

May 1, 2000

Mr. Oliver D. Kingsley
President, Nuclear Generation Group
Commonwealth Edison Company
ATTN: Regulatory Services
Executive Towers West III
1400 Opus Place, Suite 500
Downers Grove, IL 60515

SUBJECT: DRESDEN INSPECTION REPORT 50-237/2000002(DRP);
50-249/2000002(DRP)

Dear Mr. Kingsley:

On February 26 through April 1, 2000, the NRC performed an inspection at your Dresden Nuclear Power Station with the support of the Illinois Department of Nuclear Safety. At the conclusion of the inspection, the findings were discussed with those members of your staff identified in the enclosed report.

During this inspection period, the conduct of activities at Dresden was generally characterized by safety-conscious operations, engineering and maintenance practices, and careful radiological work control.

Although your staff conducted plant activities in a safe and conservative manner, we again note that material condition of equipment continued to challenge the operators.

Based on the results of this inspection, the NRC has determined that two violations of NRC requirements occurred. The first violation, with six examples, was for the station's failure to maintain adequate procedures. Most of these examples resulted from the closure of issues identified by your staff in licensee event reports in 1998 and 1999. The second violation was for the station's failure to ensure adequate design control measures were in place to prevent the reactor protection system low vacuum input from being adversely affected by plant work. These violations are being treated as Non-Cited violations (NCVs), consistent with Section VII.B.1.a of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violations or severity level of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, Region III, and the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be placed in the NRC Public Electronic Reading Room (PERR) link at the NRC homepage, <http://www.nrc.gov/NRC/ADAMS/index.html>.

Sincerely,

Original signed by
Mark Ring, Chief

Mark Ring, Chief
Reactor Projects Branch 1

Docket Nos. 50-237; 50-249
License Nos. DPR-19; DPR-25

Enclosure: Inspection Report 50-237/2000002(DRP);
50-249/2000002(DRP)

cc w/encl: D. Helwig, Senior Vice President, Nuclear Services
C. Crane, Senior Vice President, Nuclear Operations
H. Stanley, Vice President, Nuclear Operations
R. Krich, Vice President, Regulatory Services
DCD - Licensing
P. Swafford, Site Vice President
Robert Fisher, Station Manager
D. Ambler, Regulatory Assurance Manager
M. Aguilar, Assistant Attorney General
State Liaison Officer
Chairman, Illinois Commerce Commission

O. Kingsley

-2-

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket Nos: 50-237; 50-249
License Nos: DPR-19; DPR-25

Report Nos: 50-237/2000002(DRP); 50-249/2000002(DRP)

Licensee: Commonwealth Edison Company

Facility: Dresden Nuclear Station, Units 2 and 3

Location: 6500 North Dresden Road
Morris, IL 60450

Dates: February 16 through April 1, 2000

Inspectors: D. Smith, Senior Resident Inspector
D. Roth, Resident Inspector
B. Dickson, Resident Inspector in Training
R. Zuffa, Illinois Department of Nuclear Safety,

Approved by: Mark Ring, Chief
Reactor Projects Branch 1
Division of Reactor Projects

EXECUTIVE SUMMARY

Dresden Nuclear Station Units 2 and 3 NRC Inspection Report 50-237/2000002(DRP); 50-249/2000002(DRP)

This report includes the results of routine inspection by the resident inspection staff from February 16 through April 1, 2000.

Operations

- The material condition of equipment resulted in four unplanned power changes. The licensee initiated conservative actions to reduce load on the units when equipment problems affected plant operations (Section 02.1).
- Surveillance tests were completed satisfactorily and met procedure acceptance criteria. The licensee identified efficiency and communication improvement opportunities during the high pressure coolant injection surveillance (Section O3.1).
- The low pressure coolant injection system was in the proper standby line up and functioned properly during surveillance testing (Section O3.2).
- The licensee's practice of not declaring the standby liquid control system pump inoperable and not entering the Technical Specification limiting condition for operations action statement, when the breaker to the standby liquid control system pump was opened, was considered inappropriate. The licensee disagreed with the inspectors that this practice was inappropriate (Section O4.1).
- The licensee's self-assessment and the inspectors' review of licensee event reports identified similar problems associated with tracking and effectiveness of corrective actions. The licensee's self-assessment in the engineering area identified fuse traceability problems with safety-related fuses (Section O7.1).
- The licensee failed to perform required Technical Specification testing on the check valves upstream of the reactor building to suppression chamber vacuum breakers in September of 1998. This issue is considered an example of a non-cited violation (Section O8.8).
- The licensee failed to perform required Technical Specification testing on the drywell radiation monitor in October 1998. This issue is considered an example of a non-cited violation (Section O8.9).
- The licensee failed to maintain an adequate procedure for the Unit 3 hydrostatic test which resulted in a scram in February 1999. This issue is considered an example of a non-cited violation (Section O8.10).
- The licensee failed to perform required Technical Specification testing on the reactor protection system bus electrical protection assemblies in January 1998. This issue is considered an example of a non-cited violation (Section O8.11).

- The licensee failed to perform required Technical Specification testing for the main steam line pressure and reactor vessel pressure time delay relays. These two issues are considered as two examples of a non-cited violation (Section O8.15).

Maintenance

- The licensee properly completed a significant amount of on-line maintenance work (Section M1.1).
- The licensee performed appropriate inspection of the low pressure coolant injection heat exchanger tube leakage (Section M2.1).
- The Unit 3 emergency diesel generator failed on two occasions during surveillance testing. The licensee determined the first failure was due to improper governor installation and the root cause of the other failure was indeterminate. The troubleshooting performed by the licensee appeared appropriate (Section M2.2).
- The semi-annual fast start surveillance test for the Unit 3 emergency diesel generator was inappropriately scheduled without considering the potential for preconditioning. Also, the licensee's apparent cause evaluation failed to identify that personnel involved in the schedule development, review, and execution did not identify the scheduling error (Section M3.1).

Engineering

- The preliminary results of the licensee's self-assessment activities of the motor operated valve program identified improper stem lubrication frequencies for 16 safety-related valves and improper environmental qualification inspection frequencies for 32 valves. However, the findings demonstrated a substantial weakness in the licensee's predefine program and in the maintenance of motor operated valves (Section E7.1).
- The licensee failed to ensure that adequate design control measures were in place to prevent adversely affecting the reactor protection system low condenser vacuum input. This issue is considered a non-cited violation (Section E8.3).

Plant Support

- The plant assembly and accountability procedure contained inaccurate data regarding a temporary alteration and the location of the operations support center. The Updated Final Safety Analysis Report incorrectly specified the location of the operations support center (Section P3.1).

Report Details

Summary of Plant Status

Unit 2 began this inspection period at full power. On March 15, 2000, the licensee conducted an unplanned load drop to approximately 320 MWe, due to problems associated with the reactor recirculation system motor generator set vent fans. The unit was returned to full power operations on March 17, 2000. The unit remained at full power for the rest of the inspection period.

Unit 3 began the inspection period at full power. On March 17, 2000, the licensee conducted an unplanned load drop to approximately 640 MWe due high temperature concerns on the main generator brushes. The unit was returned to full power later that day. On March 19, 2000, while performing reactor feed pump swaps, the licensee conducted an unplanned load drop to approximately 640 MWe due to feedwater heater problems. The unit was returned to full power shortly thereafter. On March 26, 2000, while performing another reactor feed pump swap, the licensee conducted an unplanned load drop to approximately 640 MWe, due to feedwater pressure oscillations.

I. Operations

O1 Conduct of Operations

O1.1 General Comments (71707)

Using Inspection Procedure 71707, the inspectors conducted frequent reviews of plant operations. In general, the conduct of operations was professional and safety-conscious; specific events and noteworthy observations are detailed in the sections below.

During the inspection period, no events occurred that required prompt notification of the NRC per 10 CFR 50.72 or 73.71.

