

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report Nos. 50-237/88017(DRP); 50-249/88018(DRP)

Docket Nos. 50-237; 50-249

License Nos. DPR-19; DPR-25

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

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

Inspection At: Dresden Site, Morris, IL

Inspection Conducted: July 5 through September 2, 1988

Inspectors: S. G. Du Pont  
P. D. Kaufman

Approved By: M. A. Ring, Chief *M. A. Ring*  
Reactor Projects Section 1B

9/7/88  
Date

Inspection Summary

Inspection during the period of July 5 through September 2, 1988  
(Report Nos. 50-237/88017(DRP); 50-249/88018(DRP))

Areas Inspected: Special unannounced resident inspection of Dresden facility's response to the Diagnostic Evaluation Team (DET) findings and review of previous inspection (DET) items.

Results: No violations or deviations were identified. Twenty-eight previously identified Diagnostic Evaluation Team findings were resolved.

Nine previously identified Diagnostic Evaluation Team findings remain open. Of these, 8 will be reviewed by Regional inspections in the areas of IST implementation and maintenance activities.

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## DETAILS

### 1. Persons Contacted

#### Commonwealth Edison Company

\*E. Eenigenburg, Station Manager  
J. Wujciga, Production Superintendent  
\*C. Schroeder, Services Superintendent  
L. Gerner, Superintendent of Performance Improvement  
T. Ciesla, Assistant Superintendent - Planning  
D. Van Pelt, Assistant Superintendent - Maintenance  
J. Brunner, Assistant Superintendent - Technical Services  
J. Kotowski, Assistant Superintendent - Operations  
R. Christensen, Unit 1 Operating Engineer  
G. Smith, Unit 2 Operating Engineer  
W. Pietryga, Unit 3 Operating Engineer  
J. Achterberg, Technical Staff Supervisor  
R. Geier, Q.C. Supervisor  
D. Adam, Radiation Chemistry Supervisor  
J. Mayer, Station Security Administrator  
D. Morey, Chemistry Supervisor  
D. Saccomando, Radiation Protection Supervisor  
E. Netzel, Q.A. Superintendent

\*Denotes those attending one or more exit interviews conducted on September 2, 1988, and informally at various times throughout the inspection period.

The inspectors 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, and contract security personnel.

### 2. Review of Previous Diagnostic Evaluation Team (DET) Items (92701)

(Closed) Open Items (237/88017-01 and 249/88018-01): DET Item 2.2.1.1, Evaluate Dresden procedures for draining and changing control rod drive hydraulic control units (HCU). The inspector verified that Dresden operating procedures DOP 300-6, "Control Rod Drive System Accumulator Charging," and DOP 300-11, "Control Rod Drive System Accumulator Water Removal" were revised to include the caution during closure of HCU valve 305-111 which could render a HCU inoperative. This item is considered to be closed.

(Closed) Open Items (237/88017-02 and 249/88018-02): Evaluate non-license training for adequate training on procedures DOP 300-6 and DOP 300-11 for HCU operations.

The DET observed an operator closing HCU valve 305-111 during evolutions per DOP 300-6. A review of DOP 300-6 revealed that the procedure did not require closure of the valve and it was believed that the operator error

was due to inadequate training on DOP 300-6. However, the inspector's review of the training received by the operator concluded that it was adequate which the operator further demonstrated by correctly answering the training test associated with charging HCU accumulators.

Additionally, the inspectors' review revealed that the root cause of the operator error was associated with the lack of adequate transition between the charging (DOP 300-6) and draining (DOP 300-11) procedures. The licensee also determined that the cause of the error was due to an inadequate procedure instead of operator error or inadequate training and revised the procedures to provide the correct transition.

(Closed) Unresolved Items (237/88017-03 and 249/88018-03): DET item 2.2.1.1, determine compliance of HCU draining evolution. As noted above, the actual root cause was due to inadequate transition between procedures for charging (DOP 300-6) and draining (DOP 300-11) HCU accumulators. The licensee adequately identified the actual root cause and provided corrective actions prior to the issuance of the DET report. This item is considered closed.

(Closed) Open Items (237/88017-04 and 249/88018-04): DET item 2.2.1.2, the control room had uncontrolled piping and instrumentation diagrams (P&ID) and electrical schematics which were used routinely by plant operations personnel. At the time of the DET it had been Dresden's policy to have available uncontrolled P&IDs for "information only" and require controlled P&IDs issued from the Central File for safety related activities. The licensee revised administrative procedure DAP 3-5, "Out of Service" to state that "only controlled reference material may be utilized when determining isolation points for an OOS." Additionally, the licensee eliminated the "For Information Only" prints, both P&ID and electrical schematics, from the control room and shift engineer's office. The inspector has verified the elimination of uncontrolled reference material by several direct inspections of the control room and shift engineer's office between January and July 1988. This item is considered to be closed.

