequate solidification when the DOW process was used. No inadequately solidified waste was shipped. The licensee, along with the equipment vendor, is attempting to resolve the DOW process solidification problem. Future use of the DOW process is uncertain. All solidification is currently being performed using cement in 55-gallon drums as described in the process control program.

The inspector reviewed documentation of quality assurance annual audits of solid radwaste conducted during May 1983 and May 1984. The auditors were technically qualified to conduct the audits. No significant observations or findings resulted from the audits, which appear to have been extensive. The inspector also reviewed documentation of quality assurance surveillances performed on each radwaste shipment; several vehicular mechanical problems and some packaging problems were identified during the surveillances. The problems were corrected before the shipments left the station.

The inspector reviewed the licensee's compliance with 10 CFR 61 package classification requirements. The licensee routinely collects a sample of each resin batch and performs gamma isotopic quantification. Quantification of other required isotopes is derived from generic BWR scaling factors obtained from SAI and Impell. The licensee has received vendor performed specific isotopic identification results for seven process streams; the samples were collected and sent to the vendor during October 1983 and January 1984. The isotopic results for transuranics and Sr-90 were not significantly different than predicted by generic scaling factors. Another set of samples (three waste streams) were collected during July 1984, and sent to the vendor for analysis. When sufficient specific information about the relative isotopic content



in the station's waste streams is accumulated, the licensee plans to exclusively use plant specific information for solid radwaste classification.

No violations or deviations were identified.

5. Liquids and Liquid Radioactive Wastes

The inspector reviewed the licensee's reactor coolant and liquid radwaste management programs, including: determination whether changes to equipment and procedures were in accordance with 10 CFR 50.59; determination whether liquid radioactive waste effluents were in accordance with regulatory requirements; adequacy of required records, reports, and notifications; determination whether process and effluent monitors are maintained, calibrated, and operated as required; and experience concerning identification and correction of programmatic weaknesses.

The inspector noted that the licensee is processing and recycling an average of 98 percent of the station's non-sanitary system waste water during plant operating periods, and 100 percent during outage periods; the remaining liquid is disposed of as radioactive effluent after processing.

Starting in May 1984, the station's circulating water system has been operated directly to the river rather than spray canal recycle mode. This change, which increases the station's net electrical output, resulted from alteration of a previous commitment made to a public environmental organization. This change also results in increased dilution flow when radioactive liquids are batch released from the discharge tank to the circulating water system.

During review of the licensee's semiannual effluent reports for 1983, the inspector noted possible errors in several reported values. During discussions with the licensee and review of liquid release documentation, the errors were confirmed. The licensee stated that the errors would be corrected and errata sheets distributed. This matter was discussed at the exit meeting. No other problems were noted.

No problems were noted during the inspector's selective review of required reactor coolant tests and effluent batch release tests and quantifications during 1984 to date.

Liquid radwaste release concentrations were well within the limits specified in Technical Specification 3.8.D. The licensee keeps the quantity of radioactive materials released in liquid effluents to a minimum by the extensive inplant cleanup and recycle of radioactive liquids. Total quantities released per year has been consecutively reduced in each of the past three years. The licensee attributes the reductions to improving waste management techniques and added storage capacity.

No violations or deviations were noted.

6. Gaseous Radioactive Waste

The inspector reviewed the licensee's gaseous radwaste management program, including: determination whether changes to equipment and procedures were in accordance with 10 CFR 50.59; determination whether gaseous radioactive waste effluents were in accordance with regulatory requirements; adequacy of required records, reports, and notifications; determination whether process and effluent monitors are maintained, calibrated, and operated as required; and experience concerning identification and correction of programmatic weaknesses.

A quality assurance procedure compliancy audit conducted during February 1984 included review of collection, analysis, documentation, and required technical specification surveillance of effluent noble gases, particulates, and iodines. There were no adverse findings.

Records for 1984 to date, of gaseous effluent sample collection, analysis, and quantification were selectively reviewed. The limits and design objectives listed in Technical Specification 3.8.A. and 3.8.B. were not exceeded. No problems were identified.

No violations or deviations were noted.

7. Transportation of Radioactive Materials

The inspector reviewed the licensee's transportation of radioactive materials program, including: determination whether written implementing procedures are adequate, maintained current, properly approved, and acceptably implemented; determination whether shipments are in compliance with NRC and DOT regulations and the licensee's quality assurance program; determination if there were any transportation incidents involving licensee shipments; adequacy of required records, reports, shipment documentation, and notifications; and experience concerning identification and correction of programmatic weaknesses.