O2 Operational Status of Facilities and Equipment

O2.1 Equipment Status and Impact

a. Inspection Scope (71707)

The inspectors assessed the licensee's response to equipment malfunctions and unexpected feedwater pressure oscillations.

b. Observations and Findings

The material condition of equipment continued to challenge operators. The licensee experienced four unplanned power reductions due to equipment problems and unexpected feedwater pressure oscillations. These unplanned power changes are expected to be captured in the Dresden performance indicator data.

Failure of the 2A Recirculation Motor-Generator (MG) Set Vent Fan

On March 15, 2000, the licensee started the 2A recirculation MG set vent fan for troubleshooting after the fan had, for unknown reasons, tripped on March 10, 2000. Upon starting the fan, licensee personnel noticed that the fan was vibrating violently, and secured the vent fan. However, upon securing the 2A fan, the licensee observed the 2B recirculation MG set vent fan was experiencing high vibrations. In response to this degrading condition, the operators reduced load on Unit 2 to 320 MWe. In addition, mechanical maintenance staff initiated actions to install temporary blower units in the MG set vent fan area.

Subsequent investigation determined that the excessive vibrations on the 2B recirculation MG set vent fan were due to the 2A vent fan rotating backwards. The 2A fan was rotating backward because the fan's blades were damaged and one blade had become lodged in the fan's backdraft damper. The licensee subsequently removed the blade and the vibration on the 2B recirculation MG set vent fan returned to normal. The licensee removed the 2A recirculation MG set vent fan from service for repair.

Unit 3 High Generator Brush Temperatures

On March 17, 2000, the licensee conducted an unplanned load drop on Unit 3 to 640 MW due to high main generator brush temperatures.

On March 15, 2000, while performing biweekly brush inspections and replacement activities on the Unit 3 main generator brushes, electrical maintenance staff observed elevated brush temperatures (normal 130 degrees F). As a result, the licensee prepared a contingency plan to address the high temperature condition and implemented hourly monitoring of the brushes. On March 17, 2000, electrical maintenance staff informed the Unit 3 supervisor that brush temperature indicated 400 degrees F. As a result, the Unit 3 supervisor directed the reactor operator to reduce load on the unit.

The licensee's investigation determined that the elevated brush temperatures were due to replacement brushes being larger than the brush holders, and deficient internal spring mechanisms on the brush holders. The licensee subsequently replaced all 48 brushes, three brush holders, and cleaned the collector ring.

Faulty Feedwater Heater Emergency Drain Valve

On March 19, 2000, the operators reduced load to 750 MWe on Unit 3 to swap the reactor feed pumps and to complete planned repairs to the 3C2 feedwater heater. The operators then reduced load to 700 MWe because of increasing level in the 3D2 heater. The licensee had planned to hold load at this power until repairs were completed to the 3C2 heater. However, the operators had to subsequently reduce power to 640 MWe because more problems were experienced with the 3D2 heater. The operators took this action to prevent the overfilling of the heater and having a feedwater heater transient.

Feedwater Pressure Oscillations with Three Feedwater Pumps Running

On March 26, 2000, the operators reduced power to 750 MWe to perform a feed pump swap and conduct turbine control valve testing. During the reactor feed pump swapping evolution, reactor feedwater pressure oscillations occurred. As a result, the licensee reduced power to 650 MWe.

c. Conclusions

The material condition of equipment resulted in four unplanned power changes. The licensee initiated conservative actions to reduce load on the units when equipment problems affected plant operations.

O3 Operations Procedures and Documentation

O3.1 Technical Specification (TS) Required Surveillance Activities

a. Inspection Scope (61726)

The inspectors observed the following surveillances for compliance with procedural and regulatory requirements:

DOS 7505-01	Standby Gas Treatment Operability Surveillance
DOS 1500-05	Unit 3A LPCI Pump Operability Surveillance
DOS 6600-08	Unit 3 DG Cooling Water Pump IST
DOS 6600-01	Unit 3 Diesel Generator Operability Surveillance
DOS 1500-01	Unit 3 LPCI 3-1501-5C Valve Operability Test
DOS 1500-10	Unit 2B LPCI Pump Operability Surveillance

b. Observations and Findings

The periodicities of the surveillance tests were compared to the minimum periodicity required per TS limiting condition of operation surveillance requirements. The surveillance test acceptance criteria met the intent of the TS requirements. The inspectors reviewed the completed surveillance test data to ensure that the acceptance criteria were met. No problems were identified. At the completion of the surveillance tests, system alignment was returned to normal and independent verification of system status verified system restoration. Test instruments used were verified to be in the licensee's calibration program and were currently calibrated. Repositioned locked valves were verified by the inspectors to be in their correct position.

On March 7, 2000, the inspectors observed portions of the high pressure coolant injection system testing and vibration measurements. No safety concerns were identified. However, the licensee self-identified efficiency and communications issues that caused the high pressure coolant injection pump to run longer than anticipated, and resulted in additional heat into the torus.

c. Conclusions

Surveillance tests were completed satisfactorily and met procedure acceptance criteria. The licensee identified efficiency and communication improvement opportunities during the high pressure coolant injection surveillance.

03.2 Engineered Safety Feature System Walkdowns

a. Inspection Scope (71707)

During the inspection period, the inspectors performed an extensive walk down of the Unit 2 and 3 low pressure coolant injection (LPCI) systems.

b. Observations and Findings

During the inspection period, the inspectors performed several walk downs of the LPCI system components associated with both units. The inspectors verified components were properly aligned and/or energized. The inspectors also observed several maintenance activities associated with the LPCI System. The observation of those activities is covered in Section M2.1 of this report.

c. Conclusion

The low pressure coolant injection system was in the proper standby line up and functioned properly during surveillance testing.

04 Operator Knowledge and Performance

04.1 Inappropriate Practice of Not Declaring Standby Liquid Control System (SBLC) Inoperable During Ground Testing

a. Inspection Scope (71707)

The inspectors assessed the licensee's practice for entering TSs when rendering the SBLC equipment inoperable.

b. Observations and Findings

On March 9, 2000, the inspectors questioned a log entry which stated that a TS entry was not required when breakers for the standby liquid control system (SBLC) pumps were racked open to perform quarterly ground checks. The licensee generated PIF # D2000-01589, which documented the licensee's position that the practice of not declaring the SBLC pump inoperable was allowed by NRC Information Notice 97-78, "Crediting of Operator Actions In Place of Automatic Actions and Modifications of Operator Actions, Including Response Times," and Generic Letter 91-18, "Information to Licensees Regarding NRC Inspection Manual Section on Resolution of Degraded and Nonconforming Conditions," Revision 1.

The licensee's interpretation of Information Notice 97-78, was that credit could be taken for operator action for restoring a system when those actions are simple, controlled with written instructions, and not performed in environmentally harsh areas. The licensee's

interpretation of Generic Letter 91-18, was that manual operator action was acceptable for the SBLC system because the system was not an automatic actuation system.

The inspectors discussed this issue with the Office of Nuclear Reactor Regulation (NRR). NRR stated that the licensee misapplied the NRC guidance and that the practice did not meet the TS definition of operability. The inspectors informed the licensee that the guidance in the Generic Letter and Information Notice was inappropriately applied, in that Information Notice 97-98 was specifically written to address changes to the design of facilities or operations and that there was no applicability to testing activities. Generic Letter 91-18 also did not support this practice based on the definition of operability. Generic Letter 91-18 references the definition of Operability in the Standard TSs which states, "A system, subsystem, train, shall be operable or have operability when all necessary attendant instrumentation, controls, electrical power, are also capable of performing their related support functions." Therefore, when the breaker to the pump was opened, the licensee did not meet the TS definition of operability. In addition, with the breaker open, control power to the squib valve was also removed, which rendered the valve inoperable. The licensee generated a second PIF # D2000-01749 to revisit this issue. The licensee disagreed with the inspectors on the appropriateness of this practice. The licensee planned to pursue a TS Bases change which would allow this practice. Therefore, the inspectors considered this to be an **Inspection Follow-up Item (IFI 50-247;249/2000002-01)** pending review of the licensee's TS Bases change submittal.

