

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Reports No. 50-10/82-06(DPRP); 50-237/82-10(DPRP); 50-249/82-11(DPRP)

Docket Nos. 50-010; 50-237; 50-249

Licenses No. DPR-02; DPR-19; DPR-25

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

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

Inspection At: Dresden Site, Morris, IL

Inspection Conducted: May 7 through June 4, 1982

Inspectors: T. M. Tongue

R. D. Walker for

R. D. Walker for
M. J. Jordan

July 11, 1982

July 11, 1982

Approved By: R. D. Walker, Chief

R. D. Walker

July 11, 1982

Inspection Summary

Inspection on May 7 through June 4, 1982 (Reports Nos. 50-10/82-06(DPRP); 50-237/82-10(DPRP); 50-249/82-11(DPRP))

Areas Inspected: Routine unannounced resident inspection of Regional Requests, Operational Safety Verification, Monthly Maintenance Observation, Monthly Surveillance Observation, Licensee Event Report Followup, I.E. Bulletin Followup, Plant Trips, Inspection During Long Term Shutdown, and the Hydrogen Addition Experiment. The inspection involved a total of 115 inspector-hours onsite by two NRC inspectors including 32 inspector-hours onsite during offshift.

Results: Of the nine areas inspected, there were no items of noncompliance identified in eight areas; one item of noncompliance (failure to follow hose color code - Paragraph 4) was identified in one area.

DETAILS

1. Persons Contacted

Dresden Station Personnel

- *D. Scott, Station Superintendent
- *R. Ragan, Operations Assistant Superintendent
 - J. Eenigenburg, Maintenance Assistant Superintendent
- *D. Farrar, Administrative Services and Technical Support Assistant Superintendent
 - J. Brunner, Technical Staff Supervisor
 - J. Wujciga, Unit 1 Operating Engineer
 - J. Almer, Unit 2 Operating Engineer
 - M. Wright, Unit 3 Operating Engineer
 - J. Doyle, Q.C. Supervisor
 - D. Sharper, Acting Waste Systems Engineer
 - G. Myrick, Rad-Chem Supervisor
 - B. Saunders, Station Security Administrator
 - B. Zank, Training Supervisor
- *E. Wilmer, Q.A. Coordinator
- W. Sheldon, Station Construction Lead Engineer

CECo Corporate

Station Nuclear Engineering

- *E. Swartz, Nuclear Licensing Administrator
- *M. Strait, General Engineer
- *E. Zebus, Project Engineer
- *B. Viehl, Engineer

Production Department

- J. Blomgren, Project Manager
- J. Thuot, Project Engineer

The inspector also talked with and interviewed several other licensee employees, including members of the technical and engineering staffs, reactor and auxiliary operators, shift engineers and foremen, electrical, mechanical and instrument personnel, contract security personnel, and a number of General Electric personnel associated with the special hydrogen addition experiment.

*Denotes those attending one or more exit interviews conducted on May 14, 27, and June 4, 1982, at Dresden and on May 20, 1982, at the CECo Corporate office in Chicago.

2. Regional Requests

The resident inspector was requested by Region III to determine the manufacturer of installed bullet resistant fire doors and determine if the licensee had documentation specifically confirming that the

doors had been tested and approved for fire resistance by a nationally recognized laboratory. It was determined that the doors were manufactured by Chicago Bullet Proof Door Company. The licensee had documentation provided by the manufacturer that specifically confirmed the doors, as supplied, had been tested and approved by a nationally recognized laboratory (Underwriters Laboratory).

The resident inspectors were requested by Region III, to review licensee records for component load capacity data sheets per ASME Code III/I that may have been modified by the suppliers. This matter was brought to the attention of the NRC by a 10 CFR 50.55(e), Potentially Generic Issue Report to NRC Region V from Washington Public Power Supply System on February 9, 1982. On WPPSS Project 2, a discrepancy was found where the Load Capacity Data of some components (hangers) had been reduced by the suppliers after the data sheets had been approved.

