

October 18, 2001

Mr. Oliver D. Kingsley, President  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION  
NRC INSPECTION REPORT 50-237/01-17(DRP); 50-249/01-17(DRP)

Dear Mr. Kingsley:

On September 30, 2001, the NRC completed an inspection at your Dresden Nuclear Power Station, Units 2 and 3. The enclosed report presents the inspection findings which were discussed with Mr. P. Swafford and other members of your staff on September 24, 2001.

The inspection examined activities conducted under your license as they relate to safety and to compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel. Specifically, this inspection focused on resident inspection activities and occupational and public radiation safety.

Based on the results of this inspection, the inspectors identified one finding of very low safety significance (Green). This finding was determined to involve a violation of NRC requirements. However, because of its very low safety significance, and because the issue has been entered into your corrective action program, the NRC is treating this issue as a Non-Cited Violation, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny this Non-Cited Violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspectors at the Dresden Nuclear Power Station.

Since September 11, 2001, Dresden has assumed a heightened security based on a series of threat advisories issued by the NRC. Although the NRC is not aware of any specific threat against nuclear facilities, the heightened level of security was recommended for all nuclear power plants and is being maintained due to the uncertainty about the possibility of additional terrorist attacks. The steps recommended by the NRC include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with local law enforcement and military authorities, and limited access of personnel and vehicles to the site.

The NRC continues to interact with the Intelligence Community and to communicate information to Exelon Nuclear. In addition, the NRC has monitored maintenance and other activities which could relate to the site's security posture.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

*/RA/*

Mark Ring, Chief  
Branch 1  
Division of Reactor Projects

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

Enclosure: Inspection Report 50-237/01-17(DRP);  
50-249/01-17(DRP)

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 50-237/01-17(DRP); 50-249/01-17(DRP)

Licensee: Commonwealth Edison Company

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: 6500 North Dresden Road  
Morris, IL 60450

Dates: August 15 through September 30, 2001

Inspectors: D. Smith, Senior Resident Inspector  
B. Dickson, Resident Inspector  
P. Louden, Senior Resident Inspector  
S. Orth, Senior Radiation Specialist  
R. Lerch, Project Engineer  
P. Pelke, Reactor Engineer  
R. Zuffa, Illinois Department of Nuclear Safety

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

## SUMMARY OF FINDINGS

IR 05000237-01-17(DRP), IR 05000249-01-17(DRP), on 08/15/01-09/30/2001, Exelon Generation Company, Dresden Nuclear Power Station, Units 2 and 3. Refueling and Outage Activities.

This report covers a six week routine inspection and a baseline radiation protection inspection. The inspection was conducted by resident inspectors, the project engineer, the reactor engineer, and a senior radiation specialist. The inspection identified one Green finding which was also a Non-Cited Violation.

The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at <http://www.nrc.gov/NRR/OVERSIGHT/index.html>.

### A. Inspector Identified Findings

#### **Cornerstone: Initiating Events**

Green. The inspectors identified a Non-Cited Violation concerning the licensee's failure to ensure that the vertical supports were reinstalled on the Unit 2 control rod system hydraulic control units' supply headers following a plant modification (NCV 50-237/01-17-01).

This issue was more than minor because without the supports a seismic event could lead to a breach of the supply header. However, the issue had very low safety significance because each control rod affected by a breach of the supply header would fail to the fail-safe position. Additionally, the likelihood of a seismic event occurring was very low (1R20).

### B. Licensee Identified Findings

No findings of significance were identified.

## Report Details

### Summary of Plant Status

Unit 2 began the period at full power operation. On August 21, 2001, the operators reduced load to 660 MWe when circulating valve, 2-4402-C, did not reposition upon reversing flow in the condenser. The unit was returned to full power operations the same day. On August 28, 2001, operators performed an emergency load drop to 720 MWe due to an unexpected spike in gases from the Unit 2 main transformer. Subsequently, the station performed a nine day forced outage to repair the Unit 2 main transformer. The outage was from September 1 to September 9; other work performed by the licensee included repair to a drive water valve on the control rod drive system and asbestos abatement in the high pressure heater bay. Also, Unit 2 began coast down to a refueling outage. On September 17, 2001, the licensee reduced power to approximately 450 MWe after the 2A reactor feed pump developed a leak and the 2B reactor feed pump experienced high vibrations. The unit was returned to full power operations on September 20, 2001.

Unit 3 operated at full power operations for the entire period.