Although the licensee did not enter the TS when performing the ground checking activities, the licensee met the TS Limiting Condition for Operations action statement, which required that the subsystem be restored in 7 days. The licensee had restored both breakers in 7 minutes.

c Conclusion

The licensee's practice of not declaring the standby liquid control system pump inoperable and not entering the TS limiting condition for operations action statement, when the breaker to the standby liquid control system pump was opened, was considered inappropriate. The licensee disagreed with the inspectors that this practice was inappropriate.

O7 **Quality Assurance in Operations**

O7.1 Self Assessment

During this period, the licensee identified some instances where corrective actions associated with licensee events reports (LERs) were not properly tracked, did not provide objective evidence of effectiveness, or appeared ineffective (PIF# D2000-01171, PIF# 01172, and others). As a result, the licensee decided to review the previous 2 years of LERs to determine the extent of the condition. The review was not completed by the end of this inspection period. The inspectors considered the licensee's investigation to be appropriate.

The inspectors reviewed many of the LERs submitted by the licensee during the past 2 years. During the review, the inspectors noted similar issues to those identified by the licensee's self-assessment. The inspectors concluded that the issues were not significant, and noted that the licensee had entered the issues into the station's corrective action process.

In addition, the licensee conducted self-assessments in operations and engineering areas. The inspectors attended the Nuclear Oversight Assessment presentations for these two assessments. On March 22, 2000, Nuclear Oversight Assessment NOA-12-00-OP02 was presented to the operations department regarding the assessment of document, drawing, and procedure controls, and operator license qualifications. On March 24, 2000, Nuclear Oversight Assessment NOA-12-00-OP02 was presented to the engineering department regarding the assessment of Dresden's test control, measuring and test equipment control, and the fuse program. This self-assessment identified that the licensee had not maintained traceability of safety-related fuses. The inspectors concluded that these two assessments were thorough.

O8 Miscellaneous Operations Issues (92700)

The inspectors reviewed a significant number of LERs during this inspection report period and identified six examples of a violation where the licensee failed to maintain adequate procedures. Five inadequate procedures resulted in the station's failure to perform required TS surveillance testing. The other inadequate procedure resulted in a scram.

O8.1 (Closed) LER 50-249/98003-00: Reactor Scram from MSIV Closure by a Spurious Group 1 Isolation Signal Due to Inadequate Preventive Maintenance.

On April 9, 1998, a reactor scram occurred following a spurious Group 1 isolation. The inspectors documented the issue in Inspection Report 98015. No new issues were identified during the review of this LER. This LER is closed.

O8.2 (Closed) LER 50-249/98004-01: Unit 3 Manual Scram Due to Decreasing Condenser Vacuum Caused by a Stuck Open Turbine Cross-around Relief Valve. This LER discussed the May 16, 1998, manual scram, which was performed in response to decreasing condenser vacuum conditions. This issue was discussed in special Inspection Report 98017. The inspectors reviewed the LER and identified no new issues. This LER is closed.

O8.3 (Closed) LER 50-249/98005-00: Reactor Pressure Boundary Leakage in Excess of TSs Limit Due to Dry Tube Leakage. In this LER, the licensee reported that a small leak in the local power range monitor (16-09) dry tube assembly caused reactor pressure boundary leakage. Immediately after finding this issue, the licensee performed a temporary alteration that installed a cap to prevent further leakage outside the reactor pressure boundary. The licensee also replaced this local power range monitor assembly on February 10, 1999. This LER is closed.

O8.4 (Closed) LER 237/98006-00: Unit 2 Reactor Scram While Shutdown from Scram Discharge Instrument Volume Level Hi-Hi Due to Valve Failure as a Result of Intergranular Stress Corrosion Cracking. This LER documented that on March 11, 1998, the scram discharge volume was unexpectedly filled and caused a scram signal. The

reactor was already shutdown, and the scram discharge volume was isolated; however, leaky hydraulic control unit withdraw valves permitted the volume to be filled. The licensee concluded that the valves were leaking due to inter-granular stress corrosion cracking. The licensee replaced the valves as failures were identified. This LER is closed.

- O8.5 (Closed) LER 50-237/98010-00: Main Turbine Trip and Reactor Scram From Stop Valve Closure due to Momentary Electro-hydraulic Control Fluid Low Pressure Caused by Air-bleed Valve Failure. The licensee issued a supplemental LER on October 9, 1998. This LER is closed.
- O8.6 (Closed) LER 50-237/98010-01: Main Turbine Trip and Reactor Scram From Stop Valve Closure due to Momentary Electro-hydraulic Control Fluid Low Pressure Caused by Air-bleed Valve Failure. This issue was discussed Inspection Report 98019. The inspectors did not identify any additional concerns during the review of this LER. This LER is closed.
- O8.7 (Closed) LER 50-237/98012-00: Fuel Bundle Movement Permitted During Control Room Ventilation Outage due to Programmatic Failures Within the Work Planning and Execution Process. This LER documented that on August 20, 1998, the licensee performed fuel bundle movements while the control room emergency ventilation system was inoperable. The inspectors issued Violation 50-237/98021-02 in Inspection Report 98021. The licensee developed several corrective actions for this issue. This LER is closed.
- O8.8 (Closed) LER 50-237;249/98014-00: Reactor Building to Suppression Chamber Vacuum Breakers Were Not Surveilled in Accordance with TS Surveillance Requirements Due to Ambiguity in the Plant's Licensing Bases. This LER documented the discovery on September 1, 1998, that the check valves located upstream of the air operated valves in the vacuum breakers were not being verified as closed once per 7 days in accordance with TS surveillance requirement 4.7.F.1. The licensee determined that the testing had not been completed because when the vacuum breakers were added as part of the TS Upgrade Project, the check valves had been inadvertently overlooked. The licensee subsequently tested the valves.

Dresden TS 6.8.A., states that written procedures shall be established, implemented, and maintained covering the activities recommended in Appendix A of Regulatory Guide 1.33, Rev 2, February 1978. Surveillance tests are recommended in Appendix A. Failure to maintain the surveillance procedure to ensure testing was performed to meet TS 4.7.F.1 is a violation. This Severity Level IV violation is being treated as an example of a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (**NCV 50-237;249/2000002-01a(DRP)**). This issue is in the licensee's corrective action program. This LER is closed.

- O8.9 (Closed) LER 50-237;249/98016-00: Drywell High Radiation Monitor Channel Functional Test Inadequate due to Inadequate Technical Review of Procedure During Implementation. Dresden TS, Table 4.2.A-, "Isolation Actuation Instrumentation Surveillance Requirements," required a full functional test of the drywell high radiation monitor on a monthly basis. On October 12, 1998, the licensee discovered that Dresden Operating Surveillance 1600-21, "Drywell High Radiation Monitor Channel Functional Test," did not include the functional test. The licensee's failure to maintain

the surveillance procedure to ensure TS 4.2.A was met is a violation. The licensee completed the following corrective actions: 1) calibrated the radiation monitor; 2) revised the surveillance test procedure; and 3) reviewed other functional test procedures to identify other inadequate procedures. This Severity Level IV violation is being treated as an example of a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy **(NCV 50-237;249/2000002-01b(DRP))**. This issue is in the licensee's corrective action program.

