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

REGION III

Report No. 50-10/79-05; 50-237/79-06; 50-249/79-05

Docket No. 50-10; 50-237; 50-249 License No. DPR-2; DPR-19; DPR-25

Licensee: Commonwealth Edison Company
P.O. Box 767
Chicago, IL 60690

Facility Name: Dresden Nuclear Power Station, Units 1, 2, and 3

Inspection Conducted: March 19-22, and 28, 1979

Inspectors: J. W. Hiatt 4/23/79

for D. E. Miller 4/23/79

Approved By: W. L. Fisher, Chief 4/23/79
Fuel Facility Projects and
Radiation Support Section

Inspection Summary:

Inspection on March 19-22, and 28, 1979 (Report No. 50-10/79-05; 50-237/79-06; 50-249/79-05)
Areas Inspected: Routine, unannounced inspection of radiation protection program, including: organization; audits; training; radiation protection procedures; internal exposure control; posting, labeling, and control; surveys; and licensee action on previously identified inspection items. The inspection involved 68 inspector-hours on site by two NRC inspectors.
Results: No items of noncompliance or deviations were found.

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## DETAILS

1. Persons Contacted

*J. Barker, USNRC
G. Bergan, Chemist
B. Dionne, Health Physicist
*D. Farrar, Supervising Engineer
T. Gilman, Health Physicist
M. Granas, Health Physicist
M. Paris, Health Physicist
*J. Parry, Radiation Chemistry Supervisor
*B. Shelton, Administrative Assistant
*B. Stephenson, Station Superintendent
*R. Stobert, Quality Assurance
B. Zank, Assistant Training Supervisor

The inspector also contacted other licensee employees, including radiation chemistry foremen and technicians and members of the training department.

*Denotes those present at exit interview.

2. General

This inspection, which began at 8:15 a.m. on March 19, 1979, was conducted to examine the licensee's routine operational radiation protection program, previous items of noncompliance, and unresolved items. The inspectors initially toured the Units 2 and 3 reactor buildings and the Unit 1 sphere at 10:00 a.m. During the inspection, additional tours were made of these areas and their respective turbine buildings. Tour findings are discussed in Paragraph 9.

3. Licensee Action on Previous Inspection Findings

(Closed) Infraction 50-010/78-15; 50-237/78-13; 50-249/78-15): Inadequate evaluation of airborne exposures. The inspector reviewed the licensee's response dated July 21, 1978, and noted that the more conservative action levels are being used. The corrective action appears adequate.

(Closed) Unresolved Item (50-010/78-15; 50-237/78-13; 50-249/78-15): Evaluation of whole body counts for compliance with 10 CFR 20.103. The licensee did not complete the evaluation in a timely manner and cannot conclude that the individuals did not exceed the 40 MPC-hour control measure. The evaluations do show that none of the individuals exceeded the quarterly limit of 520 MPC-hours. A Notice of Violation was issued on June 29, 1978, for failure to adequately evaluate these individual's exposures. Corrective actions described in the licensee's response to the Notice of Violation appears adequate to preclude recurrence.



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4. Organization

The organization of the radiation protection section remains basically unchanged from the last radiation protection inspection (November 1978). Since that time, however, the licensee has lost six radmen, a foreman, and an engineering assistant through transfer or termination. The engineering assistant and foreman positions were filled; seven new radmen started training March 26, 1979. The lead health physicist position has not been filled.

The licensee requires that contract radiation technicians have a minimum of two years experience; contract supervisors must have "formal training" in health physics and five years experience. Station health physicists review resumes of contract technicians to help assure that minimum requirements are met. During the inspection contract technicians provided job coverage only for work associated with the Unit 1 decontamination.

No problems were noted.

5. Licensee Audits

Two limited audits of specific radiation protection activities were conducted by the licensee's off site audit organization during 1978. These audit reports were reviewed by the inspector along with a report of review of respiratory training conducted by a station health physicist. The licensee identified no significant discrepancies.

No items of noncompliance were identified.

6. Training

The inspector attended an initial radiation protection orientation class, which consists of a half day combination lecture/video tape presentation. Topics required by 10 CFR 19.12 were covered in adequate detail. No problems were identified.

Completion of requalification training, which includes radiation protection, is required for the annual renewal of security badges. The inspector attended a requalification course and noted that weaknesses identified in a previous inspection were now adequately covered.[1/] Requalification records for a random number of station personnel were reviewed for CY 1978; no discrepancies from procedural requirements were noted. Neither written nor oral quizzes are given.

No items of noncompliance were identified.

1/ IE Inspection Rpt. Nos. 50-010/78-15; 50-237/78-13; 50-249/78-15.



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7. Procedures

The inspector reviewed the following procedures which were revised or initiated since the April 1978 radiation protection inspection:

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| DPR 1210-3 | Rev. 0 | Personnel Neutron Monitoring |
| DPR 1240-6 | Rev. 2 | Periods of Calibration for Radiation Protection Survey Instruments (This revision added to the procedure several instruments previously not included).2/ |
| DPR 1310-3 | Rev. 1 | Monthly Inspection of Self Contained Breathing Apparatus |
| DPR 1340-2 | Rev. 2 | Whole Body Counter Daily Routine Operation |
| DPR 1350-18 | Rev. 1 | Calibration and Maintenance of the CO Monitor |
| DPR 1470-1 | Rev. 1 | Decontamiantion Procedures |
| DAP 12-3 | Rev. 3 | Station Policy on Control of Respiratory Equipment |

The revisions did not diminish the effectiveness of the radiation protection program.