#### 1. **REACTOR SAFETY**

##### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity**

#### 1R04 Equipment Alignments (71111.04)

##### a. Inspection Scope

The inspectors selected a redundant or backup system to an out-of-service or degraded train, reviewed documents to determine correct system lineup, and verified critical portions of the system configuration. Instrumentation valve configurations and appropriate meter indications were also observed. The inspectors observed various support system parameters to determine the operational status of the system. Control room switch positions for the systems were observed. Other conditions, such as adequacy of housekeeping, the absence of ignition sources, and proper labeling were also evaluated. The inspectors conducted a semi-annual review of the Unit 2 and 3 core spray systems.

##### b. Findings

No findings of significance were identified.

#### 1R05 Fire Protection (71111.05)

##### a. Inspection Scope

The inspectors toured plant areas important to safety to assess the material condition, operation lineup, and operational effectiveness of the fire protection system and features. The review included control of transient combustibles and ignition sources, fire

suppression systems, manual fire fighting equipment and capability, passive fire protection features (including fire doors), and the compensatory measures. Also, the inspectors evaluated the station's performance with respect to an unannounced fire drill located in the Unit 2 service air compressor area. The following areas were walked down:

Unit 2 reactor building - main floor elevation 517 (Fire Zone 1.1.1.4)

Unit 2 reactor building isolation condenser area (Fire Zone 1.1.2.5.A)

Unit 3 reactor building isolation condenser area (Fire Zone 1.1.1.5.A)

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

The inspectors observed and assessed the performance of operators in the control room to identify deficiencies in performance and training. The inspectors also reviewed the training records for active reactor operators and senior reactor operators against shift managers' critiques to determine the licensee's effectiveness in evaluating and revising the requalification program.

b. Findings

No findings of significance were identified.

R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors assessed the licensee's implementation of the maintenance rule by determining if systems were properly scoped within the maintenance rule. The inspectors also assessed the licensee's characterization of failed structures, systems, and components, and determined whether goal setting and performance monitoring were adequate for the Unit 2 and 3 direct current (DC) systems, the Unit 2 low pressure coolant injection system and the control room heating, ventilation, air-conditioning system, and the Unit 3 standby liquid control system.

b. Findings

No findings of significance were identified.



1R13 Maintenance Work Prioritization & Control (71111.13)

a. Inspection Scope

The inspectors evaluated the effectiveness of the risk assessments performed before maintenance activities were conducted on structures, systems, and components and verified how the licensee managed the risk. The inspectors evaluated whether the licensee had taken the necessary steps to plan and control emergent work activities. The inspectors reviewed maintenance activities on the 3B reactor recirculation pump motor generator set and the Unit 2 station blackout diesel.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability evaluations to ensure that operability was properly justified and the component or system remained available, such that no unrecognized increase in risk occurred. The review included issues involving the Unit 3 "A" core spray pump piping supports and a non-conservative Dresden Improved Technical Specification (ITS) surveillance requirement identified by the licensee, the impact of an extended power upgrade on the standby liquid control system, and a high energy line break (HELB) restraint.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed and evaluated several outage activities during a forced outage caused by gassing concerns on the Unit 2 main power transformer. The evaluation was performed to ensure that the licensee appropriately considered risk factors during the development and execution of planned activities. The inspectors conducted walkdowns of systems vital to maintaining the unit in a safe/shutdown condition. The inspectors also ensured that Technical Specifications requirements were verified to have been met for changing modes.

b. Findings

The inspectors identified one Green finding involving a Non-Cited Violation.

### Inadequate As-Found Configuration of the Control Rod Drive (CRD) System

On September 4, 2001, the inspectors walked down both the Unit 2 and Unit 3 CRD systems. At that time, the inspectors noted that the supply header pipes for the west bank of Unit 3's CRD hydraulic control units (HCUs) were secured in place by trapeze supports. The supply header lines included the cooling water header, the drive water header, the charging water header, the exhaust water header, and the scram air header. The supply headers were routed over each bank of CRD HCUs and each header line was connected to the HCU with the use of a drop piping.

The inspectors noted the trapeze supports were spaced approximately seven feet apart along the length of the header piping. The supports were suspended from the ceiling and supported the weight of the header piping and the drop piping (the HCU piping gallery). The inspectors could not access the Unit 3 east HCU piping gallery due to high radiation conditions in the area.

During the inspection of the Unit 2 east CRD piping gallery, the inspectors noted the lack of trapeze supports for securing the header piping in place. The Unit 2 west CRD piping gallery had only one trapeze support for the entire length of the header piping. Due to the lack of vertical supports for these header lines, the inspectors questioned the structural adequacy of the piping under a seismic load. The inspectors immediately informed the licensee of this issue.