(Closed) Open Items (237/88017-05 and 249/88018-05): DET item 2.2.1.3, the poor physical appearance of the control room represented a poor working environment. During the DET inspection in August 1987, the licensee had commenced modification (M12-2/3-86-68) of the control room. The modification included several human factors revisions, installing new lighting and changing the overhead and ventilation to reduce noise and improve lighting of the control room. The inspectors reviewed the modification and verified that adequate administrative controls were in place. Since the activities associated with M12-2/3-86-68 are included in the routine inspection efforts by the resident inspectors and are being continuously monitored, this item is considered to be administratively closed. Additionally, the progress of M12-2/3-86-68 is currently 80% complete and expected to be complete by September 1988.

(Closed) Open Items (237/88017-06 and 249/88018-06): DET item 2.2.1.4, the use of formal overtime by Nuclear Station Operators (NSOs) was routine, and in a number of cases exceeded station limits. This item resulted in a Notice of Violation in the resident inspectors' reports

237/87026 and 249/87025. Additionally, the inspectors have verified that the licensee's corrective actions have prevented recurrence since August 1987. This item is considered to be closed.

(Open) Open Items (237/88017-07 and 249/88018-07): DET item 2.2.1.5, NRR to evaluate Technical Specification Table 3.1.1 for adequacy of APRM/IRM Companion requirements while in the RUN mode of operation. The inspectors verified that the licensee has submitted a request for change to Technical Specification Table 3.1.1 and NRR is evaluating the Technical adequacies of the request.

(Open) Open Items (237/88017-08 and 249/88018-08): DET item 2.2.1.5, NRR to evaluate Technical Specification Surveillance (TS) 4.5.C.1 for adequacy of testing the High Pressure Coolant Injection (HPCI) system at reactor pressures between 1150 to 150 psig. The inspectors verified that the licensee has submitted a request for change to TS 4.5.C.1.

(Closed) Unresolved Items (237/88017-09 and 249/88018-09): DET item 2.2.1.6, determine compliance of requalification training cycles to 10 CFR 55. The inspectors verified that the licensee's requalification training program had been revised to require mandatory attendance of all training cycles by all license holders. This item is considered to be closed.

(Closed) Open Items (237/88017-10 and 249/88018-10): DET item 2.2.1.6, verify that a mechanism exists for evaluation of NSO comments on training by the training department. The inspector verified that the "Training Inquiry" process was being utilized during training cycle 3 and that the Training Department Policy #14 requires every effort for instructors to respond to student comments by an assigned date. This item is considered to be closed.

(Closed) Open Items (237/88017-11 and 249/88018-11): DET item 2.2.1.7, the team found that Shift Engineers (SE) and Shift Control Room Engineers (SCRE) were not routinely informed about the schedule of maintenance activities during their shift. The inspectors have verified through direct observations and interviews that maintenance and testing activities are being adequately communicated between the Maintenance Department and the SEs and SCREs. Additionally, the licensee has issued Policy Statement #19, "Maintenance/Operations Communication Requirements" which contained clear instructions for informing operations of maintenance activities and a seven-day rolling schedule of testing activities. Both of these programs have been effective and, as such, this item is considered to be closed.

(Closed) Open Items (237/88017-12 and 249/88018-12): DET item 2.2.1.9, the team found that the NSOs believed that lack of a preventive maintenance program contributed significantly to a lack of trust in the reliability of plant equipment. For example, recent modifications to the Feedwater Control System (FWCS) had resulted in numerous oscillations within the system. During September and October 1987, the licensee aggressively tested the Feedwater System and found that the oscillations

in the system were due to the Feed-Regulating Valve Actuator design and, as such, both the NSOs and DET were mistaken in believing that the FWCS modifications contributed to the oscillations. The inspectors witnessed the Feedwater system testing and observed that the operators trust of the FWCS increased during the testing activities. However, the licensee's preventive maintenance program has recently been significantly revised and the effectiveness of this revision is planned to be evaluated by Region III prior to February 1989, and, as such, this item is administratively closed.

(Open) Open Items (237/88017-13 and 249/88018-13): DET item 2.2.1.10, the team observed that there were considerable activities at Dresden to improve the performance of the facility, but few long-lasting changes.

The inspectors noted several existing long-lasting changes such as, personnel errors decreasing from 56 in 1986 to 24 in 1987 and less than 14 for the first half of 1988, scrams reducing from 15 in 1987 to only one during the first half of 1988, less than 100 days of dual unit continuous operation increasing to a CECO record of 155 days and an eight month improving trend on 86 of 88 major performance indicators. However, this item will remain open until December 1988 to verify that the improvement trends are maintained for greater than 12 months.