No problems were noted.

8. Internal Exposure Control

The licensee's program for control of internal exposures includes the use of protective clothing and equipment, control of surface and airborne contamination levels, and use of surface and airborne survey information. The licensee has onsite a leased RMC whole body counter. Whole body counts of Dresden personnel are made at frequencies stated in the Radiation Control Standards and as needed. The licensee tries to whole body count a representative sample of workers from each contractor group using respirators. All contractors are requested to submit urine samples before terminating employment at the site. The inspectors reviewed whole body counting and urinalysis data for the third and fourth quarters 1978 and 1979 to date. During CY 1978, the licensee made 955 whole body counts on 920 CECo employees and 119 counts on 112 contractors (about 15% of all contractors). For CY 1979 to date 254 counts on 254 CECo employees and five counts on five contractors have been made. About 400 urine samples were taken in CY 1978. Neither the whole body count nor the urinalysis data indicated uptakes of airborne radioactive material greater than 10 CFR 20.103 limits.

The inspectors noted the following potential problems with the bioassay program:

a. Bioassays are not made on individuals when they begin work at the site.

2/ IE Inspection Rpt Nos. 50-10/78-31; 50-237/78-29; 50-249/78-29.



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b. The investigative worksheet from Procedure DRP 1340-2, "Whole Body Counter," does not contain enough data to easily relate the worksheet to a specific whole body count (e.g., no dates, times, etc.).

c. The use of urinalysis for detecting uptakes of insoluble nuclides.

9. Posting, Labeling, and Control

During the initial plant tour and other visits to areas of the plant, the inspectors reviewed radiation work permit usage, survey postings, high radiation area access controls, and radiation caution sign postings for conformance to regulatory requirements and licensee procedures. The inspectors noted that radiation and contamination controls in Units 2 and 3 reactor and turbine buildings were greatly improved over previous inspections,3/4/, as was the housekeeping. However, conditions in the Unit 1 sphere were not consistent with good health physics practices. The poor practices noticed included: (1) inconsistent use of postings, (2) misuse of radiation rope, (3) unused radiation rope and signs left lying about in work areas, and (4) outdated "hot spot" postings (e.g., dated 1974). This area will be reviewed during a future inspection.

The inspectors randomly reviewed special work permits (SWP's) written during CY 1978 and 1979 to date; no problems were noted. The licensee issued about 2500 SWP's in 1978. The licensee's radiation occurrence reports (ROR's) and radiation protection logbook were also reviewed for CY 1978.

The licensee has modified Procedure DAP 12-4, "Control of High Radiation Areas," to help solve the problem with controlling entries to high radiation areas.5/ This area will be reviewed during future inspections.

No items of noncompliance were identified.

10. Surveys

Records of direct radiation, surface contamination, and air sampling surveys were selectively reviewed for CY 1978 and 1979 to date. Routine surveys are generally conducted at established frequencies, and specific job related timekeeping surveys are performed as needed. The most current survey results are posted at the radiation protection office. Staplex and Radeco air samplers are used for particulate and iodine sampling, respectively. The inspector noted that job specific as well as routine air samples are taken.

3/ IE Inspection Rpt.Nos. 50-10/78-31; 50-237/78-29; 50-249/78-29.
4/ IE Inspection Rpt.Nos. 50-10/78-15; 50-237/78-13; 50-249/78-15.
5/ IE Inspection Rpt.Nos. 50-10/78-31; 50-237/78-29; 50-249/78-29.



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The inspector also reviewed records of sealed source leak tests conducted in CY 1978 and 1979 to date. The licensee has 29 sources; each was leak tested in January and July 1978 and January 1979. No leaking sources were identified.

No problems were noted.

11. Unit 1 Decontamination

The licensee stated that the chemical decontamination of Unit 1 is currently scheduled to begin in September 1979; however, delays are anticipated. Health physics involvement in planning the decontamination includes daily and weekly summaries of personal doses to aid in job planning and a review of construction plans for the radwaste building to determine the best location for portal monitors, step-off pads, and the type of effluent monitoring instruments to be used. No liquid radwaste releases are planned; waste will be solidified and shipped offsite for burial.

12. Exit Interview

The inspector met with the licensee representatives (denoted in Paragraph 1) on March 22, 1979, and further discussed inspection findings with Mr. Parry at the conclusion of the inspection on March 28, 1979. The following items were discussed.

a. The scope of the inspection.
b. The previous item of noncompliance and the unresolved item (Paragraph 3).
c. The potential problems with the bioassay program (Paragraph 8). The licensee acknowledged the inspectors comments.
d. The poor posting, control, and housekeeping of areas in the Unit 1 sphere (Paragraph 9). The licensee stated that corrective action would be initiated.



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