### Impact of Deficient Condition on Plant Operations

The inspectors noted that without adequate vertical supports for the CRD supply header piping, the weight of the HCU piping gallery was transferred directly down onto the HCUs' piping connections. The CRD header piping was a non safety-related piping (Seismic Category II). However, because this header piping contacted the HCUs (Seismic Category I) the header piping was required to be adequately supported to meet seismic III requirements. The lack of header supports placed an unanalyzed nozzle loading condition onto the individual HCU drop line inlet and outlet connections. Unrestrained seismic movement at the drop line connections to the HCUs could create undue stress moments at the fixed connection point which could cause a breach in the drop line connections. The inspectors were particularly concerned with the potential seismic impact between the scram air header and the inadequately supported CRD supply header piping. A loss of air from the air header, would result in the affected HCU's inlet and output scram valves opening (fail-safe position) and subsequent insertion of the control rods into the core. Control rods inserting into the core could cause core flux imbalances.

### Corrective Actions Implemented by the Licensee

On September 6, 2001, the licensee concurred with the inspectors that the seismic qualification of the Unit 2 CRD system was questionable and initiated a modification to install the missing supports on Unit 2, which was subsequently implemented on September 8, 2001. The licensee also wrote a condition report documenting this issue. The licensee also initiated an action tracking item (ATI 74496-04) to perform a historical operability evaluation on the system due to this issue.

The licensee performed an extent-of-condition walkdown of the Unit 3 east CRD piping gallery. The licensee discovered that the east CRD piping gallery had approximately twenty-six feet of unsupported piping. In 0590-016-451-08B/ANALYSIS, "Evaluation of Discrepant Piping and Support System," Revision 3A, the licensee determined that a sixteen feet span between supports was acceptable for the Category I piping interaction concerns. The licensee initiated CR# D20001-74638 to document the overspan condition. The licensee also completed an operability evaluation (OE#01-035) for this issue. The licensee concluded in the evaluation that the system was operable but degraded based on the analysis conservatively considering 0.5 percent seismic damping, as opposed to 3 percent allowed in NRC Regulatory Guide 1.61. The evaluation also cited other conservatism in the calculation. The licensee's engineering staff devised a Unit 3 modification to replace the apparent missing support along the over-spanned length to be implemented during the next refueling outage.

### Modification History

The licensee's investigation into this issue concluded the supports were not reinstalled after implementing a plant modification in response to Generic Letter 80-17. The generic letter required the licensee to review and assess the adequacy of scram piping and the vulnerability to breakage from seismic movement. The licensee's assessment of its operating units indicated the need for additional supports. In 1981, the licensee approved and implemented plant modification M12-2-81-011 which added seismic structural supports to the CRD insert and withdraw lines. The licensee determined that twelve Unit 2 CRD header supports had been removed to install the new supports but never reinstalled.

10 CFR 50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings. Contrary to the above, the inspector identified on September 5, 2001, that the instructions, procedures or drawings used to implement plant modification M12-2-81-011 were inappropriate for the circumstances in that twelve Unit 2 CRD header piping supports were removed to allow access to an area to modify the control rod drive piping system in 1981, and were never reinstalled. This is an apparent violation. This violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A.1, of the NRC Enforcement Policy **(NCV 50-249/01-17-01(DRP))**. This issue was more than minor because failure to correct this issue could lead to the safety-related portion of the CRD system being breached following a seismic event. However, any failed CRD HCU would fail to the fail-safe position (its intended safety function) and the likelihood of a seismic event occurring is very low. Therefore, this finding was considered to be of very low safety significance (Green). The issue was captured in the licensee's corrective action program.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed surveillance testing on risk-significant equipment. The inspectors assessed whether the selected plant equipment could perform its intended safety function and satisfy the requirements contained in Technical Specifications. Following the completion of the test, the inspectors determined that the test equipment was removed and the equipment returned to a condition in which it could perform its intended safety function. The review included surveillance testing activities for the Unit 2 torus/reactor building vacuum breaker position verification, the Unit 2 electromatic relief valve/Target Rock pressure switch calibration, Unit 2 contaminated condensate storage tank, Unit 2 torus level switch calibration, and Unit 2 low pressure coolant injection system loop select logic.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors screened an active temporary modification on a system ranked high in risk and assessed the effect of this temporary modification on safety-related systems. The inspectors also determined that the installations were consistent with the system design. The inspectors reviewed the gagging closed of the torus to drywell vacuum breaker valves 2-1601-33E on Unit 2.

