

November 5, 2007

EA-07-245

Mr. Christopher M. Crane
President and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
NRC INTEGRATED INSPECTION REPORT 05000237/2007004;
05000249/2007004 AND NOTICE OF VIOLATION

Dear Mr. Crane:

On September 30, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Dresden Nuclear Power Station, Units 2 and 3. The enclosed integrated inspection report documents the inspection findings, which were discussed on October 11, 2007, with Mr. D. Wozniak and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and 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.

The NRC Office of Investigations conducted an investigation which concluded that two Nuclear Station Operators deliberately failed to complete shift turnover and relief procedures on January 16, 2007. Based on the results of this inspection and the investigation, the NRC has determined that a Severity Level IV violation of NRC requirements occurred. The violation was evaluated under the NRC traditional enforcement process in accordance with the NRC Enforcement Policy included on the NRC's Web site at www.nrc.gov; select **About NRC, Organization and Functions, Office of Enforcement, About Enforcement**, then **Enforcement Policy** and select **(Enforcement Policy)**.

The violation is cited in the enclosed Notice of Violation (Notice) and the circumstances surrounding it are described in detail in the subject inspection report. The violation is being cited in the Notice because it was willful and was identified by the NRC.

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence is already adequately addressed in this report. Therefore, you are not required to respond to this letter unless the description herein does not accurately reflect your corrective actions or your position. In that case, or if you choose to provide additional information, you should follow the instructions specified in the enclosed Notice.

C. Crane

Additionally, two NRC identified findings of very low safety significance (Green) were identified. Both of these issues involved violations of NRC requirements. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these violations as Non-Cited Violations consistent with Section VI.A.1. of the NRC Enforcement Policy.

If you contest the subject or severity of a Cited or Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001; with copies to the Regional Administrator, Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Dresden Nuclear Power Station.

In accordance with 10 CFR 2.390 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), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Cynthia D. Pederson, Director
Division of Reactor Projects

Docket Nos. 50-237; 50-249; 72-037
License Nos. DPR-19; DPR-25

Enclosure: 1. Notice of Violation
 2. Inspection Report 05000237/2007004; 05000249/2007004
 w/Attachment: Supplemental Information

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Regulatory Assurance Manager - Dresden
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Operating Group
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Assistant Attorney General
Illinois Emergency Management Agency
State Liaison Officer
Chairman, Illinois Commerce Commission

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Dresden Nuclear Power Station Plant Manager
Regulatory Assurance Manager - Dresden
Chief Operating Officer
Senior Vice President - Nuclear Services
Senior Vice President - Mid-West Regional
Operating Group
Vice President - Mid-West Operations Support
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Senior Counsel, Nuclear, Mid-West Regional
Operating Group
Document Control Desk - Licensing
Assistant Attorney General
Illinois Emergency Management Agency
State Liaison Officer
Chairman, Illinois Commerce Commission

Letter to C. Crane from C. Pederson dated November 5, 2007

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3
NRC INTEGRATED INSPECTION REPORT 05000237/2007004;
05000249/2007004

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NOTICE OF VIOLATION

Exelon Generation Company, LLC
Dresden Nuclear Power Station

Docket No. 50-237
License No. DPR-19
EA-07-245

During an NRC inspection conducted on January 16, 2007, and an investigation conducted by the NRC Office of Investigations (OI report 3-2007-009), a violation of NRC requirements was identified. In accordance with NRC Enforcement Policy, the violation is listed below:

Dresden Nuclear Power Station, Unit 2, Technical Specification (TS) 5.4.1 states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978.

Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978, (1)(g) states that a typical safety-related activity that should be covered by written procedures is shift and relief turnover.

Dresden Nuclear Power Station uses operating procedure OP-AA-112-101, Revision 2, "Shift Turnover and Relief," and Operator Aid #159, Revision 28, Page 6 of 8, "Nuclear Station Operator (NSO) Turnover Checklist," to meet TS 5.4.1 at the NSO position.

Operating procedure OP-AA-112-101, Revision 2, "Shift Turnover and Relief," Section 3.1, requires that, "all shift personnel are responsible for reviewing and understanding the logs, checklist and turnover sheets applicable to their shift position before assuming the shift." Section 3.2 requires that, "the off-going operator shall not leave his/her work area until he/she is satisfied that his/her relief is fully aware of existing conditions." Section 4.1.3 requires shift personnel to, "VERIFY important operating parameters, especially those relating to safety systems, as identified on the turnover sheet prior to assuming the shift."