There were no transportation incidents during 1983 and 1984 to date. Quality assurance audits and classification of wastes are described in Section 4. The licensee's implementing procedures are well written, maintained current, and are adhered to. No problems were noted.

No violations or deviations were noted.

8. Follow-up of Inquiry from Attorney Representing Former Contractor Employee

A letter dated April 24, 1984, from an attorney representing a former contractor employee, was received at the NRC Region III office on April 26, 1984. The letter concerned alleged radiation injuries suffered by the attorney's client during the third and fourth calendar quarters of 1983 at Quad-Cities Station. In a letter dated May 8, 1984, to the attorney, Region III responded that recent NRC inspections of worker dose records had not indicated any excessive radiation doses to workers; that a telephone inquiry of the licensee concerning the client's dose records showed that his doses were within regulatory limits; and that if specific information concerning client's work activities (dates,



times, work assignments, co-workers, etc.) were supplied, Region III would investigate the alleged excessive radiation exposure during a planned July 1984 inspection. The medical basis for the physician's conclusions of "excessive radiation exposure" was also requested. No response to the May 8, 1984, letter has been received.

On June 20, 1984, NRC Region III received a letter dated June 18, 1984, from a different attorney who stated that he now represents the same former contractor employee. The attorney requested a meeting with Region III representatives. The attorney stated that he possessed the letter dated May 8, 1984, from NRC Region III to the first attorney. Region III responded with a letter dated June 29, 1984, stating that members of the NRC Region III staff were available to meet with the attorney and his client, but asked that the meeting be deferred until after Region III receipt of the information requested in the letter dated May 8, 1984, to the first attorney. No response to the June 29, 1984, letter has been received.

During this inspection, the inspector reviewed records of the tasks performed by the former contractor employee, his internal and external doses received, training provided, protection provided, and any abnormal conditions noted during the period.

No violations of regulatory requirements or limits were noted during the inspector's review.

9. Exit Meeting

The inspector met with licensee representatives (denoted in Section 1) at the conclusion of the inspection on August 3, 1984. The inspector summarized the scope and findings of the inspection. In response to items discussed by the inspector, the licensee stated that:

- a. The contracted study concerning Clarification Item 2 of NUREG-0737, Task Item II.F.1.2 would be further reviewed and additional calculations performed (Section 3).
- b. Errors identified in 1983 effluent reports would be corrected and errata sheets issued (Section 5).



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

EDO PRINCIPAL CORRESPONDENCE CONTROL

FROM:

REP. ROBERT MICHEL

DUE: 01/31/85

EDO CONTROL: 000281  
DOC DT: 01/11/85  
FINAL REPLY:

TO:

CHAIRMAN PALLADINO

*15/ Return y/Druck  
2/5/85*

FOR SIGNATURE OF:

EXECUTIVE DIRECTOR

\*\* GREEN \*\*

SECY NO: 85-25

DESC:

JAMES O'CONNOR REQUEST FOR INFO RE RADIATION  
POISONING RECEIVED AS A RESULT OF INCIDENT AT  
QUAD CITIES IN OCTOBER 1983

ROUTING:

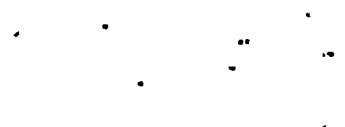
MINOGUE  
DEYOUNG  
GCUNNINGHAM

ASSIGNED TO: RIII  
CONTACT: KEPPLER

DATE: 01/16/85

SPECIAL INSTRUCTIONS OR REMARKS:

REPLY TO PEORIA OFFICE.



NUMBER: SECY 85 25

LOCKING DATE: 1/14/85

OFFICE OF THE SECRETARY

ACTION OFFICE: EDO

AUTHOR: Rep Robert Michel

AFFILIATION: U.S. House of Representatives

LETTER DATE: 1/11/85 FILE CODE: ID&R-5 Quad Cities

ADDRESSEE: Palladino

SUBJECT: Req investigation of Const complaint re working conditions at Quad Cities facilities

ACTION: Direct Reply...Suspense Jan 22

DISTRIBUTION: OCA to Ack

SPECIAL HANDLING: None

SIGNATURE DATE: FOR THE COMMISSION: Billie

Rec'd Off, EDO  
 Date... 1-16-85  
 Time... 8:10

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