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

**Cornerstone: Occupational Radiation Safety (OS)**

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Plant Walkdowns and Radiation Work Permit (RWP) Reviews

a. Inspection Scope

The inspector reviewed the radiological conditions of work areas within radiation areas (RAs) and high radiation areas (HRAs) in the Units 2 and 3 reactor buildings and turbine buildings, and the radwaste building. The inspector performed independent measurements of area radiation levels and reviewed associated licensee controls to

determine if the controls (i.e., surveys, postings, and barricades) were adequate to meet the requirements of 10 CFR Part 20 and the Technical Specifications.

The inspector reviewed a selection of radiation work permits (RWPs) used to access radiologically significant work areas (RAs and HRAs). The inspector reviewed the RWPs to verify that they contained adequate work control instructions. In the case of HRA access, the inspector reviewed the RWP controls to verify that the licensee complied with the specific requirements contained in Technical Specifications. The inspector also reviewed electronic dosimeter alarm setpoints and compared them to area radiation levels and expected personnel exposures to verify that the alarm setpoints were adequately determined.

b. Findings

No findings of significance were identified.

.2 Job In-Progress Reviews

a. Inspection Scope

The inspector observed aspects of work activities that were being performed in RAs and HRAs to ensure that adequate radiological controls were assigned and implemented and to verify that workers demonstrated proper radiation worker practices. In particular, the inspector observed aspects of an HRA entry into a steam affected area, modification work on the condensate demineralizer, and maintenance on the radioactive waste system. The inspector reviewed engineering controls, radiological postings, and RWP requirements and attended pre-job briefings. The inspector also observed worker performance to verify that the workers were complying with radiological requirements and were demonstrating adequate radiological work practices.

b. Findings

No findings of significance were identified.

.3 High Dose Rate High Radiation Area and Very High Radiation Area Controls

a. Inspection Scope

The inspector reviewed the licensee's controls for high dose rate HRAs and very HRAs. In particular, the inspector reviewed the licensee's procedures for posting and controlling HRAs to verify the licensee's compliance with 10 CFR Part 20 and its Technical Specifications. The inspector also reviewed licensee records of HRA boundary and posting surveillances for calendar year 2001 and performed a walkdown to verify the adequacy of boundaries, controls, and postings. In addition, the inspector reviewed the licensee's controls for highly irradiated materials that were stored in spent fuel storage pools and the licensee's inventory of materials currently stored in the spent fuel pool to verify that the licensee implemented adequate measures to prevent inadvertent personnel exposures from these materials.

b. Findings

No findings of significance were identified.

4 Problem Identification and Resolution

a. Inspection Scope

The inspector reviewed the licensee's self-assessments, audits, and condition reports (CRs) (July 2000 through September 2001) concerning problems in access controls, HRAs, radiation worker performance, and radiation protection technician performance. The inspector reviewed these documents to assess the licensee's ability to identify repetitive problems, contributing causes, the extent of conditions, and effective corrective actions. In particular, the inspector discussed apparent trends in radiological posting problems and radiation worker practices with radiation protection management.

The inspector also reviewed the licensee's resolution to a documented Non-Cited Violation of NRC requirements (NCV No. 50-237/00-18-01; 50-249/00-18-01), concerning the control of access to a locked HRA. The inspector reviewed the licensee's evaluation of the issue and its corrective actions to verify that the licensee implemented actions to prevent future occurrences.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation (71121.03)

.1 Source Tests and Calibrations of Radiation Monitoring Instrumentation

a. Inspection Scope

The inspector reviewed the licensee's control of area radiation monitors (ARMs) to ensure that the monitors were properly maintained and capable of warning plant personnel of unexpected radiation levels. In particular, the inspector reviewed the most recent calibrations for the following ARMs to ensure that the monitors were calibrated in accordance with the licensee's procedures:

- Main Control Room (Station 22),
- New Fuel Storage Area (Station 4), and
- Unit 3 Transversing Incore Probe Drive Area (Station 10).

During this review, the inspector also compared the documented alarm setpoints for the above ARMs with control room instrumentation to ensure that the alarm setpoints were appropriately controlled.

The inspector reviewed 2000 and 2001 quality control records for the post accident sampling system (PASS) to verify that the PASS was capable of obtaining representative samples of the reactor coolant system during accident conditions.

b. Findings

No findings of significance were identified.