(Open) Unresolved Items (237/88017-14 and 249/88018-14): DET item 2.2.2.1, 17 drywell MOVs using MOBIL MOBILUX EP-0 grease should be evaluated. This item is planned to be evaluated by Region III inspectors prior to December 1988.

(Closed) Unresolved Items (237/88017-15 and 249/88018-15): DET item 2.2.2.1, safety related MOV torque switch settings were not based upon expected design differential pressures and the settings of MOV limit switches were inconsistent with the procedure guidance. This item is being tracked by Region III Open Item Listing 249/87032-01 and, as such, is administratively closed.

(Closed) Open Items (237/88017-16 and 249/88018-16): DET item 2.2.2.2, licensee's root cause analysis program for equipment failures should be evaluated. Region III currently is evaluating the program and has assigned an OIL 249/87008-01, as such, these items are administratively closed.

(Closed) Unresolved Items (237/88017-17 and 249/88018-17): DET item 2.2.2.2, the team noted that the HPCI room cooler fan did not have a preventive maintenance procedure associated with the fan belts such as DMP 5700-3 for the LPCI room cooler fan belts. The licensee initiated a preventive maintenance activity to inspect the fans every refueling outage to ensure fan blades are secured to the shaft, to align drive belt pulleys and sheaves, to replace the drive belts and to inspect bearings for wear. This activity was completed during the Spring 1988 Unit 3 outage and has resulted in no failures of the Unit 3 room cooler through August 1988. In addition, the activity has been included in the General Surveillance Program for future performance during outages on both units, including the scheduled Fall 1988 Unit 2 outage. Additionally, fan failures were included in the equipment failure

analysis per Chapter 16 of the Corporate Conduct of Maintenance. This item is considered to be closed.

(Closed) Unresolved Items (237/88017-18 and 249/88018-18): DET item 2.2.2.3, maintenance procedures DMP 040-15, 16, 19 and 23 should be evaluated to verify that guidance is provided for the removal and installation of MOV motors and pinion gears. The licensee deleted the current procedures of the DMP 40 series and initiated new electrical procedures (DEP) for the October 29, 1988 Unit 2 refueling outage. A review of the procedures (DEP 040-9, DEP 040-11, DEP 040-17 and DEP 040-18) revealed adequate instructions for removal, installation and inspection of the motor pinion gear, including a clear drawing showing the pinion arrangement for SBMs 000-0, 1, 2, 3 & 4. This item is considered to be closed.

(Closed) Unresolved Items (237/88017-19 and 249/88018-19): DET item 2.2.2.3, maintenance procedures should be evaluated to verify that all safety related (non-EQ) MOV dc motors are encompassed in the MOV program. The licensee initially revised procedure DMP 040-9, "Limitorque Valve Operator Maintenance," in December 1987, to include safety related, non-safety related and environmentally qualified dc motors by inspecting brushes and commutator and measuring the motor armature, series and shunt field megger data. In addition, a new procedure, DEP 040-9 was issued to replace DMP 040-9. The inspector verified that DEP 040-9 incorporated the revision to DMP 040-9 and included verification of motor brushes spring tension. This item is considered to be closed.

(Closed) Open Items (237/88017-20 and 249/88018-20): DET item 2.2.2.3, verify that procedure DMP 040-11 is revised to contain a caution statement to ensure that a valve is back-seated at its normal operating temperature. The inspector verified that procedure DMP 040-11, "Electrical Back-seating of Limitorque Operated Valves," was revised in October 1987 and that adequate caution statements were included. These cautions included administrative tracking of back-seated valves. This item is considered closed.

(Open) Unresolved Items (237/88017-21 and 249/88018-21): DET item 2.2.2.3, corrective maintenance procedures are not established for all safety-related and Balance of Plant (BOP) system equipment components. This item is expected to be resolved prior to August 1989.

(Closed) Open Items (237/88017-22; 237/88017-23; 249/88018-22 and 249/88018-23): DET item 2.2.2.4, the Work Request trending should be evaluated for effectiveness of equipment failure trending. These items are administratively closed since Region III is currently evaluating the program per item 249/87008-01.

(Open) Open Items (237/88017-24 and 249/88018-24): DET item 3.2.3, measurement and testing equipment (M&TE) should be verified to be controlled, including logged per DMP 100-2. No action taken on this item during this inspection, the item is documented here for tracking purposes.

(Open) Open Items (237/88017-25 and 249/88018-25): DET item 2.2.2.5, the maintenance staffing should be evaluated to verify that adequate personnel are available, including maintenance engineers for procedure writers and work analysis. No action taken on this item during this inspection, the item is documented here for tracking purposes.