- O8.10 (Closed) LER 50-249/99001-00: Unit 3 Shutdown Cooling Isolation from an Invalid Low Reactor Water Level Signal Due to Procedural Deficiency. This LER documented that on February 20, 1999, following the performance of Dresden Operating Surveillance, 0201-02, "Unit 3 [RPV] ASME B and PV Code 1000 PSI System Leakage/ Hydrostatic Test, " Revision 30, operations personnel caused an engineered safety feature actuation while aligning reactor pressure instruments into service.

The reactor pressure instruments being returned to service shared a common sensing line with reactor level instruments. A small pressure oscillation, caused by opening the isolation valve, made a false low reactor water level signal which initiated a reactor scram and the Group 2 and Group 3 isolations. The licensee determined that the Dresden Operating Surveillance was inadequate because the procedure had a caution step inappropriately sequenced in the procedure. The caution step specified that reactor pressure vessel level be greater than 60 inches before valving in the reactor pressure instruments. Due to the improper placement of the caution step, the operators valved in the reactor pressure instruments when reactor pressure vessel water level was at 32 inches. The licensee's corrective actions included modifying the procedure to add a step to establish a level of 70 inches prior to restoring the instrumentation.

The licensee's failure to maintain Dresden Operating Surveillance 0201-02 is a violation. This Severity Level IV violation is being treated as an example of a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy **(NCV 50-249/2000002-01c(DRP))**. This issue is in the licensee's corrective action program. This LER is closed.

- O8.11 (Closed) LER 50-237/99002-00: Reactor Protection System Electrical Protection Assembly Channel Functional Test Requirement Not Met Due to Inadequate Review of Test Procedure. This LER documented the discovery on January 31, 1999, that the reactor protection system bus electrical protection assemblies were not being tested in accordance with TS 4.9.G.1. This TS required that the reactor protection system channels be tested each time the plant is in cold shutdown for a period of more than 24 hours, unless performed in the previous 6 months. The licensee determined that the testing had not been conducted on January 17, 1998, and April 13, 1998, when Unit 2 entered Mode 2 from Mode 4. The licensee determined the cause to be an inadequate review of the testing procedure. The licensee replaced the procedure and satisfactorily performed the testing. Failure to maintain the surveillance procedure to ensure TS 4.9.G.1 was met is a violation. This Severity Level IV violation is being treated as an example of a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy **(NCV 50-237/2000002-01d(DRP))**. This issue is in the licensee's corrective action program. This LER is closed.

- O8.12 (Closed) LER 50-249/99002-00: Inadequate Corrective Actions Contributed to Invalid Recirculating Loop Temperature Signal, which caused Unit 3 Shutdown Cooling

Isolation. This LER documented that on February 1 and 2, 1999, the shutdown cooling system was inadvertently isolated due to spurious actuation of the 350 degree F recirculation loop temperature switch. Unit 3 was in mode 5 on February 1, and mode 4 on February 5. The licensee's investigation revealed that the spurious actuation was due to inadvertent agitation of the thermocouple. In addition, the licensee subsequently performed a procedural revision which disabled this trip function during modes 4 and 5.

The licensee did not make the required emergency notification to the NRC as required by 10 CFR 50.72(b)(2)(ii) for the actuation of an engineered safety features system. The licensee determined that the inadvertent engineered safety feature actuation was not reported due to incorrect reporting information in the licensee's reportability manual. The licensee subsequently reported the engineered safety features actuation on March 5, 1999, and corrected the station's reportability manual. The failure to report is considered a violation of minor significance and not subject to formal enforcement action. This issue is in the licensee's corrective action program. This LER is closed.

- O8.13 (Closed) LER 50-249/99004-00: Enforcement Discretion Required for Target Rock Safety/Relief Valve Inoperability. This LER documented the failure of a combination safety/relief valve on May 3, 1999, which placed the plant in a shutdown TS limiting condition for operation action statement. This issue was previously discussed in Inspection Report 99008. The inspectors' review of this LER did not identify any new concerns. This LER is closed.
- O8.14 (Closed) LER 50-249/99006-00: Reactor Scram from Main Turbine Stop Valve Closure due to Turbine Trip Caused by Lockout Valve Solenoid Deenergization During Weekly Overspeed Oil Trip Testing. This LER described the stop valve closure, turbine trip, and scram of Unit 3 on December 11, 1999, during surveillance testing. The inspectors documented this issue in Inspection Report 99021. The inspectors' review of this LER did not identify any new concerns. This LER is closed.
- O8.15 (Closed) LER 50-237;249/00001-00: Main Steam Line Low Pressure and Isolation Condenser High Pressure Time Delay Relays TS Calibration Frequency Intervals Exceeded due to Inadequate Management Oversight. This LER documented that the licensee had failed to test two instrumentation channels as required by TSs. Specifically, on February 15, 2000, during a review of the plant's submittal of the Improved TS, the licensee identified that the main steam line low-pressure isolation time delay relays were tested on an 18-month frequency instead of the required TS quarterly frequency for both units. Also, on February 16, 2000, the licensee discovered that the isolation condenser high pressure time delay relay was tested on a 2-year frequency instead of the required TS quarterly frequency for Unit 3. The licensee subsequently performed the required testing.

The licensee determined that the root cause of the inadequate testing was due to a programmatic weakness in the review process of the TS Upgrade Project which was implemented in 1997. The licensee's failure to maintain the surveillance procedure to ensure the quarterly testing as specified by TS Table 4.2.A-1, "Isolation Actuation Instrumentation Surveillance Requirements," Functional Unit, Number 3, Main steam line isolation, c)MSL Pressure - Low was met is a violation. This Severity Level IV violation is being treated as an example of Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (**NCV 50-237;249/200000-01e(DRP)**). This issue is in the licensee's corrective action program as LER 50-237/2000001-00.

The licensee's failure to maintain the surveillance procedure to ensure the quarterly testing as specified by TS Table 4.2.D-1, "Isolation Condenser Actuation Instrumentation Surveillance Requirements," Functional Unit, reactor vessel pressure - High, channel calibration was met is a violation. This Severity Level IV violation is being treated as an example of a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (**NCV 50-249/200000-01f(DRP)**). This issue is in the licensee's corrective action program as LER 50-237/00001-00. This LER is closed

II. Maintenance

M1 Conduct of Maintenance (62703)

M1.1 General Comments

a. Inspection Scope (62703)

During the inspection period, the inspectors observed a number of maintenance related activities involving either routine plant maintenance or corrective maintenance evolutions. These activities included, but were not limited to, the following observations:

WR 990154515	Unit 2B Reactor Feed Pump Preventive Maintenance
WR 980058675	Replacement of 2A Service Water Pump
WR 990144438	Replace 2B Reactor Building Closed Cooling Water Pump
WR 990154634	Unit 2A Reactor Recirculating MG Set Vent Fan Replacement
WR 990106406	2A LPCI Room Cooler Fan
WR 990146232	Unit 3C Reactor Feed Pump Check Valve Repair
WR 980126889	Replace the Unit 3 Diesel Generator Cooling Water Pump
WR 990023849	Unit 3 Diesel Generator 2 year Preventive Maintenance
WR 990045691	Unit 3 Diesel Generator Clean/Inspect/Adjust Lube Oil Pump
WR 970049207	Replacement of the 3-1501-5C, LPCI Suction Isolation Valve
WR 990149354	Freeze Seal and Weld Repair of 3-0305-10-35-104 CRD
WR 990150286	Unit 3 Main Generator Abnormal Brush Wear/Replacement

The inspectors reviewed project work scope, work procedural requirements, specific work requirements and other pertinent information necessary to perform on-line maintenance evolutions. The inspectors also discussed in progress work, on location, with cognizant field supervision.

b. Observations and Findings

The inspectors observed the ongoing work at several job locations throughout Unit 2 and Unit 3. The inspectors determined that station personnel had work packages at or near the work site and used the work packages properly. The procedures were being followed. The supervisors were normally present at the work site directing activities. The inspectors observed the performance of several specific work activities. Plant personnel normally followed safety precautions, were knowledgeable of the activity and answered questions the inspectors had regarding the work. Also, plant personnel generally left the work areas clean.

