

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

REGION III

Reports No. 50-010/81-06; 50-237/81-13; 50-249/81-08

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

Licenses No. DPR-02; 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 At: Dresden Site, Morris, IL

Inspection Conducted: April 4 through May 8, 1981

Inspectors: *Jack M. Reimann for*  
T. M. Tongue

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*Jack M. Reimann for*  
M. J. Jordan

6 18 81

Approved By: *Jack M. Reimann*  
F. W. Reimann, Acting Chief  
Reactor Projects Section 1C

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Inspection Summary

Inspection on April 4 through May 8, 1981 (Report No. 50-010/81-06; 50-237/81-13; 50-249/81-08)

Areas Inspected: Routine unannounced resident inspection of operational safety verification, monthly maintenance obstruction, monthly surveillance observation, licensee event reports followup, previously identified open inspection items, plant trips, surveillance - refueling, maintenance, refueling, and inspection during long term shutdown. This inspection involved 244 inspector-hours onsite by two NRC inspectors including 63 inspector-hours onsite during off-shifts.  
Results: Of the nine areas inspected, two items of noncompliance were identified in two areas (Section 2, failure to follow procedure and Section 9, improper valve lineup) and no items of noncompliance were identified in seven areas.

## DETAILS

### 1. Persons Contacted

- \*D. Scott, Station Superintendent
- \*R. Ragan, Operations Assistant Superintendent
- J. Eenigenburg, Maintenance Assistant Superintendent
- \*D. Farrar, Administrative Services and Support Assistant Superintendent
- J. Brunner, Technical Staff Supervisor
- C. Sargent, Unit 1 Operating Engineer
- J. Wujciga, Unit 2 Operating Engineer
- M. Wright, Unit 3 Operating Engineer
- E. Budzichowski, Unit Support Operating Engineer
- D. Adam, Waste Systems Engineer
- G. Myrick, Rad-Chem Supervisor
- B. Saunders, Station Security Administrator
- \*E. Wilmer, QA Coordinator

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 contractor construction personnel.

\*Denotes those attending one or more exit interviews conducted on April 10, 17, 24, May 1 and 8, 1981.

### 2. Operational Safety Verification

The inspector observed control room operations, reviewed applicable logs and conducted discussions with control room operators during the period of April 4 through May 8, 1981. The inspector verified the operability of selected emergency systems, reviewed tagout records and verified proper return to service of affected components. Tours of Unit 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.

While walking down the Unit 3 ECCS System panels in the control room on April 17, 1981, the SRI noted that the Torus Hi level alarm was alarming, indicating excessive water in the torus. Upon questioning the alarm condition the NSO stated that someone was probably sampling the torus, but had not informed the control room. Later review showed this was true. Interviews with several NSO's, Shift Engineers, revealed that this situation occurs frequently when sampling the torus, Isolation Condenser, Offgas System and Drywell.

Procedures DCP 1600-9 and 10, for sampling torus water on Units 2 and 3 respectively, direct the person drawing the sample to notify the control

room prior to drawing a torus sample, and upon completion of the sampling. Through interviews with licensee employees, it was found that the control room operator is frequently not informed when sampling is completed.

Review of the procedures also revealed that the Unit 2 torus should be sampled via the torus drain line and Unit 3 torus should be sampled via a connection from the discharge of the ECCS fill system pump. If sampling is done per procedure the Hi level alarm should not actuate in the control room, which further indicates that the sample drawn on April 17 was taken from an instrument line and not as directed in the procedure. RCT personnel also informed the inspector that control room operators often do not inform their relief personnel that such sampling operations are in progress. Since sampling the above mentioned systems is a change in the valve configuration on ECCS systems and primary containment boundary it is extremely important that proper procedures be followed and effective communications be maintained. This occurrence is in noncompliance with Technical Specification 6.2.A.7 and the Dresden Chemistry Procedures. (50-249/81-08-01)

The inspector also noted that different sample points are used on each of the two identical units to draw torus samples. This item will be followed up in a future inspection. (50-249/81-08-02)

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 period of April 3 through May 8, 1981, the inspector walked down the accessible portions of the Unit 2 Standby Liquid Control, LPCI and Core Spray 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.