.2 Problem Identification and Resolution

a. Inspection Scope

The inspector reviewed the licensee's audits and CRs (July 2000 through September 2001) concerning radiation monitoring instrumentation. The inspector reviewed these documents to assess the licensee's ability to identify repetitive problems, contributing causes, the extent of conditions, and effective corrective actions. In particular, the inspector discussed an apparent trend in instrument source test problems with radiation protection management. The inspector also reviewed corrective actions that the licensee had implemented to improve the oversight of ARMs and to correct identified discrepancies in the licensee's Updated Final Safety Analysis Report concerning the number and location of ARMs.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES (OA)**

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspector reviewed the licensee's determination of performance indicators for the occupational and public radiation safety cornerstones (Occupational Exposure Control Effectiveness and RETS/ODCM [Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual] Radiological Effluent Occurrence) to verify that the licensee accurately determined these performance indicators and had identified all occurrences required by these indicators. Specifically, the inspector reviewed CRs (July 2000 through September 2001), quarterly offsite dose calculations for radiological effluents (September 2000 through September 2001), and electronic dosimetry alarm reports (July 2000 through September 2001). During plant walkdowns (Section 2OS1.1), the inspector also verified the adequacy of posting and controls into locked HRAs and very high radiation areas, which contributed to the Occupational Exposure Control Effectiveness performance indicator.

b. Findings

No findings of significance were identified.

#### 4OA3 Event Follow-up (71153)

- .1 (CLOSED) Licensee Event Report (LER) 2000-004-00: Technical Specification Non Compliance due to Primary Containment Inboard and Outboard Feed Water Isolation Valves Exceeding Local Leak Rate Test Allowable Limits. The licensee issued a supplemental LER for this issue. This LER is closed.
- .2 (CLOSED) LER 2000-004-01: Technical Specification Non Compliance due to Primary Containment Inboard and Outboard Feed Water Isolation Valves Exceeding Local Leak Rate Test Allowable Limits. The licensee developed preventive maintenance activities to replace the seat assembly at least every four refueling outages. The inspectors' review of this LER did not reveal any new concerns for the inspectors. A Green finding was issued for this problem in inspection report 50-237/00-13; 50-249/00-13. This LER is closed.
- .3 (CLOSED) LER 2000-005-00: Technical Specification Non Compliance due to Primary Containment B Inboard and Outboard Main Steam Isolation Valves Exceeding Local Leak Rate Test Allowable Limits. The licensee issued a supplement LER for this issue. This LER is closed.
- .4 (CLOSED) LER 2000-005-01: Technical Specification Non Compliance due to Primary Containment B Inboard and Outboard Main Steam Isolation Valves Exceeding Local Leak Rate Test Allowable Limits. The licensee implemented actions to control the out-of-service of main steam isolation valves for testing activities, were incorporated into the main steam isolation valve scheduling logic. The inspectors' review of this LER did not reveal any new concerns for the inspectors. A Green finding was previously documented for this issue. This LER is closed.

#### 4OA6 Meetings, including Exit

The radiation specialist inspector presented the results of the occupational and public radiation safety inspection to Mr. Preston Swafford and other members of licensee management and staff on September 21, 2001. The resident inspectors presented their inspection results to Mr. Swafford and other members of licensee management at the conclusion of the inspection on September 24, 2001. The licensee acknowledged the findings presented. No proprietary information was identified.



## KEY POINTS OF CONTACT

### Licensee

K. Bowman, Operations Manager  
H. Bush, Radiation Protection Supervisor  
V. Castle, Training Operations Manager  
R. Fisher, Plant Manager  
T. Fisk, Chemistry Manager  
M. Friedman, Emergency Preparedness Coordinator  
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R. Rybak, Regulatory Assurance  
W. Stoffels, Maintenance Manager  
P. Swafford, Site Vice President  
R. Whalen, System Engineering Manger

### NRC

D. Smith, Dresden Senior Resident Inspector  
B. Dickson, Dresden Resident Inspector

### IDNS

R. Zuffa, Illinois Department of Nuclear Safety

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

50-249/01-17-01 NCV Inadequate design control when modifying the control rod drive system

Closed

50-249/01-17-01 NCV Inadequate design control when modifying the control rod drive system

50-249/00-04-00 LER Technical Specification Non Compliance due to Primary Containment Inboard and Outboard Feed Water Isolation Valves Exceeding Local Leak Rate Test Allowable Limits

50-249/00-04-01 LER Technical Specification Non Compliance due to Primary Containment Inboard and Outboard Feed Water Isolation Valves Exceeding Local Leak Rate Test Allowable Limits