Operator Aid #159, Revision 28, Page 6 of 8, "Nuclear Station Operator (NSO) Turnover Checklist," requires the on-coming NSO to perform the following per OP-AA procedures before relieving shift:

- READ control room logs from last date on-shift or previous four days, whichever is less.
- DISCUSS with off-going NSO all items on unit and common turnover sheets, shift and daily surveillances, and any other pertinent information.
- TOUR main control panels and DISCUSS:
 - Status of safety related systems,
 - Running equipment and safety train alignments,
 - Inoperable equipment, including instrumentation,
 - LCORAs [limiting condition for operation required action], including surveillance requirements,
 - Reasons for annunciator alarms,
 - C/O [clearance order] and surveillance work in progress, and
 - Abnormal events over past 24 hours.
- TOUR main control room back panels.
- TOUR main control room common panels.

Contrary to the above, on January 16, 2007, two nuclear station operators failed to perform a proper shift turnover and relief at Dresden Unit 2 when the operators did not comply with operating procedure OP-AA-112-101 and Operator Aid # 159. Specifically, the on-coming operator did not read the control room logs from the last date on-shift, did not tour the main control room back panels, and did not tour the main control room common panels. The on-coming and off-going operators did not tour the main control panels, and did not discuss all the information regarding unit status. The off-going operator left the work area without the on coming operator being fully aware of existing conditions.

This is a Severity Level IV violation (Supplement I).

The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed in Dresden Nuclear Power Station, Units 2 and 3 NRC Integrated Inspection Report 05000237/2007004; 05000249/2007004. However, you are required to submit a written statement or explanation pursuant to 10 CFR 2.201 if the description therein does not accurately reflect your corrective actions or your position. In that case, or if you choose to respond, clearly mark your response as a "Reply to a Notice of Violation," include the EA number, and send it to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region III, and a copy to the NRC Resident Inspector at the facility that is the subject of this Notice, within 30 days of the date of the letter transmitting this Notice of Violation (Notice).

If you choose to respond, your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's documents system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>. Therefore, to the extent possible, the response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

In accordance with 10 CFR 19.11, you may be required to post this Notice within two working days.

Dated this 5th day of November 2007.

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No: 05000237/2007004; 05000249/2007004

Licensee: Exelon Generation Company

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL 60450

Dates: July 1 through September 30, 2007

Inspectors: C. Phillips, Senior Resident Inspector
M. Sheikh, Resident Inspector
A. Koonce, Reactor Engineer
J. McGhee, Reactor Engineer
B. Dickson, Senior Resident Inspector, Clinton
W. Slawinski, Senior Health Physicist
R. Schulz, Illinois Emergency Management Agency

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

Enclosure

SUMMARY OF FINDINGS

IR 05000237/2007004; 05000249/2007004; 07/01/2007 - 09/30/2007; Exelon Generation Company, Dresden Nuclear Power Station, Units 2 and 3, Flood Protection Measures, Event Followup and Other Activities.

This report covers a three month period of baseline resident inspection and announced baseline inspections by a radiation protection specialist. The inspection was conducted by Region III inspectors and the resident inspectors. One Cited Severity Level IV violation using traditional enforcement and two Green findings, both involving Non-Cited Violations were identified. 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 may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigation Systems

Green. The inspectors identified a performance deficiency involving a Non-Cited Violation (NCV) of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," having very low safety significance for the failure to promptly identify and adequately correct issues with the operation and testing of the isolation condenser emergency make-up pump. The licensee's corrective actions for this issue included restoring the inventory of hoses and connectors to the appropriate number, sizes, and locations.

This finding was more than minor because it involved the equipment performance and procedure quality attributes of the Mitigating Systems cornerstone and affected the cornerstone objective of ensuring the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. The issue was of very low safety significance based on the low initiating event probability and, because of the slow onset of the flooding and the reduced decay heat in the reactor core at the time recovery actions would be necessary, the licensee would be able to reasonably perform recovery actions that would prevent core damage. The primary cause of this finding was related to the cross-cutting issue of Problem Identification and Resolution, Corrective Action Program, because the licensee failed to take appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity (P.1.(d)). (Section 1R06)

Green. A finding involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," having very low safety significance was self revealed after the Unit 3 High Pressure Coolant Injection (HPCI) system was removed from service on March 2, 2007, due to a steam leak on the inlet drain pot drain piping. The licensee failed to control changes in the field to a design change on the Unit 3 HPCI system inlet drain pot drain lines with measures commensurate with those applied to the original design. This resulted in a failure of the HPCI inlet drain pot drain lines which made the Unit 3 HPCI system inoperable on March 2, 2007. The corrective actions included repair

of the HPCI drain pot drain line leak with the appropriate piping. Unit 2 and 3 HPCI system carbon steel piping susceptible to flow accelerated corrosion was identified and evaluated for acceptance of the degraded condition until replacement.