In an interview with the Assistant Superintendent for maintenance he explained that the only equipment built and/or installed to ASME Code III are recent significant new construction projects such as the Unit 1 HPCI, due to the vintage of the station. Mr. Eeningenberg agreed to have the Station Nuclear Engineering Department review this matter for possible discrepancies within the next inspection period. This is open Inspection Items No. 50-10/82-06-01(DPRP), No. 50-237/82-10-01(DPRP) and No. 50-249/82-11-01(DPRP).

3. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the period of May 7 through June 4, 1982. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of Units 2 and 3 reactor buildings and turbine buildings were conducted to observe plant equipment conditions, including potential fire hazards, fluid leaks, and excessive vibrations and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector by observation and direct interview verified that the physical security plan was being implemented in accordance with the station security plan.

The inspector observed plant housekeeping/cleanliness conditions and verified implementation of radiation protection controls. During the inspection, the inspector walked down the accessible portions of the Unit 2 HPCI, LPCI, Core Spray; Unit 3 HPCI, LPCI, Core Spray; and Unit 2/3 Emergency Diesel Generator systems to verify operability. The inspector also witnessed portions of the radioactive waste system controls associated with radwaste shipments and barreling.

These reviews and observations were conducted to verify that facility operations were in conformance with the requirements established under technical specifications, 10 CFR, and administrative procedures.

During plant tours, the SRI noted several instances where hoses were not being used in accordance with the posted color codes. The posted color codes are:

- Green hoses - Air or Water - Clean inside and outside
- Red hoses - Air Only - Contaminated outside (clean inside)
- Black hoses - Water Only - Contaminated outside and inside

Examples of inconsistencies are: On May 11, 1982, red and black hoses laying open on a noncontaminated floor on the Unit 2/3 refuel floor; On May 19, 1982, two red hoses being used for contaminated demineralized water, also on the refuel floor; and on May 27, 1982, a mixture of black and green hoses being used together for service air on the Turbine building by the SBTGS system. A review showed that the purpose of segregating hoses by color and by use is to prevent cross contaminating systems within the station. In addition, it was also found that radiation protection department supplied air breathing apparatuses are supposed to use a red hose between the service air connection and the "black box" (filter-regulator assembly) and a black hose is to be used between the black box and the supplied air mask. The inspector noted that all of the color coded hoses have the same type of connection (Chicago style) so all of the hoses are compatible with each other except the red and black hoses that are issued specifically for use with the black boxes. The hoses used with the black boxes use the quick "snap tite" style connector at the black box, but use a Chicago style connector at the service air connection. This creates an easy method to interchange or mix the hoses thus allowing possible system cross contamination or worse, the possibility of having an individual use a hose with internal contamination to supply a black box. Through interviews with station HP personnel, the inspector found that all personnel that use respiratory protection equipment at Dresden undergo whole body counting periodically and no individual uptakes have been detected that could be attributed to the use of contaminated hoses. In addition, the licensee has and uses an apparatus that samples and monitors the interior of the black box hoses for contamination when they are returned to the issue area. The inspector also found that the licensee is in the process of modifying the General Use Hose Identification Procedure DAP 3-7; however, this procedure appears inadequate as evidenced by the examples stated. This is considered noncompliance with the CECo Quality Assurance Topical Report that commits the licensee to the regulatory position of Regulatory Guide 1.33 (Safety Guide 33 - November 1977) which requires procedures that would prevent the stated concerns. This is noncompliance 50-237/82-10-02 and 50-249/82-11-02.

While making a routine plant tour on May 26, 1982, of the Unit 2 and 3 HPCI and LPCI rooms, the S.R.I. noted two electrical cable shielding connectors disconnected from their components (Unit 2 torus level transmitter and Unit 3 HPCI steam valve) with the electrical shielding suspended by the electrical leads. The licensee took prompt corrective

action by submitting work requests to correct the cable shielding connectors. The resident inspectors will continue to review this matter as part of the routine inspection program.

One item of noncompliance was identified.

4. Monthly Maintenance Observation

Station maintenance activities of safety related systems and components listed below were observed/reviewed to ascertain that they were conducted in accordance with approved procedures, regulatory guides and industry codes or standards and in conformance with technical specifications.

The following items were considered during this review: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibrations were performed prior to returning components or systems to service; quality control records were maintained; activities were accomplished by qualified personnel; parts and materials used were properly certified; radiological controls were implemented; and, fire prevention controls were implemented.