50-249/00-05-00 LER Technical Specification Non Compliance due to Primary Containment B Inboard and Outboard Main Steam Isolation Valves Exceeding Local Leak Rate Test Allowable Limits

50-249/2000-005-00 LER Technical Specification Non Compliance due to Primary Containment B Inboard and Outboard Main Steam Isolation Valves Exceeding Local Leak Rate Test Allowable Limits

## LIST OF ACRONYMS USED

ARM	Area Radiation Monitor
CRD	Control Rod Drive
CR	Condition Report
DFPS	Dresden Fire Protection Surveillance
DIS	Dresden Instrument Surveillance
DOS	Dresden Operating Surveillance Procedure
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
HCU	Hydraulic Control Unit
HRA	High Radiation Area
HRSS	High Radiation Sampling System
IDNS	Illinois Department of Nuclear Safety
LER	Licensee Event Report
NCV	Non-Cited Violation
ODCM	Offsite Dose Calculation Manual
OS	Occupational Radiation Safety
PASS	Post Accident Sampling System
PERR	Public Electronic Reading Room
RA	Radiation Area
RETS	Radiological Effluent Technical Specifications
RWP	Radiation Work Permit
UFSAR	Updated Final Safety Analysis Report
WO	Work Order

## LIST OF DOCUMENTS REVIEWED

### 1R04 Equipment Alignment

UFSAR	Core Spray Subsystem	Section 6.3.2.1
CR 00075118	2B Core Spray Pump Motor Oil Plug Replaced by Unknown Method	September 6, 2001
CR 00076045	Lack of Documentation of Operability for 2B Core Spray Pump	September 17, 2001
CR 00073134	Unsecured Carts in radiation protection area	August 24, 2001
CR 00074430	NRC Inspector Concerns with Unit 2 Low Pressure Coolant Injection System	September 5, 2001

### 1R05 Fire Protection

CR 00072943	Unannounced Fire Drill Critique	August 23, 2001
Fire Zone 1.1.2.5.A	Fire Hazards Analysis 4.1.1, Amendment 12, Isolation Condenser Area	
Fire Zone 1.1.2.5.A	Pre-plan U2 Reactor Building-12, Unit 2 Reactor Building	Revision 4
Fire Zone 1.1.1.5.A	Fire Hazards Analysis 4.4.1, Amendment 12, Isolation Condenser Area	
Fire Zone 1.1.1.5.A	Pre-plan U3 Reactor Building-31, Unit 3 Reactor Building	Revision 4
W.O. 00318773-01	DFPS 4114-03, "Unit 3 and 2/3 Radwaste Fire System Inspection	Revision 17
W.O. 00330842-01	DFPS 4114-02, "Unit 2 Fire System Inspection"	Revision 16
W.O. 00345158-01	DFPS 4114-15, "Fire Extinguisher Inspection"	Revision 10
W.O. 990121428-01	DFPS 4114-04, "Fire Extinguisher Maintenance Inspection"	Revision 17
CR 00073184	NOS/Nexus Identified Safe Shutdown Actions in Fire Area of Concern	September 4, 2001
CR 00073159	NOS/Nexus Identified Fire Protection Loading Value Concerns	August 17, 2001
CR 00073149	NOS/NEXUS Identified Fire Barrier and Cable Concerns	September 4, 2001

CR 00073167	NOS/Nexus Identified Fire Wrap Inspection Enhancement	August 17, 2001
CR 00072868	DFPS 4114-15, Fire Inspection <u>1R11 Licensed Operator Requalification</u>	August 22, 2001
CR 00072892	Training Department is not meeting NGG Expectation	August 8, 2001
CR 00072892	Instructors have not Received Initial Vision Training	August 8, 2001

1R12 Maintenance Rule Implementation

UFSAR	Control Room Heating, Venting, and Air-Conditioning System	Section 9.4.1
UFSAR	Direct Current Systems	Section 8.3
UFSAR	U2 Low Pressure Coolant Injection System	Section 6.3.3
CR 00072499	Unit 2 Station Blackout Diesel Air Starting Air Compressor Found Tripped. Receiver Low Pressure.	August 18, 2001
CR 00075835	Station Blackout Diesel Generator	September 20, 2001
CR 00074821	2 "B" Recirculation Pump High Vibration	September 1, 2001
CR 00074160	The 2B Feedwater Discharge valve stuck in Closed Position	September 1, 2001
CR 00074133	Intermediate Range Monitor 14 Failed Upscale, Causing ½ SCRAM	September 1, 2001
CR 00074173	Failure of Recirculation Pump Discharge Valve 2-202-5B to Close.	September 2, 2001
CR 00074161	Motor Operated Valve 2-202-5B Fails to Close Upon Demand During Shutdown	September 1, 2001