The inspectors determined that this finding was more than minor because the performance deficiency impacted the Mitigating Systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. The inspectors determined that the finding was of very low safety significance because the system was inoperable for only a short period of time. The finding was determined not to have a cross-cutting aspect because it was greater than two years old and not reflective of current performance. (Section 4OA3)

Severity Level IV. The inspectors identified a performance deficiency involving a Severity Level IV violation of Technical Specification 5.4.1, Operating Procedure OP-AA 112-101, and Operator Aid #159, when two licensed Nuclear Station Operators deliberately failed to follow station procedures on January 16, 2007, during the Unit 2 operations shift turnover. At the time of this event, Unit 2 was in an elevated risk profile (yellow) due to various plant components being taken out-of-service. This increased risk profile amplified the importance of knowing and understanding plant conditions. The licensee's corrective actions included: 1) the Unit Supervisor had an alternate operator relieve the on-coming operator involved with improper turnover, 2) the licensee convened a fact finding investigation to determine the facts of the event, 3) the licensee increased the awareness of the operators at the facility to the importance of proper shift turnover, and 4) the licensee took disciplinary action toward the two individuals.

The NRC Office of Investigations conducted an investigation which concluded that the two Nuclear Station Operators deliberately failed to complete shift turnover and relief procedures. This issue was evaluated using the traditional enforcement process. The violation was categorized in accordance with the NRC Enforcement Policy. The failure to follow the shift turnover procedure, absent willfulness, had no actual safety consequences, and constitutes a minor violation. Considering willfulness on the part of the operators, a Severity Level IV violation is warranted. The violation is being cited because it was willful and was identified by the NRC. (Section 4OA5)

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

Summary of Plant Status

Unit 2 began the inspection period at 912 MWe (95 percent thermal power and 100 percent of rated electrical capacity).

- On August 4, 2007, load was reduced to approximately 90 percent electrical output to perform control rod drive testing, then reduced to 88 percent electrical output to maintain the plant within environmental limits for discharge temperature. The unit returned to full power on the same day.
- On August 24, 2007, load was reduced to approximately 87 percent electrical output due to degrading main condenser vacuum from intake water debris buildup. The unit returned to full power on the same day.
- On August 25, 2007, load was reduced to 69 percent electrical output to perform turbine valve testing, a control rod pattern adjustment, and other activities. The unit returned to full power on the same day.

Unit 3 began the inspection period at 912 MWe (95 percent thermal power and 100 percent of rated electrical capacity).

- On July 14, 2007, load was reduced to approximately 90 percent electrical output to perform control rod drive testing. The unit returned to full power on the same day.
- On September 9, 2007, load was reduced to approximately 62 percent electrical output to perform turbine valve testing, control rod drive scram testing, a control rod pattern adjustment, and other activities. The unit returned to full power on the same day.
- On September 14, 2007, the unit was taken offline to replace the motor actuator of the high pressure coolant injection 3-2301-4 valve due to its failure. The unit returned to full power on September 17, 2007.
- On September 23, 2007, load was reduced to approximately 88 percent electrical output to perform a control rod pattern adjustment that was required due to the forced outage. The unit returned to full power on the same day.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04Q and S)

.1 Routine Quarterly Reviews

a. Inspection Scope

The inspectors selected a redundant or backup system to an out-of-service or degraded train to determine that the system met the design of the UFSAR. Piping and instrumentation diagrams were used to determine correct system lineup and critical portions of the system configuration were verified. Instrumentation, valve configurations, and appropriate meter indications were also observed. The inspectors

observed various support system parameters to determine the operational status of systems. 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 performed partial equipment alignment walkdowns of the following systems:

- 2-1501-28B Out of service for planned maintenance;
- General Electric monitor mis-position event; and
- 2/3 standby gas treatment alignment.

This represented three inspection samples.

b. Findings

No findings of significance were identified.