In-plant work was generally accomplished with few cases of rework and the post-maintenance testing reflected the correct execution of the field work.

c. Conclusions

The licensee properly completed a significant amount of on-line maintenance work.

M2 Maintenance and Material Condition of Facilities and Equipment

M2.1 Low Pressure Coolant Injection (LPCI) System Heat Exchanger Repairs.

a. Inspection Scope 62703)

The inspectors assessed the licensee's repair and root cause determination of tube leakage in the low pressure coolant injection system heat exchanger.

b. Observations and Findings

In January of 2000, the licensee discovered that the tube side of the 3A LPCI heat exchanger was leaking. On March 7, 2000, the 3A LPCI heat exchanger was opened and the tubes were leak checked in order to identify which tube was leaking. The licensee found one leaking tube. The licensee discovered that the leaking tube had been replaced in February of 1999 during the D3R15 Refuel Outage. The licensee determined there were pitting indications on the leaking tube. The licensee also checked six other tubes adjacent to the leaking tube and did not identify any problems. Several other new, uninstalled heat exchanger tubes from the same manufacturer's lot as the leaking tube were being stored onsite as spares. On March 13, 2000, the licensee performed eddy current testing on the uninstalled tubes. The testing revealed that 17 of 78 new tubes had pitting indications that were similar to the leaking tube discovered in the Unit 3A LPCI heat exchanger. Eight of the 17 tubes exhibited indications that were relatively high but less than 30 percent through wall (high end of "acceptable for use" range). The licensee removed all sixteen tubes from the lot and tagged each "rejected."

A licensee apparent cause report (ACE 0025358) documented the apparent cause of the pitting indications as "possible manufacturing defect." At the end of the inspection period, the licensee ordered a metallurgical examination to determine the cause of the defects. The report also stated that these indications were found only in one lot of tubes. Other tubes from this same heat lot (approximately 130 total) were installed in Unit 2 and Unit 3 LPCI heat exchangers during D2R16 in November 1999 and D3R15 in February 1999, respectively. These tubes were only used in LPCI heat exchangers at Dresden. Routine chemistry samples of these heat exchangers have not revealed any other leakage.

c. Conclusions

The licensee performed appropriate investigation of the LPCI heat exchanger tube leakage.

M2.2 Emergency AC Power Systems

a. Inspection Scope (62707)

The inspectors monitored the licensee's response to problems experienced with the Unit 3 emergency diesel generator (EDG).

b. Observations and Findings

Failure to Hold Load due to Incorrectly Assembled Governor

On March 9, 2000, the licensee attempted to run a surveillance test on the Unit 3 EDG. While performing DOS 6600-12, "DG Test Endurance and Margin/Full Load Rejection/ECCS Hot Restart," Revision 18, the diesel could not maintain a steady 2500 kW load due to constant driving down of the governor (PIF# D2000-01433). On March 10, 2000, while performing troubleshooting on the Unit 3 EDG, the governor speed motor was found with the hold down bolts missing (PIF# D2000-01438). The licensee's investigation into the failure determined that the manufacturer of the governor did not install the bolts, however, the EDG had successfully passed previous surveillance tests.

The licensee consulted the vendor, and the vendor agreed that the missing bolts resulted in the failure. The licensee examined the other two EDGs, and contacted other ComEd licensees to assure that the other licensees' EDGs did not have the same problem.

Failure to Achieve a Hot Restart due to Unknown Causes

On March 11, 2000, the Unit 3 EDG failed to achieve a hot restart following the 24-hour run/full load reject portions of DOS 6600-12 (PIF# D2000-01471). The licensee developed and executed a troubleshooting plan. The inspectors monitored the licensee's troubleshooting. The troubleshooting appeared appropriate. However, the licensee was unable to identify the cause for the EDG's failure to start. The licensee subsequently performed three hot restarts successfully, and, based on the successful restarts, declared the EDG operable. The licensee had not completed a root cause report at the end of the inspection period.

c. Conclusions

The Unit 3 EDG failed on two occasions during surveillance testing. The licensee determined the first failure was due to improper governor installation and the root cause of the other failure was indeterminate. The troubleshooting performed by the licensee appeared appropriate.

M3 Maintenance Procedures and Documentation

M3.1 (Unit 3) Scheduled EDG Maintenance Activities

a. Inspection Scope (62703)

The inspectors assessed the licensee's planned maintenance activities on the Unit 3 EDG.

b. Observations and Findings

On February 23, 2000, the inspectors reviewed the licensee's scheduled maintenance and restoration activities for the Unit 3 EDG. The inspectors noted that immediately following a maintenance run of the EDG, the TS required semi-annual fast start surveillance test (DOS 6600-01, "Diesel Generator Surveillance Tests") was scheduled to be performed under WR# 990089310-01.

The inspectors held discussions with operators over this scheduling issue. The operators informed the inspectors that the scheduled maintenance run was performed in order to warm up the EDG to allow maintenance personnel to retorque nuts and bolts throughout the EDG system. Dresden's TS Bases stated that the surveillance test was required to be run from ambient standby conditions. The inspectors determined that the surveillance was inappropriately scheduled because the EDG would have been preconditioned following the maintenance run.

The inspectors then questioned the Unit 3 supervisor on potential preconditioning of the EDG. The Unit 3 supervisor concurred with the inspectors that the EDG surveillance should not be performed and removed the fast start surveillance from the schedule. Also, the supervisor initiated PIF # D2000-1084 to document that the parameters for "standby" for a cold start were not given in the test.

As a result of the PIF, the licensee performed an apparent cause evaluation to find out how this surveillance test was scheduled without considering the TS bases information. In the evaluation, the licensee concluded that since the procedure did not define what constituted a standby condition, there was nothing to preclude the work control organization from scheduling this activity.

The inspectors noted that the EDG had been inappropriately scheduled for at least 3 weeks. The licensee had several opportunities to identify the potential preconditioning concern during development, review, and execution of the work schedule. The inspectors determined that the apparent cause evaluation failed to address this issue.

c. Conclusion

The semi-annual fast start surveillance test for the Unit 3 EDG was inappropriately scheduled without considering potential preconditioning concerns. The licensee's apparent cause evaluation failed to identify that personnel involved in the schedule development, review, and execution did not identify the scheduling error.

M8 Miscellaneous Maintenance Issues

- M8.1 (Closed) IFI 50-237/98019-02: Disconnected wire in the EDG's fuel governor. This inspection follow-up item was to review associated work packages for maintenance troubleshooting performed prior to a trip of the Unit 2 EDG on June 10, 1998. The licensee's troubleshooting efforts revealed that a wire had disconnected from its soldered connection on the fuel governor. The licensee generated PIF # D1998-03859. The licensee subsequently inspected the governors of the other two EDGs and found no similar problems. However, after this inspection period ended, the Unit 2 EDG experienced a similar problem that resulted in the EDG failing a surveillance test. The licensee captured this issue in the corrective program as PIF D2000-2159. This IFI is closed.
- M8.2 (Closed) LER 50-249/97013-01: Torus Cooling Outboard Test Valve Would Not Close Resulting in Inoperable Low Pressure Coolant Injection System Due to Faulty Breaker Auxiliary Contact Switches. This LER documented that the torus cooling outboard test valve (3-1501-38B) could not be closed on December 1, 1997. The licensee conducted a root cause investigation, which determined the cause of the valve's failure to close was due to the auxiliary contact sticking open in the close circuit for the valve. The licensee subsequently repaired the valve. The inspectors identified no new issues during the review of this LER. This LER is closed.
- M8.3 (Closed) LER 50-237/98003-00: Unit 2 High Pressure Coolant Injection System Declared Inoperable due to Closure of the Turbine Stop Valve Above Seat Drain Valve Caused by Design Deficiency of the Valve Operator Diaphragm. On January 28, 1998, the licensee declared the Unit 2 high pressure coolant injection system inoperable due to a ruptured air-operator diaphragm on the turbine stop valve above seat drain valve. This issue was discussed in Inspection Report 98003. The inspectors' review of this LER did not reveal any new concerns. This LER is closed.
- M8.4 (Closed) LER 50-237/98004-00: Outboard Main Steam Line Isolation Valves (MSIV) 2-203-2B and 2-203-2D As-Found Leakage Rates Exceeded TS Limit. The licensee issued a supplemental LER on October 30, 1998. This LER is closed.
- M8.5 (Closed) LER 50-237/98004-01: Outboard Main Steam Line Isolation Valves 2-203-2B and 2-203-2D As-Found Leakage Rates Exceeded TS Limit. This LER documented the identification of two outboard main steam isolation valves that had leakage greater than the leakage allowed by the TS. The licensee determined that the valves leaked due to normal wear on the seat and plug and packing leakage. The licensee repaired and satisfactorily retested the valves.