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

CR 0075502	U2 Station Blackout Pressure Regulator	September 2, 2001
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WO 352242-01 U3'B' Reactor Recirculation Pump and Motor  
Generator Set

1R15 Operability Evaluation

OE 01-036	Impact of Extended Power Uprate on the Standby Liquid Control System	
OE 01-025	Dresden Improved Technical Specification Section 3.3.5.1.5	
OE 01-021	3A Core Spray Pump Pipe Support	April 14, 2001
Problem Identification Form D2001-02127	Vendor Identifies Potential Unconservatisms Associated with Pipe Support Calculation	April 18, 2001

1R20 Refueling and Other Outage Activities

CR 00074675	Intermittent Intermediate Range Monitor 12 Hi-Hi Causes ½ Scram During Unit Startup	September 8, 2001
CR 00074638	Unit 3 East Bank CRD Gallery Contains Overspan Piping	September 7, 2001
CR 00074654	Procedures Problems during Unit 2 Startup	September 8, 2001
CR 00074496	Unit 2/3 CRD Lines do not Have Proper Supports	September 6, 2001

1R22 Surveillance Testing

DIS 2300-08	Unit 2 Contaminated Condensate Storage Tank & Torus Level Switch Calibration	Revision 19
WO 00357460-01	Unit 2 Torus/Reactor Building Vacuum Breaker Position Verification	Revision 7
WO 00350380-01	Unit 2 Electromatic Relief Valve/Target Rock Valve Pressure Switches Calibration without Control Switch Functional Testing	Revision 32
WO 99100087	Division I and II Low Pressure Coolant Injection ECCS Loop Selection Circuitry Logic System Functional Test	Revision 2
CR 00073215	Relay Found Out of Tolerance But Within Acceptance criteria	August 21, 2001

CR 00074174	Main Turbine Combined Intercept Valve Stop Valves #2 & #5 Failed to Close	September 4, 2001
CR 00074129	Main Stop Valve-1 Failed to Cycle When Performing DOS 0500-10	September 1, 2001
CR 00073238	Unit 2 High Pressure Coolant Injection Motor Gear Unit Control Switch Replaced and Problem Still Exists	August 24, 2001
CR 00073006	Inadequate Testing Procedure of the High Pressure Coolant Injection Turbine	August 16, 2001

1R23 Temporary Plant Modifications

UFSAR	Containment Systems	Section 6.2
Temporary Modification #990929	Unit 2, Gag closed Torus to drywell vacuum breaker valve 2-1601-33E	Revision 0

2OS1 Access Control to Radiologically Significant Areas

CR 00072874	Unposted Radiation Protection Area Found at the West Side RPA Entrance	August 22, 2001
CR 00072970	Workers in an Unsurveyed Area due to Lack of Radiation Protection Support	August 23, 2001
CR 00074266	Nuclear Oversight Identified RP Survey Inadequacy	September 4, 2001
CR 00074685	Error in Surveying Article Out of RPA	September 8, 2001
D2000-04758	Individual Inadvertently Crosses Radiation Boundary	August 30, 2000
D2000-04799	Contractor Moves Radiation Area Posting	September 1, 2000
D2000-05197	U3 Condenser Pit (sub-door) Access not Properly Posted	September 21, 2000
D2000-05372	Locked High Rad Violation Near Miss	September 27, 2000
D2000-05506	Poor Worker Rad Practice in the Low Pressure Heater Bay	September 28, 2000