One item of noncompliance was identified.

### 3. 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 activity was observed/reviewed:

Unit 2/3 Diesel Generator

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

No items of noncompliance were identified.

4. Monthly Surveillance Observation

The inspector observed technical specifications required surveillance testing on the Unit 3 HPCI Quarterly Flow Test, HPCI Monthly Test, 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 3 HPCI Valve Operability Test  
IRM Calibration  
LPRM Calibration  
Turbine First Stage Pressure Scram Bypass  
Main Steam Line Low Pressure Isolation  
Unit 2/3 Diesel Generator

No items of noncompliance were identified.

5. Licensee Event Reports Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine

that reportability requirements were fulfilled, immediate corrective action was accomplished, and corrective action to prevent recurrence had been accomplished in accordance with technical specifications.

Unit 2

- 80-30 2A - LPCI Pump Seal Leak (closed)
- 80-31 U-1 Diesel Fire Pump was unavailable greater than seven days per T. S. Limit (closed)
- 80-32 Fire Pump Diesel Engine - Day Tank - oil samples not taken on 30 day interval (closed)
- 80-33 2B LPCI heat exchanger was taken out of service to investigate possible tube leaks and cleaning (closed)
- 80-34 Fire system annual flush record missing for 1979 (closed)
- 80-35 Control Room and Computer Room Smoke Detectors out of service (closed)
- 80-36 Cardox Heat Detectors Surveillance not performed at proper time interval (closed)
- 80-37 Control Rod G-8 Overtravel Uncoupled (closed)
- 80-38 Controlled Rod C-11 Overtravel, uncoupled (closed)
- 80-39 HPCI MO 2-2301-4 (Inboard Steam Valve) Failure (closed)
- 80-40 Control Rod G-8 Overtravel - Uncoupled (closed)
- 80-41 Reactor Building and Refuel Floor Area Radiation Monitor set point draft (closed)
- 81-02 LPCI Valve MO 2-1501-20B Failed to Operate (closed)
- 81-08 MSIV 2-203-2B Failure to Pass LLRT (closed)

Unit 3

- 80-34 "B" Recirc. Pump. Runback (closed)
- 80-35 2/3 B SBGTS Failure to Start (closed)
- 80-36 RBM No. 7 Flow Control Trip - reference card failure (closed)
- 80-37 Reactor Vessel Low Water Level Scram and Isolation set point drift (closed)

- 80-38 Leak in Reactor Water Clean-Up Heat Exchanger Equalizing Line (closed)
- 80-39 Isolation Condenser Inboard Valve 3 - 1301-1 failed to close during Valve Operability Test (closed)
- 80-40 Failure of HPCI 3-2301-4 Valve to Open (closed)
- 80-41 Isolation Condenser Vent Valve 3-1302-20 found shut (closed)
- 81-02 Reactor Water Level Switch LIS 3-263-58A set point drift (closed)
- 81-06 SBLC Tank Low Temperature (closed)
- 81-10 HPCI Steam Piping did not meet SSE operability criteria (closed)
- 81-11 MSIV 3-203-1C Fast Closure (closed)

LER's 50-237/80-33 and 50-237/80-41 were previously reviewed by a Region III Radiation Specialist and were addressed in IE Inspection Report 50-237/81-04.

LER's 50-237/80-31; 50-237/80-32; 50-237/80-34 and 50-237/80-35 were reviewed by a Region III inspector and will be addressed in IE Inspection Report 50-237/81-09.

No items of noncompliance were identified.

#### 6. Previously Identified Open Inspection Items

Open inspection items 50-249/81-03-01 and 50-249/81-03-02 were replaced by Licensee Event Report Nos. 50-249/81-06/036-0 and 50-249/81-11/036-0 respectively. These open items and LER's were reviewed by the SRI as stated in the previous report section and are considered closed.