The inspectors requested the "Effectiveness Review" report for the LER. The licensee attempted to retrieve the review and subsequently informed the inspectors that the station had inadvertently failed to enter the item into the licensee's corrective action process. The licensee documented this oversight in PIF # D2000-01223. This issue is similar to problems discussed in Section 07.1 of this report.

- M8.6 (Closed) LER 50-237/99003-00: Rod Block Monitor Inoperable due to Failed Diode. On March 20, 1999, during routine control rod drive exercising on Unit 2, operators observed that the four-rod display on panel 902-5 indicated an improper number of local power range monitor inputs to the rod block monitor for the selected control rod. The

licensee's investigation of the low power range monitor inputs revealed that an electrical diode internal to the rod block monitor had shorted. This diode failure prevented the proper operation of the count circuit and resulted in an improper number of local power range monitor inputs. The licensee replaced the diode on the rod block monitor chassis, and returned the rod block monitor to an operable status. This LER is closed.

M8.7 (Closed) LER 237/99004-00: Control Room HVAC System Emergency Zone Refrigeration Control Unit Inoperability. The licensee issued a supplement to this LER on September 17, 1999. This LER is closed.

M8.8 (Closed) LER 237/99004-01: Supplement to Control Room HVAC System Emergency Zone Refrigeration Control Unit Inoperability. This LER documented the May 15, 1999, failure of the safety-related control room ventilation system. This issue was discussed in inspection report 99008. The NRC documented a non-cited violation (NCV 50-237/249/99008-03(DRP)) for inadequate corrective actions regarding the overload relays. The inspectors did not identify any new concerns during the review of this LER. This LER is closed.

III. Engineering

E7.1 Engineer Self-Assessment Activities

a. Inspection Scope (62707)

The inspectors reviewed the preliminary results of the licensee's self-assessment of the station's motor operated valve (MOV) program.

b. Observations and Findings

The inspectors reviewed two PIFs that had been written as a result of the licensee's self-assessment. Problem Identification Form # D2000-01515 documented a finding where MOV stem lube "predefine" preventive maintenance activities had not been scheduled properly or performed within the time frame mandated by MOV program requirements on 16 safety-related valves. The licensee's predefine program was established to track and trend the completion dates of both TS required surveillance tests and other programmatic requirements such as post-maintenance tests, equipment inspections, and preventive maintenance evolutions, such that safe plant conditions are reviewed and maintained on a continuous basis. The engineering staff performed an operability evaluation for each of the 16 safety-related valves. The operability evaluations showed that, despite the stem lube scheduled dates being outside of the required frequency of 18 months (some as long as 50 months), the valves were within the over-thrust design limits. Based on this information and the successful completion of operability surveillance testing on the 16 valves, the licensee declared the valves operable.

In PIF # D2000-1665 the self-assessment identified several environmental qualification inspections for MOVs which had not been scheduled or performed within the time frame required by Dresden's Environmental Qualification Program.

Environmental qualification of MOVs included a visual inspection of gear box grease, a visual inspection of the limit switch housing for leaks, and a visual inspection of the limit switch gear housing grease. The self-assessment had identified 32 safety-related MOVs that were outside the required inspection frequencies. The licensee performed an operability evaluation for each MOV. The operability determination concluded that based on test and analysis data, each MOV would still perform its intended safety functions.

During interviews with the licensee, the licensee stated that the properly established MOV predefine dates had been changed by work control schedulers without the knowledge of the cognizant engineer. New predefines were automatically scheduled by the predefine software program based on the last predefine credit date. The licensee informed the inspectors that these dates can be manually changed without restriction.

The inspectors considered both of these issues to be excellent findings by the licensee's self-assessment. These issues represented a substantial weakness in the licensee's predefine program and in the maintenance of MOVs.

The corrective actions for these issues included developing procedural requirements to have the cognizant system engineer approve all predefine changes. A second corrective action included reviewing other programs which use predefine activities to determine if this problem existed in other areas.

c. Conclusion

The preliminary results of the licensee's self-assessment activities on the motor operated valve program identified improper stem lubrication frequencies for 16 safety-related valves and improper environmental qualification inspection frequencies for 32 valves. The findings demonstrated a substantial weakness in the licensee's predefine program and in the maintenance of motor operated valves.

E8 Miscellaneous Engineering Issues

- E8.1 (Closed) IFI 50-237;249/98026-03: Post-accident drywell and torus sample lines' heat trace temperature setpoint. This inspection follow-up item was to review information regarding the setpoint of the post-accident drywell and torus sample lines' heat tracing. The inspectors subsequently reviewed operability evaluation 98-025 which recommended that the system be realigned to the drywell from the torus in the post-accident sampling procedure. The inspectors identified that the post-accident sampling procedure did not capture this recommendation. The inspectors concluded that although the recommendation was not captured in the procedure, the operation of the system was not adversely impacted. The licensee entered the inspectors' observation into the corrective actions program via PIF# D2000-01730. This IFI is closed.
- E8.2 (Closed) IFI 50-237;249/98026-04: Follow-up of issues concerning Mark 1 Hardened Vent Modification (NRC Generic Letter 89-16). The inspectors reviewed Modification M12-2-90-029 for Unit 2 and Modification M12-3-90-029 for Unit 3 as part of Temporary Instruction 2515/121. In Inspection Report 98026, the inspectors closed the temporary instruction; however, the inspectors noted additional unresolved design issues and opened this IFI. Through a review of the design drawing and other engineering

documentation the inspectors concluded there were no problems with these issues and that these issues were of minor safety significance. This IFI is closed.

- E8.3 (Closed) LER 249/98006-00: Unit 3 C Condenser Low Vacuum Scram Switch Potentially Inoperable Due to Excessive Moisture in Sensing Line as a Result of Improper Line Slope. On May 25, 1998, the licensee documented that the 3C hood vacuum indication shifted from 27.5 inches of mercury to 25.9 inches of mercury following work that should not have affected the indication. During this time, the low vacuum alarm annunciated in the control room, despite control room indications showing an acceptable vacuum. The licensee documented this discrepancy in PIF# D1998-03527. The licensee investigated this issue in May 1998, and did not identify any reactor protection system (RPS) operability concerns.

On June 16, 1998, an engineering review identified that one of the four condenser vacuum pressure switches might not have functioned at the TS limit of 21 inches Hg due to sensing line problems. The licensee had not recognized this potential problem in May 1988 when the licensee initially investigated the issue. On June 17, 1998, the licensee reported the condition to the NRC.