.2 Complete System Walkdown (71111.04S)

a. Inspection Scope

The inspectors performed an equipment alignment check on 2/3 A and B trains of the standby gas treatment (SBGT) system . Both units were at full power and both trains were aligned for standby during the walkdown. Plant procedures as well as piping and instrumentation drawings were reviewed to determine the appropriate equipment alignment prior to the walkdown. The inspectors reviewed the electrical and mechanical system checklists, drawings, and the Updated Final Safety Analysis Report (UFSAR) to ensure all vital components in this system were properly aligned. The inspectors reviewed work orders associated with the system to determine whether there were any deficiencies that could affect the ability of the system to perform its safety-related function. The inspectors also reviewed all temporary modifications to verify the operational impact on the system. The inspectors reviewed licensee issue reports (IRs) to review past issues that had been identified and their corrective actions.

This represented one semi-annual inspection sample.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05Q)

a. Inspection Scope

The inspectors conducted a tour of the areas listed below to assess the material condition and operational status of fire protection features. The inspectors verified that combustibles and ignition sources were controlled in accordance with the licensee's administrative procedures; that fire detection and suppression equipment was available for use and access was not obstructed; that passive fire barriers were maintained in

good material condition; that procedures were maintained and adequate to support fire fighting activities; and that compensatory measures for out-of-service, degraded, or inoperable fire protection equipment were implemented in accordance with the licensee's fire plan. Minor deficiencies noted during this inspection were verified to be included in the licensee's corrective action program. Documents reviewed are listed in the Attachment. The following areas were walked down:

- Unit 2/3 Emergency Swing Diesel Generator, 517' Elevation, Fire Zone: 9.0.C;
- Unit 2 Turbine Building, 561' Elevation, Main Turbine Floor, Fire Zone: 8.2.8.A;
- Unit 3 Turbine Building, 517' Elevation, Reactor Feed Pumps, Fire Zone:8.2.5.E;
- Unit 2 Reactor Building, 589' Elevation, Isolation Condenser Area, Fire Zone 1.1.2.5.A;
- Unit 2 Isolation Condenser Pump House, North Cubicle, 517' Elevation, Fire Zone 18.7.1; and
- Unit 2 Reactor Building, 545' Elevation, Secondary Containment, Fire Zone 1.1.2.3.

This represented six inspection samples.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

- .1 The inspection focused on verifying that flooding mitigation plans and equipment were maintained as required and that the plans were consistent with design requirements. The inspection activities included, but were not limited to, visually inspecting the watertight door seals, other penetration seals for pipes, and cables and the floor drains within the room. In addition, the inspectors reviewed the results of flooding related equipment surveillance tests to ensure that acceptance criteria were met, and reviewed the flooding and surveillance procedures for technical adequacy. The inspectors performed a review of the following:

Unit 2 low pressure coolant injection and core spray east corner room.

This represented one inspection sample for internal flooding.

- .2 The inspectors reviewed the UFSAR flood analysis documents and reviewed the licensee's procedures for external flooding. The inspectors reviewed the licensee's procedures for external flooding for ensuring proper safe shutdown of the plant, and reviewed the licensee's previously implemented corrective actions for deficiencies associated with flood protection. Currently, the licensee's approach to flood protection is to let the flood waters in and provide cooling flow to the isolation condensers for both units via a diesel driven pump. The inspectors had outstanding questions in regard to the diesel driven pump that were documented in URI 05000237/2006010-04; 05000249/2006010-04, "Full Flow Testing of the Diesel Driven Flooding Pump at Design

Conditions,” and closed in NCV 05000237/2007003-04; 05000249/2007003-04, “Failure To Identify And Correct Issues With The Operation And Testing Of The Diesel Driven Pump Used To Respond To External Flooding.” The inspectors reviewed portions of the licensee’s corrective actions associated with the NCV.

This represented one inspection sample for external flooding.

b. Findings

Introduction: The inspectors identified a performance deficiency involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion XVI, “Corrective Action,” for the failure to promptly identify and adequately correct issues with the operation and testing of the isolation condenser emergency make-up pump.