#### 7. Plant Trips

Following the plant trips on Unit 3 on April 17, 1981 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 April 17, 1981.

No items of noncompliance were identified.

8. Surveillance - Refueling

The inspector observed the LPRM Amplifier calibration surveillance, HPCI Automatic Isolation, HPCI Automatic Initiation, and Pressure Suppression Pool Vent Valve Operability testing on Unit 2 to verify that the tests were covered by properly approved procedures; that the procedures used were consistent with regulatory requirements, licensee commitments, and administrative controls; that minimum crew requirements were met, test prerequisites were completed, special test equipment was calibrated and in service, and required data was recorded for final review and analysis; that the qualifications of personnel conducting the test were adequate; and that the test results were adequate.

No items of noncompliance were identified.

9. Maintenance - Refueling

The inspector verified maintenance procedures include administrative approvals for removing and return of systems to service; hold points for inspection/audit and signoff by QA or other licensee personnel; provisions for operational testing following maintenance; provisions for special authorization and fire watch responsibilities for activities involving welding, open flame, and other ignition sources; reviews of material certifications; provisions for assuring LCO requirements were met during repair; provisions for housekeeping during and following maintenance; and responsibilities for reporting defects to management.

The inspector observed the maintenance activities listed below and verified work was accomplished in accordance with approved procedures and by qualified personnel.

Unit 2

LPRM String Removal and Installation  
LPRM Cable Connection Verification  
LPCI Heat Exchanger Retubing  
Refueling the Reactor  
Core Height Test  
Reactor Vessel Head Steel Tensioning  
Changing Directional Control Valves on CRDHU's  
Reactor Cavity Wall Washing

On April 15, 1981, the Resident Inspector observed an electrical maintenance mechanic preparing to replace solenoid valves on two Control Rod Drive Hydraulic Units (CRDHU) on Unit 2. The Equipment Outage checklist (Outage Numbers II 896 and 897) and outage tags were hung in accordance with Dresden Administrative Procedures. The mechanic loosened the bolts securing the solenoid valve on one CRDHU and water began leaking around the seal. An attempt to remove the solenoid valve from the second CRDHU gave the same results. An equipment operator then directed

the electrical mechanic to open the drain valves on the accumulators. When the drain valves were opened (the position required by the outage checklist) the accumulators drained properly. Following proper draining of the accumulators the solenoid valves were replaced as intended.

Failure to open the drain valves causing this event is in noncompliance with Criterion XIV to 10 CFR 50, Appendix B, which states "Measures shall be established to indicate by the use of markings such as stamps, tags, labels, routing cards, or other suitable means, the status of .... tests performed.... measures shall also be established for indicating the operating status of structures, systems, and components of the nuclear powerplant....". Also, Dresden Administrative Procedure (DAP) 3-5, which states "This procedure will provide a record of the equipment status before, during, and after an outage so that abnormal system configuration can be evaluated". This is also in noncompliance with Quality Procedures 3-52 of the CECO Quality Assurance Manual which implements the requirements of Criteria XIV of 10 CFR 50 and requires the Shift Engineer take appropriate action and remove equipment from service, and when satisfactory, clear the outage.

This problem is similar to the Notice of Violation reported in Section 2 of Inspection Report No. 50-249/81-02, dated March 23, 1981 which address a situation in which a valve was opened without placing it on the equipment outage checklist or placing an outage tag on the valve. In the above case, the valves were on the equipment outage checklist and the outage tags were on the valves, but the valves were not in their proper position.

Although the impact of this event was of minor significance, failure to implement outage control procedures is a matter of safety concern. Recognizing that the opening the accumulator drain valve may not drain the piping above the solenoid valve, and that breaking the solenoid valve off it's seat may be required to drain the piping upstream of isolation valve (305-105), neither the electrical maintenance mechanic, nor his foreman, was aware that water should be expected. Upon finding the drain valves closed, the entire outage became suspect and the operator then checked all the other valves in the outages to ensure proper positions. (50-237/81-13-01)

No additional items of noncompliance were identified.