D2000-05599	Improper Posting of Technical Specification Section 6.12 High Radiation Area	October 5, 2000
D2000-05617	Improper Posting of Technical Specification High Radiation Area	October 7, 2000
D2000-06773	Incorrect RWP Used for Steam Sensitive Entry	December 17, 2000
D2001-01224	RWP Violation on 613' During Backshift	March 1, 2001
D2001-03457	NRC Identifies Uncontrolled Exit from Radiation Protection Area	June 29, 2001
D2001-03521	Unposted Radiation Area on Refuel Floor	July 3, 2001
D2001-03660	60 mrem/hr Resins Discovered in Chemistry Storage Cabinet	July 11, 2001
D2001-03896	Breach of Contaminated System Without RP Approval	July 25, 2001
D2001-03961	Quarterly Survey of "K-Mart" Radioactive Materials Storage Area was Never Done	July 30, 2001
D2001-03986	Workers in an Unsurveyed Area	July 31, 2001
DFP 800-39	Control of Material/Equipment Hanging in Units 2 and 3 Spent Fuel Pools	Revision 11
DRS 5600-01	Checklist A, High, Locked High, and Very High Radiation Area Boundary and Posting Checklist, Completed on February 6, 2001; May 15, 2001; and September 6, 2001	Revision 7
DRS 5600-01	Quarterly High, Locked High, and Very High Radiation Area Posting and Door Checks	Revision 7
RP-AA-460	Controls for High and Very High Radiation Areas	Revision 1
RP-DR-ADM-005	Radiation Protection Guidelines for Performance of Radiological Surveys	Revision 2
RP-DR-ADM-015	Radiation Protection Quarterly High Radiation Area/Locked High Radiation Area Door Surveillance	Revision 0
RP-DR-JOB-001	Movement or Transfer of Highly Radioactive Material	Revision 4
RPT 2001-017	Focus Area Self-Assessment Report, Radiation Protection	March 13 - 15, 2001



RWP 02021274	Electrical Maintenance Department / Mechanical Maintenance Department Routines and Surveillances	Revision 2
RWP 02021275	Instrument Maintenance Department Routines & Surveillances	Revision 2
RWP 02021276	Fuel Handling Department Activities	Revision 2
RWP 02021299	D2 Steam Sensitive Power Entries	Revision 1
RWP 02021303	D3 Main Turbine/Steam Auxiliary System Maintenance	Revision 1
RWP 02021307	2/3 Radwaste CNSI Waste Processing Activities	Revision 1
RWP 02021317	D2 Reactor Core Detection System Maintenance	Revision 1
RWP 02021341	D3 Steam Sens Entries at Power	Revision 1
RWP 10000010	Unit 2 Shutdown Cooling System Maintenance	Revision 0
RWP 10000137	D-2 Condensate Prefilter Modification	Revision 2

2OS3 Radiation Monitoring Instrumentation

	Memorandum from J. B. LaForce to K. A. Astrom, "Definition and Usage of Equivalent Linear Full Scale (ELFS)"	December 10, 1992
CR 00073021	Sensitivity Checks of Personal Contamination Monitors	August 23, 2001
CR 00074939	Procedure Violation 5800-06 GM Source Checks not Completed	September 12, 2001
D2001-01493	Nuclear Oversight Review of the High Radiation Sampling System Operability Program	March 14, 2001
D2001-03594	Review of Kewaunee High Radiation Sampling System Issue Identifies Further Evaluation	July 9, 2001
D2001-03620	Instruments Allowed to be Used Without Being Daily Source Checked	July 5, 2001
D2001-03753	RPA Exit Point Contamination Monitors were not Source Checked on 7/16/01	July 16, 2001
D2001-03840	Daily Source Checks not Performed	July 23, 2001

D2001-03931	Daily Source Checks of Portable Instrumentation	July 23, 2001
D2001-03967	Procedure Guidance Needed for GM Instrument Source Checks	July 30, 2001
DIS 1800-05	Data Sheet 4, Unit 2 ARM Station 4 Calibration, Performed on May 30, 2001	Revision 10
DIS 1800-05	Data Sheet 22, Unit 2 ARM Station 22 Calibration, Performed on March 21, 2001	Revision 10
DIS 1800-07	Data Sheet 2, Unit 3 NUMAC ARM AC1 Electronic Calibration, Performed on January 31, 2001	Revision 9
DIS 1800-07	Data Sheet 12, Station 10 NUMAC ARM Calibration, Performed on January 31, 2001	Revision 9
DSBP 1000-37	High Radiation Sampling System Operability Program	Revision 5
NOA-DR-00-4Q	Nuclear Oversight, Continuous Assessment Report, Dresden Station, NOA-DR-00-4Q, October - December 2000	January 25, 2001
NOA-DR-01-1Q	Nuclear Oversight, Continuous Assessment Report, Dresden Station, NOA-DR-01-1Q, January - March 2001	April 30, 2001
NOA-DR-01-2Q	Nuclear Oversight, Continuous Assessment Report, Dresden Station, NOA-DR-01-2Q, April - June 2001	July 30, 2001
NSP-CC-3011	Attachment A, UFSAR/FPR Change Request Form, for Change No. 98015	Revision 1
RS-AA-107	Attachment 1, UFSAR/FPR Change Request Form, for Change No. DFL 01018	Revision 0

4OA1 Performance Indicator Verification

4OA3 Event Follow-Up