Description: As a corrective action to NCV 05000237/2007003-04; 05000249/2007003-04, “Failure To Identify And Correct Issues With The Operation And Testing Of The Diesel Driven Pump Used To Respond To External Flooding,” the licensee replaced three inch suction and discharge piping with four inch suction and discharge piping to ensure proper net positive suction head to the pumps. The inspectors attempted to verify that the licensee’s corrective action would ensure that the isolation condenser emergency make-up pump would be able to perform its function and identified that the suction hoses and hose connectors were not properly controlled. Several pieces of required equipment were not found in the proper designated storage location. Most of the equipment was eventually found at other locations within the protected area. Licensee Issue Report 574887, “Inadequate NPSH [net positive suction head] For Emergency Flood Pump,” initiated on January 3, 2007, Assignment #3 required the purchase of 2 Part #PF30X40A, aluminum adapters. This was marked as complete on February 22, 2007. Procedure DOA 0010-04, “Floods,” Revision 27, Step D.9.e, stated that the hoses and fittings were located in the Sea-Vans east of the Station Blackout Diesel Building. There was no corrective action assignment, once these parts were purchased, to place them in the Sea-Vans.

One 3 inch to 4 inch hose adaptor was not yet purchased and, therefore, was not available on site. The licensee was not aware that the 3 inch to 4 inch adaptor had not yet been purchased. Not having this connector would prevent the connection of the hoses to both units at the same time as described in DOA 0010-04, “Floods,” Revision 29. The licensee would be able to add water to the isolation condensers but to only one unit at a time. The purchase of this connector was part of a corrective action (Assignment #3 to IR 574887) marked as complete on February 22, 2007.

Analysis: The inspectors determined that the failure to ensure that the correct equipment was available to provide an adequate supply of make-up water to the isolation condenser during flood conditions to prevent core damage was a performance deficiency warranting a significance evaluation in accordance with IMC 0612, “Power Reactor Inspection Reports,” Appendix B, “Issue Screening,” issued on November 2, 2006. The inspectors determined that the finding was more than minor because it (1) involved the equipment performance and procedure quality attributes of the Mitigating Systems cornerstone and (2) affected the cornerstone objective of

ensuring the reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Appendix A, dated March 23, 2007, because the finding was associated with the reliability of a Mitigating System. The inspectors concluded that the diesel driven make-up pump would be a Mitigating System in the case of the probable maximum flood (PMF). For the Phase 1 screening, the inspectors answered "No" to the first four questions under the Mitigating Systems column. The inspectors then went to the Phase 1 worksheet for Seismic, Fire, Flooding, and Severe Weather Criteria. Question 1 was answered "Yes." Question 2 was answered "No," because the equipment or safety function was not assumed to completely fail or be unavailable. As a result, the issue was screened to be of very low safety significance, "Green." The primary cause of this finding was related to the cross-cutting issue of Problem Identification and Resolution, Corrective Action Program, because the licensee failed to take appropriate corrective actions to address safety issues in a timely manner, commensurate with their safety significance and complexity (P.1.d).

Enforcement: Title 10 CFR Part 50, Appendix B, "Introduction," requires, in part that nuclear power plants and fuel reprocessing plants include structures, systems, and components that prevent or mitigate the consequences of postulated accidents that could cause undue risk to the health and safety of the public.

Title 10 CFR Part 50, Appendix B, Criterion II, "Quality Assurance Program," requires, in part, that the applicant shall identify the structures, systems, and components to be covered by the quality assurance program.

The licensee's Quality Assurance Topical Report (QATR), Revision 79, Appendix F, Section 2.2, "Quality Classification," stated, in part, that the scope of the Company's QATR includes, but is not limited to, items and activities related to safe nuclear plant operation,...this process relies on the use of the terms "Safety Related," "Augmented Quality," and "QATR Scope." Section 2.2.1.1 of Appendix F, stated, in part, that items within the scope of the QATR are designated as "Nuclear Safety Related" or "Augmented Quality."

The isolation condenser emergency make up pump is designated "Augmented Quality," and is a Mitigating System in the probable maximum flood postulated scenario in the UFSAR.

Licensee procedure DOA 0010-04, "Floods," Revision 29, step D.9.h required connecting a 4 inch to 3 inch connecting flange to both Unit 2 valve 2-4199-135 and Unit 3 valve 3-4199-141.

Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures be established to assure that conditions adverse to quality, such as deficiencies, defective material and equipment, and non-conformances, are promptly identified and corrected.

Contrary to this requirement, from February 22, 2007, to July 27, 2007, the licensee failed to ensure that a condition adverse to quality, specifically, the inability to connect discharge hoses to the isolation condenser emergency make up pump in accordance with the abnormal operating procedure, was corrected. The NRC identified that one 3 inch to 4 inch hose adaptor was not yet purchased, was not available on site, and could not be connected per DOA 0010-04, "Floods," Revision 29, step D.9.h. Additionally, two other connectors, while on site, were not in the location required by the procedure.