Work requests were reviewed to determine status of outstanding jobs and to assure that priority is assigned to safety related equipment maintenance which may affect system performance.

The following maintenance activities were observed/reviewed:

Unit 2/3 Emergency Diesel Generator.

Following completion of maintenance on the Unit 2/3 Emergency Diesel Generator, the inspector verified that these systems had been returned to service properly.

No items of noncompliance were identified.

5. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the Unit 2, Main Steam Line Radiation Monitor Calibration trip point set, and verified that testing was performed in accordance with adequate procedures, that test instrumentation was calibrated, that limiting conditions for operation were met, that removal and restoration of the affected components were accomplished, that test results conformed with technical specifications and procedure requirements and were reviewed by personnel other than the individual directing the test, and that any deficiencies identified during the testing were properly reviewed and resolved by appropriate management personnel.

The inspector also witnessed portions of the following test activities: Unit 2 ARM Calibration, SRM Rod Block Calibration, High Reactor Pressure Scram Set Point Check, and ECCS High Pressure Initiation Check. Unit 3 High Pressure Reactor Scram Set Point Check.

No items of noncompliance were identified.

6. Licensee Event Reports Followup

On May 11, 1982, the licensee reported finding low level contamination in the dump area (unrestricted area on licensee property). The contamination levels found varied from 400 counts per minute (cpm) up to 15,000 cpm with an average of 3000 to 4000 cpm. The contamination was found in two locations of about 400 square feet in area and each had been bulldozed and backfilled. The radioactivity was found in the form of wood, ashes, drums, SWP clothing, dirt and a sludge like material. It was noted that this was found during a routine quarterly surveillance resulting from the licensee follow up to IE Bulletin No. 80-22 and the licensee had previously found contaminated material in the same location. It was also noted that this was the first time that the survey was conducted with an HP-210 survey instrument which is much more sensitive than instruments previously used. The inspector verified that the licensee controlled and posted the contaminated area, picked up the contaminated material and disposed of it as solid radioactive waste and has committed to submit the required reports. The licensee has also taken steps whereby Radiation Protection personnel will maintain control of the lock on the gate to the dump area plus requiring surveys of refuse prior to leaving the protected area and after it is discharged at the dump. A more detailed analysis of this matter will be conducted by a Region III Radiation Specialist within the next three months.

On another occasion during this inspection period, the SRI at Quad-Cities NPS reviewed a Radiation Occurance Report (ROR) showing that a CECO truck carrying radioactive material from Dresden to Quad Cities, had apparently become contaminated on at least two occasions. The contamination levels described varied from 55,000 to 165,000 disintegrations per minute (dpm) direct and up to 5,500 dpm removable. The Dresden SRI reviewed the matter at Dresden and found that the records of the surveys of the shipments showed undetectable removable contamination prior to leaving Dresden. In addition, the shipments in question on March 19, 4, and 23, 1982, were identified and packaged as LSA and/or small quantities of radioactive material and transported on a sole use vehicle. Since there is an inconsistency between the information at the two stations, this matter will be reviewed in concerted inspections during the next three months to check for compliance with applicable licensee commitments, NRC regulations and DOT regulations.

No items of noncompliance were identified.

7. IE Bulletin Followup

(Open) IE Bulletin No. 80-11 "Masonry Wall Design": On May 20, 1982, the SRI conducted an inspection at the Station Nuclear Engineering Department (SNED) at CECO Corporate offices in Chicago, IL. The purpose of the inspection trip was to review the licensee's evaluations related to the interim operability of those masonry walls that failed to meet the original acceptance criteria. For all 17 affected masonry walls at Dresden, the inspector reviewed the licensee's criteria, potential method of failure, evaluation of affected piping, cables, components, etc., and final analysis to meet the safe shutdown requirements. The inspector found the licensee's evaluations to be acceptable for continued operation. It was noted that the licensee has committed to have all of the affected walls repaired to meet the original acceptance criteria by June 1, 1983. This Bulletin will remain open for Dresden Units 2 and 3 until the final repairs are evaluated.