(Open) Open Items (237/88017-26 and 249/88018-26): DET item 2.2.3.1, NRR should review the licensee's second 10 year IST program. No action taken on this item during this inspection, the item is documented here for tracking purposes.

(Open) Unresolved Items (237/88017-27 and 249/88018-27): DET items 2.2.3.3, 3.3.1, 3.3.2 and 2.2.3.6, verify the adequacy of the IST program; including comparison of Technical Specifications and ASME to the IST program, administrative procedures are in place to control IST, that all ASME XI valves contained in the program are tested, that IST procedures record "as found" and "as left" values, that all required testing are performed, evaluated and trended and that the HPCI pumps are being tested at the standard reference value as required by ASME XI. No action taken on this item during this inspection, the item is documented here for tracking purposes.

(Open) Unresolved Items (237/88017-28 and 249/88018-28): DET item 2.2.3.5, the team found that the pump test results for LPCI and diesel generator cooling water were outside the acceptance criteria without corrective actions and documentation. No action taken on this item during this inspection, the item is documented here for tracking purposes.

(Closed) Open Items (237/88017-29 and 249/88018-29): DET item 2.2.4.1, the retraining classes for licensed and non-licensed operators should be separated. The inspector verified that the retraining cycles 1 through 3 had separated the attendance by licensed and non-licensed personnel. This item is considered to be closed.

(Open) Open Items (237/88017-30 and 249/88018-30): DET items 2.2.4.1, 2.2.4.2, 2.2.4.3, 2.2.4.4 and 3.4.2, the team identified training problems. These include inadequate plant experience in the training department, poor classroom instructional practices, inadequate emphasis on indepth job required knowledge and significant differences between the GE simulator and Dresden actual systems. No action taken on this item during this inspection, the item is documented here for tracking purposes.

(Closed) Open Items (237/88017-31 and 249/88018-31): DET item 2.2.5.1, the Quality Assurance department appears to be understaffed for routine QA surveillance. The inspectors have reviewed the QA staffing plan and evaluated the effectiveness of the QA department. Although many of the QA departments are used for non-routine evaluations, the inspectors found that the QA department has significantly improved in identifying problems at Dresden, such as failure to follow procedures and resulted in corrective actions. This item is considered administratively closed since this item is routinely verified by the inspectors.

(Closed) Open Items (237/88017-32 and 249/88018-32): DET item 2.2.5.2, the QA department appeared to have little active or direct participation in the development of the Dresden station improvement plan (DSIP). The inspector verified that the QA department directly participates in monitoring the DSIP through surveillance and audits of the various DSIP action plans. This item is closed.

(Closed) Unresolved Items (237/88017-33 and 249/88018-33): DET item 2.2.5.3, Dresden improvement initiatives are fragmented without a centralized followup or tracking function. The licensee initiated the Dresden Station Improvement Plan (DSIP) in October 1987 and implemented the DSIP action plans. The action plans contain description of the plans, goal, and actions to be taken by the implementing department and measurement standards for completion. The inspector reviewed the DSIP and found it adequate in controlling and tracking the improvement plans. Additionally, the licensee assigned the DSIP responsibilities to the Superintendent of Performance Improvement to ensure centralized control. This item is considered to be closed.

(Closed) Open Items (237/88017-34 and 249/88018-34): DET item 2.2.5.4, verify that the lessons learned from the Safety System Functional Inspection (SSFI) have been applied to other systems. Since the Division of Reactor Safety is currently monitoring the SSFI efforts at all CECOs facilities, including application of lessons learned, these items are considered to be administratively closed.

(Open) Open Items (237/88017-35 and 88018-35): DET item 2.2.5.6, the Regulatory Assurance Department's internal and external commitment tracking system did not adequately address internal discrepancy and deviation reports. No action taken on this item during this inspection, the item is documented here for tracking purposes.

(Closed) Open Items (237/88017-36 and 249/88018-36): DET item 2.2.6.2, verify that the backshift Radiation/Chemistry Foremen are providing adequate job planning, infield support and directing job coverage. Regional based rad/chem specialist inspectors verified through direct observation that the backshift foremen adequately provided support during both normal operating cycles and outages. This item is considered closed.

(Closed) Open Items (237/88017-37 and 88018-37): DET item 2.2.6.4, evaluate the acceptance criteria (fit factor of 50) of respirator fit testing. Regional based inspectors evaluated the respirator fit testing program and found the program to be adequate, including the fit factor. This item is considered to be closed.

No violations or deviations were identified.

### 3. Exit Interview (30703)

The inspectors met with licensee representatives (denoted under Persons Contacted) on September 2, 1988, and informally throughout the inspection period, and summarized the scope and findings of the inspection activities.

The inspectors also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents/processes as proprietary. The licensee acknowledged the findings of the inspection.