The licensee determined that water was collecting in the condenser vacuum sensing line because the slope of the line was incorrect. In the LER, the licensee committed to correct the slope during the next refueling outage. Meanwhile, the licensee blew down the sensing line periodically. The licensee inspected the line during the refueling outage. However, the licensee's inspection did not identify all sloping areas. Therefore, the problem was not corrected. On December 15, 1999, the licensee installed a temporary modification (TMOD# III-26-99). This modification was installed to provide a continuous blow down for the Unit 3 "C" condenser hood vacuum sensing line. This TMOD eliminated the need for periodic blowdown of the sensing line. The licensee has scheduled additional line walkdowns and corrective actions for the next outage in 2001.

The LER stated that since the water in the sensing line had caused incorrect control room indication, and since the sensing line was shared with the reactor protection system, then the TS-required reactor protection system low vacuum input might have been inoperable. Criterion III, "Design Control," of Appendix B to 10 CFR Part 50 required that design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews or by the performance of a suitable testing program. The licensee's failure to establish sufficient design controls on the pressure switch and its sensing line is a violation. This Severity Level IV violation is being treated as a Non-Cited Violation, consistent with Section VII.B.1.a of the NRC Enforcement Policy (**NCV 50-249/2000002-02(DRP)**). This issue is in the licensee's corrective action program. This LER is closed.

- E8.4 (Closed) LER 237/98007-00: Main Steam Safety Valves 2-0203-4A and 2-0203-4B As Found Lift Setpoint Outside Tech Spec Limit Due to Setpoint Drift. The LER documented that on March 27, 1998, with Unit 2 in the Refuel mode, main steam safety valve 2-0203-4A and 2-0203-4B opened at pressures outside of the TS limits of +/1 percent, but within the ASMC code band of +/-3 percent. Corrective actions included rebuilding the valves. This LER is closed.

- E8.5 (Closed) LER 50-249/98007-00: Unit 3 High Pressure Coolant Injection System Declared Inoperable due to Gland Seal Leak Off Condenser Hotwell Level Control Malfunction. The licensee issued a supplement to this LER. This LER is closed.
- E8.6 (Closed) LER 50-249/98007-01: Unit 3 High Pressure Coolant Injection System Declared Inoperable due to Gland Seal Leak Off Condenser Hotwell Level Control Malfunction. On October 29, 1998, during the quarterly Unit 3 HPCI system operability surveillance, the gland seal leak off condenser hotwell level continued to increase with the gland seal leak off drain pump running. As a result, the operators tripped the turbine and declared the system inoperable. The licensee discovered that the drain pump had become air bound.

Through a review of historical drawings and documentation, the licensee discovered that a 1/4 inch vent line had been removed from the pump suction flange in 1987. The licensee removed the line from the pump suction flange because an investigation at that time concluded that the line did not adequately vent the drain pump casing and in some cases may have contributed to air in-leakage. The vent line was not reinstalled in a different location.

In 1987, the gland seal leak off condenser was a nonsafety-related system; however, the system was upgraded to a safety-related system in 1997. At the time of the upgrade, this issue was not addressed.

After the completion of the investigation for the 1998 failure, the licensee installed a new 1/4 inch vent onto the pump casing as opposed to the pump's suction flange. The licensee conducted testing of the gland seal leak off pump, which indicated that the pump casing no longer became air bound. The licensee's failure to ensure adequate design controls during the upgrade of the gland seal leak off condenser to a safety-related system was a violation. However, the safety significance of this issue was minimal; therefore, this issue is considered a minor violation and not subject to formal enforcement action. This LER is closed.

- E8.7 (Closed) LER 50-237/98008-01: Reactor Scram Results from Unit Auxiliary Transformer 21 Modification Design Error Due to Inadequate Supervisory Methods & Inadequate Interface with the Testing Organization. This supplemental LER discussed the April 20, 1998, Unit 2 trip due to a main generator trip. This event was discussed in Inspection Report 98014. The licensee performed an effectiveness review of the corrective actions in 1999. The licensee's review documented that some corrective actions were not completed at the time of the effectiveness review. Specifically, the corrective action of reviewing high-risk modifications that were recently installed had not been performed because the due date was extended. Subsequently, the licensee inadvertently recorded the action as closed. However, the licensee continued to track this item by nuclear tracking system #23718098008. The issues identified by the effectiveness review were similar to the licensee's findings discussed in Section O7.1 of this report. This LER is closed.
- E8.8 (Closed) LER 50-249/98008-00: Low Pressure Coolant Injection Pump Inoperable due to Inadequate Contact on Suction Line Stanchion Plate. This LER documented a deficient as-found condition of structural support M-3403-9. The support was located on the suction elbow of the 3A low pressure coolant injection (LPCI) pump. On October 27, 1998, the licensee performed a scheduled 10-year inspection on the LPCI

system and noted that support M-3403-9 had a gap between the stanchion and the floor plate. The licensee repaired the support. The licensee's investigation of this deficient condition determined that the gap was likely caused by piping support modifications installed between 1982 and 1984. Neither the modification walkdown nor the subsequent 10-year inspection, performed in May 1988, identified the deficient condition. Therefore, the licensee concluded that the deficient support was due to support installation deficiency. However, the safety significance of the issue is minor since the plant was still within the design basis. This LER is closed.

- E8.9 (Closed) LER 50-237/98009-01: Unit 2 High Pressure Coolant Injection System Declared Inoperable due to Gland Seal Leak Off Condenser Hotwell Level Control Malfunction from a Drain Pump Start Level Switch Failure Caused by Manufacture Design Deficiency. On May 4, 1998, while performing Dresden Operating Surveillance, 2300-09,"High Pressure Coolant Injection (HPCI) Gland Seal Leak Off (GSLO) Drain Pump and Condenser Hotwell Level Functional Test," the hotwell drain pump exhibited erratic operation. The licensee's investigation of the pump's problems revealed the hotwell pump float switch had failed. The switch manufacturer conducted a failure analysis on the switch which indicated that the switch was not adequate for this application. The licensee determined that this failure was considered reportable under the requirements of 10 CFR Part 50, Part 21. The licensee upgraded the level control switches on both Unit 2 and 3 HPCI systems. This LER is closed.
- E8.10 (Closed) LER 50-237/98011-00: Unit 2 High Pressure Coolant Injection System Declared Inoperable due to Turbine Stop Valve Remote Trip Failure Caused by Failed 125 Vdc Electrical Solder Connection Within the Turbine Solenoid Valve. On July 30, 1998, during the performance of the Unit 2 HPCI system operability surveillance, the HPCI turbine stop valve could not be remotely tripped closed from the control room. The licensee's investigation of the valve's problem revealed a loose solder connection existed within the turbine trip solenoid valve (2-2303-SV12). The solder connection was repaired and all other solenoid valves similar in type (3-2303-SV12 and 2(3)-2303-SV8) were inspected and appropriately repaired. The licensee determined that this failure was a manufacturer's fabrication defect and was considered reportable under the requirements of 10 CFR Part 50, Part 21. This LER is closed.
- E8.11 (Closed) LER 50-237/98015: Unit 2 Rod Block Monitor Inoperable Due to Improper Setting of the Input LPRM Low Level Bypass Trip Reference Due to Inadequate Design Documentation. On September 25, 1998, during routine control rod drive exercising on Unit 2, the operators observed that the rod block monitor failed to generate a "too few input rod block as expected. In the LER, the licensee documented that the cause of the failure was improper setting of the input LPRM low level bypass trip reference as a result of inadequate design documentation. This issue made the nonsafety-related rod block monitor system inoperable. The operators appropriately performed the Dresden TS Action Statement requirements. This LER is closed.

IV. Plant Support

P3 EP Procedures and Documentation

P3.1 Accuracy of Plant Assembly and Accountability Procedure

a. Inspection Scope (71750)

The inspectors reviewed portions of the emergency plan implementing procedures and the Updated Final Safety Analysis Report (UFSAR).

b. Observations and Findings

The inspectors identified the following discrepancies during this review. The inspectors noted that emergency plan implementing procedure 400-01, "Plant Assembly and Accountability," Revision 8, had a note stating that the Unit 2 drywell evacuation siren was disabled, and that the disabled alarm was tracked through the licensee's temporary alteration program. The inspectors reviewed the temporary alteration log and could not find a record of the disabled siren. The licensee researched the concern and determined that the temporary alteration had been removed almost 4 years ago. Also, the inspectors noted that the location of the operational support center was not correct.