The licensee has deferred action on Dresden Unit 1 until it's pending start up date in 1986.

No items of noncompliance were identified.

8. Plant Trips

Following the plant trips on Unit 2 on May 13, 1982, the inspector ascertained the status of the reactor and safety systems by observation of control room indicators and discussions with licensee personnel concerning plant parameters, emergency system status and reactor coolant chemistry. The inspector verified the establishment of proper communications and reviewed the corrective actions taken by the licensee.

All systems responded as expected, and the plant was returned to operation on May 15, 1982.

No items of noncompliance were identified.

9. Inspection During Long Term Shutdown

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the period of May 7 through June 4, 1982, on Unit 1 and May 11 through May 16, 1982, on Unit 2. The inspector verified surveillance tests required during the shutdown were accomplished, reviewed tagout records, and verified applicability of containment integrity. Tours of Units 1 and 2 accessible areas, including exterior areas were made to make independent assessments of equipment conditions, plant conditions, radiological controls, safety, and adherence to regulatory requirements and to verify that maintenance requests had been initiated for equipment in need of maintenance. The inspector observed plant housekeeping/cleanliness conditions, including potential fire hazards, and verified implementation of radiation protection controls. The inspector by observation and direct interview verified that the

physical security plan was being implemented in accordance with the station security plan. The inspector reviewed the licensee's jumper/bypass controls to verify there were no conflicts with technical specifications and verified the implementation of radioactive waste system controls.

During a plant tour of the Unit 1 reactor building, the SRI noted a number of areas without lights. In the interest of personnel and plant safety, this item was brought to the attention of the Superintendent. The matter was corrected by station personnel.

No items of noncompliance were identified.

10. Hydrogen Addition Experiment

On May 21, 1982, the licensee commenced a hydrogen addition experiment on Unit 2. The test was a combination of effort and cooperation between the licensee, General Electric, The Electric Power Research Institute, The U.S. Department of Energy, and the NRC. This was the first time the test was conducted in the U.S.; however, it had been previously conducted on a BWR in Sweden.

The purpose of the test is to inject gaseous hydrogen into the condensate system while the reactor is at a fairly high power level, for the purpose of scavenging oxygen from the water in the nuclear systems. By reducing the presence of free oxygen, the possibility of oxygen related stress corrosion cracking (common in metals associated with nuclear power plants) can be significantly reduced. It is believed that by running a plant with a continuous hydrogen addition, the number of occurrences of oxygen related stress corrosion cracking can be significantly reduced over the life time of the plant.

The SRI followed the activities of the test during the first four stages where hydrogen was added at increasingly higher concentrations. The inspector interviewed licensee corporate personnel, contractor personnel, and D.O.E. personnel associated with the test. He observed a portion of the information and instrumentation related to radiation levels, oxygen concentrations, hydrogen concentrations, pH, conductivity, off gas flow, etc., to verify that data was following predicted levels. He also verified that appropriate review and planning was conducted, and that Technical Specifications and special procedures were followed.

No items of noncompliance were identified.

11. Meetings, Training, Offsite Functions, and Special Activities

On May 11 and 12, 1982, Messrs. Dennis Chaney and Neal Holden of Section 1, Operation Reactors Programs Branch, Division of Reactor Programs, I.E., NRC Headquarters, visited the Dresden Nuclear Power Station. The purpose of the visit was to discuss the routine resident inspection program with the resident inspectors and accompany the

resident inspectors during portions of their routine plant inspections. This was to obtain information as to the effectiveness of the routine resident inspection program, ascertain where changes to the program can be made to enhance effectiveness, and gather information to review the program area with respect to uniformity of implementation.

The resident inspectors participated in the Systematic Appraisal of Licensee Performance (SALP) Meeting for the Commonwealth Edison Company operating nuclear stations at the NRC Region III Office in Glen Ellyn, Illinois, on June 2, 1982. The SALP board findings and recommendations will be published under a separate report with the licensee responses and NRC replies.

The resident inspector was on leave for five work days during this report period.

12. Exit Interview

The inspector met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection on June 4, 1982, and summarized the scope and findings of the inspection activities. The licensee acknowledged findings of the inspection.