10. 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 April 4 through May 8, 1981. The inspector verified surveillance tests required during the shutdown were accomplished, reviewed tagout records, and verified applicability of containment integrity. Tours of Unit 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 inspectors 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.

During a review of Unit 1 Control Room Log, the SRI noted variances of 5° to 7°F in recorded reactor vessel flange temperature entries from shift to shift. Further review showed that some NSO's read the scale on the temperature recorder pointer while others read the point on the recorder chart. It was further found that there was some confusion as to which point to read, eg., Point Number 1, 7, or 8. A check of the temperatures at these three points showed a variance of as much as 61°F with each other. Although none of the readings were below the Technical Specification limit for the flange temperature, it is noteworthy that the recorded data varies to this extent depending on where the readings are taken. This was brought to the attention of the Operating Engineer and the Shift Engineer, and instructions were made available to all NSO's that point No. 1 on the temperature recorder chart is the true and legal record of vessel flange temperature. Subsequent review showed that the instruction is being followed.

During a routine tour of the Unit 2 Drywell on April 29, 1981, the SRI noted considerable quantities of dirt, trash, air hoses, cables, etc. In addition, some lights were out and several deck grates had been removed for maintenance work, which created difficulty in moving about the Drywell. The SRI also noted at that time that several crews of licensee personnel were busy correcting the problems. During a subsequent tour on May 7, 1981, for outage close out with the Station Superintendent and several other management personnel, the problems had been adequately corrected.

During the inspection period, a licensee contractor employee working for Phillips-Getshaw, Inc., alleged that the licensee had not performed an adequate evaluation of radiation levels in the Unit 2 Drywell where he had been working. The result was a discrepancy between his film badge reading (low) versus his pocket dosimeters and time keeping records (high). This matter was reviewed by the SRI with a Region III Radiation Specialist and Licensee Health Physicists. The licensee conducted studies that showed the individuals exposure had not exceeded any regulatory requirements. The licensee Health Physicists were unable to complete the study because of the uncooperative attitude of the individual. The individual refused to provide information requested by the licensee and the SRI, requested his final paycheck from a Phillips-Getshaw supervisor, and abruptly walked out of the meeting stating that the requested information would be available thru his lawyer.

The licensee choose to assign the exposure values determined by the pocket dosimeters and time keeping because these exposure values are more conservative than the film badge exposure results.

This matter is considered closed unless reopened for reasons stated above.

While walking through the U-2 Reactor Building on April 30, 1981, the Senior Resident Inspector was observing activities at the drywell access change areas. Upon looking into the change area outside the personnel access the inspector noted about 10 persons in various stages of resting or lounging of which 4 - 5 were fully reclined on the floor in the area between the shoe cover removal and protective clothing step off pads. Some of the personnel observed were dressed in SWP clothing while others were in street clothing. All of the personnel observed were constructor employees which was confirmed by a contractor supervisor from Phillips-Getschaw Company. The SRI verified radiation backgrounds in the area with the NRC survey meter and found them to be from 0.1 to 0.2 millirem/hour. The area was used as a rest and staging area for the contractor employees while waiting to work in the drywell where the floor may have been contaminated.

Later interviews with various licensee employees showed that the area has been used in the same manner for the entire outage, and further more, that SWP clothing had been spread out to create a soft rest area on the floor. Further review of surveys in that area during the outage showed low levels of contamination and, according to licensee Health Physicists, all persons involved in work with that group showed no detectable internal contamination by whole body counts.

In subsequent discussions with licensee contractor supervisors and licensee station management personnel, the SRI explained that personnel in these areas should be resting in a sitting position or on a table or bench to prevent possible uptake of contamination from the potentially contaminated floor. In an exit interview, this matter was discussed with licensee management personnel and they agreed it was a poor radiation protection practice. It was later noted that all of the contractor personnel had been removed from that area.

No items of noncompliance were identified.

11. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) throughout the month and at the conclusion of the inspection on May 8, 1981, and summarized the scope and findings of the inspection activities. The licensee acknowledged the findings of the inspection.