The inspectors reviewed the licensee's UFSAR and compared it with the physical layout of the plant. The inspectors noted that UFSAR, Appendix 12A, was not consistent with the plant. Specifically, Section 12A.7, "Addendum C - Doses to the Control Room, Support Centers and General Assembly Areas," listed the incorrect location for the operations support center. As a consequence, it appeared that the post-accident dose estimates to the personnel in the operations support center were incorrect.

The licensee documented the concerns in PIF# D2000-01290 and D2000-01233.

c. Conclusions

The plant assembly and accountability procedure contained inaccurate data regarding a temporary alteration and the location of the operations support center. The UFSAR incorrectly specified the location of the operations support center.

V. Management Meetings

The inspectors presented the inspection results to members of licensee management on March 28, 2000. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. The licensee identified no proprietary information.

PARTIAL LIST OF PERSONS CONTACTED

Licensee

K. Bowman, Work Control Outage Manager
P. Chabot, Engineering Manager
R. Fisher, Station Manager
B. Hanson, Shift Operation Superintendent
R. Kelly, Regulatory Assurance, NRC Coordinator
W. Lipscomb, Jr, Training Manager
J. Ludwig, Executive Assistant
M. Pacilio, Work Control Manager
R. Rybak, Regulatory Assurance, Licensing
D. Schupp, Operations Staff Manager
S. Stiles, Assessment Manager
W. Stoffels, Maintenance Manager
J. Stone, Nuclear Oversight Manager

NRC

Billy Dickson, NRC Resident Inspector
Mark Ring, NRC Branch Chief, Dresden
Desiree Smith, NRC Senior Resident Inspector

IDNS

R. Zuffa, IDNS RI

(All persons attended the exit meeting of April 1, 2000)

INSPECTION PROCEDURES USED

IP 37551: Onsite Engineering
 IP 61726: Surveillance Observations
 IP 62707: Maintenance Observations
 IP 71707: Plant Operations
 IP 71750: Plant Support Activities

ITEMS OPENED AND CLOSED

Open

50-237;249/2000002-01a	NCV	Failure to perform required TS testing on check valves
50-237;249/2000002-01b	NCV	Failure to perform required TS testing on radiation monitor
50-249/2000002-01c	NCV	Failure to maintain DOS 0201-02
50-237/2000002-01d	NCV	Failure to perform required TS testing on the RPS
50-237;249/2000002-01e	NCV	Failure to perform required TS testing on the MSL
50-249/2000002-01f	NCV	Failure to perform required TS testing on the IC
50-249/2000002-02	NCV	Licensee had not established sufficient design control on low condenser vacuum pressure switch

Closed

50-237;249/2000002-01a	NCV	Failure to perform required TS testing on check valves
50-237;249/2000002-01b	NCV	Failure to perform required TS testing on radiation monitor
50-249/2000002-01c	NCV	Failure to maintain DOS 0201-02
50-249/2000002-01d	NCV	Failure to perform testing as required by TS on the RPS
50-237;249/2000002-01e	NCV	Failure to perform quarterly testing as specified by TS
50-249/2000002-01f	NCV	Failure to perform quarterly testing as specified by TS
50-249/2000002-02	NCV	Licensee had not established sufficient design control on low condenser vacuum pressure switch
50-237/98019-02	IFI	Review of associated work packages for maintenance troubleshooting performed prior to a trip of the Unit 2 EDG
50-237;249/98026-03	IFI	Review of information regarding the setpoints of the post-accident drywell and torus sample lines' heat tracing.
50-237;249/98026-04	IFI	Verification of Mark I Hardened Vent Modifications
50-249/97013-01	LER	Torus Cooling Outboard Test Valve Would Not Close
50-237/98003-00	LER	HPCI System Declared Inoperable Due to Closure of the Turbine Stop Valve
50-249/98003-00	LER	Reactor Scram From MSIV Closure by a Spurious Group 1 Isolation Signal
50-237/98004-00	LER	Outboard MSIV 2-203-2B and 2-203-2D As-Found Leakage Rates Exceeded TS
50-237/98004-01	LER	Supplement to Outboard MSIV 2-203-2B and 2-203-2D As-Found Leakage Rates Exceeded TS
50-249/98004-01	LER	Supplement to Manual Scram Due to Decreasing Condenser Vacuum
50-249/98005-00	LER	Reactor Pressure Boundary Leakage in Excess of TS

50-237/98006-00	LER	Reactor Scram While Shutdown from Scram Discharge Instrument Volume Level Hi-Hi
50-249/98006-00	LER	3C Condenser Low Vacuum Scram Switch Potentially Inoperable
50-237/98007-00	LER	MSSV 2-0203-4A; 2-0203-4B As Found Lift Setpoint Outside TS
50-249/98007-00	LER	HPCI System Declared Inoperable Due to GSLO Condenser Hotwell Level Control Malfunction.
50-249/98007-01	LER	HPCI System Declared Inoperable Due to GSLO Condenser Hotwell Level Control Malfunction
50-249/98008-00	LER	LPCI Pump Inoperable
50-237/98008-01	LER	Supplement to Reactor Scram Results from Unit Auxiliary Transformer
50-237/98009-01Sup1	LER	HPCI System Declared Inoperable
50-237/98010-00	LER	Main Turbine Trip and Reactor Scram From Stop Valve Closure
50-237/98010-01	LER	Main Turbine Trip and Reactor Scram From Stop Valve Closure
50-237/98011-00	LER	HPCI System Declared Inoperable Due to Turbine Stop Valve Remote Trip Failure
50-237/98012-00	LER	Fuel Bundle Movement Permitted During Control Room Ventilation Outage
50-237/98014-00	LER	Reactor Building to Suppression Chamber Vacuum Breakers Were Not Surveilled in Accordance with TS Surveillance Requirements
50-237/98015-00	LER	Unit 2 Rod Block Monitor Inoperable
50-237/98016-00	LER	Drywell High Radiation Monitor Channel Functional Test Inadequate
50-249/99001-00	LER	Shutdown Cooling Isolation from an Invalid Low Reactor Water Level Signal
50-237/99002-00	LER	Reactor Protection System Electrical Protection Assembly Channel Functional Test Requirement Not Met
50-249/99002-00	LER	Inadequate Corrective Actions Contributed to Invalid Recirculating Loop Temperature Signal
50-237/99003-00	LER	Rod Block Monitor Inoperable Due to Failed Diode.
50-237/99004-00	LER	Control Room HVAC System Emergency Zone Refrigeration Control Unit Inoperability.
50-237/99004-01	LER	Supplement to Control Room HVAC System Emergency Zone Refrigeration Control Unit Inoperability.
50-249/99004-00	LER	Enforcement Discretion Required for Target Rock Safety/relief Valve Inoperability.
50-249/99006-00	LER	Reactor Scram From Main Turbine Stop Valve Closure
50-237;249/00001-01	LER	MSLP and Isolation Condenser High Pressure Time Delay Relays TS Calibration Frequency Intervals Exceeded

Discussed

None

LIST OF ACRONYMS USED

DOP	Dresden Operations Procedure
DOS	Dresden Operations Surveillance
EDG	Emergency Diesel Generator
HPCI	High Pressure Coolant Injection
IFI	Inspection Followup Item
LER	Licensee Event Report
LPCI	Low Pressure Coolant Injection
MG	Motor-Generator
MOV	Motor Operated Valve
NOV	Notice of Violation
PIF	Problem Identification Form
SBLC	Standby Liquid Control