The licensee's corrective actions for this issue included restoring the inventory of hoses and connectors to the appropriate number, sizes, and locations. Because this issue is of very low safety significance and has been entered into the licensee's corrective action program (Issue Report 574887), this violation is being treated as a Non-Cited Violation, consistent with Section VI.A., of the NRC Enforcement Policy. **(NCV 05000237/2007004-01; 05000249/2007004-01)**

1R11 Licensed Operator Regualification (71111.11Q)

a. Inspection Scope

The inspectors were unable to observe a dynamic simulator evaluation this quarter. The inspectors reviewed two remediation packages of senior reactor operators that failed an evaluation on August 27, 2007. The senior reactor operators failed to fill out emergency preparedness notification forms correctly. The inspectors determined that the remediation for these failures was correct and performed in a timely manner.

This represented one inspection sample.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12Q)

a. Inspection Scope

The inspectors assessed the implementation of the licensee's maintenance rule program to evaluate maintenance effectiveness for the selected systems in accordance with 10 CFR 50.65, "Maintenance Rule." The following systems were selected based on being designated as risk significant under the Maintenance Rule, being in increased monitoring (Maintenance Rule Category a(1) group), or due to an inspector's identified issue or problem that potentially impacted system work practices, reliability, or common cause failures:

- Unit 2 high pressure coolant injection; and
- 4kV distribution.

The inspectors verified the licensee's categorization of specific issues, including evaluation of the performance criteria, appropriate work practices, identification of

common cause errors, extent of condition, and trending of key parameters. Additionally, the inspectors reviewed the licensee's implementation of the Maintenance Rule requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations associated with the condition and issue report reviews, and current equipment performance status.

This represented two inspection samples.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)

a. Inspection Scope

The inspectors evaluated the implementation of the licensee's maintenance risk program with respect to the effectiveness of the risk assessments performed before maintenance activities were conducted on structures, systems, and components and verified that the licensee managed the risk in accordance with 10 CFR 50.65, "Maintenance Rule." The inspectors evaluated whether the licensee had taken the necessary steps to plan and control emergent work activities. The inspectors also verified that equipment necessary to complete planned contingency actions was staged and available. The inspectors completed evaluations of maintenance activities on the following:

- Work Order 945932-01, "Convert 2-1501-28B Motor Operated Valve from 2 rotor to 4 rotor geared limit switch assembly;"
- Work Order 01049528-01, "MM [mechanical maintenance] Perform Repair to U2 HPCI [high pressure coolant injection] Inlet Drain Pot Piping Leak;"
- Risk assessment of plant on-line risk during the high pressure coolant injection piping replacement in 2006, which rendered the pressure control function of the system unavailable;
- Work Order 97096147, "DE 8Y PM Overhaul Actuator and replace piston seals on Auto Operated Valve 2-1601-92;"
- Issue Report 668236, "Unit 3 SBO [station blackout] diesel generator fails PMT [preventative maintenance test];" and
- High pressure coolant injection system unavailable due to 3-2301-4 valve failed to cycle.

This represented six inspection samples.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed operability evaluations and issue reports (IR) to ensure that operability was properly justified and the component or system remained available, such that any non-conforming conditions were in compliance with NRC Regulatory Issue Summary 2005-20: Revision to Guidance Formerly Contained in NRC Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections on Resolution of Degraded and Nonconforming Conditions and on Operability." The review included issues involving the operability of:

- Issue Report 624371, "Correction to IR 623696 - Impact of RWCU [reactor water cleanup] Leakage on Power;"
- B Scram Contactor Scram Reset Jumper;
- NRC Operating Experience, "Brunswick Steam Jet Air Ejector Modification May Impact E-Plan," dated July 13, 2006; and
- Issue Report 666066, "Turbine Bypass Valve OOS [out of service] Analysis."

This represented four inspection samples.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed post-maintenance tests associated with the activities listed below to verify that procedures and test activities ensured system operability and functional capability. The inspectors reviewed the licensee's procedures to verify that the procedure adequately tested the safety function(s) that may have been affected by the maintenance activity, that the acceptance criteria in the procedure were consistent with information in the applicable licensing basis and/or design basis documents, and that the procedure had been properly reviewed and approved. The inspectors reviewed the work packages, monitored the test performance, and reviewed the test data to verify that test results adequately demonstrated restoration of the affected safety function(s).

- Work Order 945932-01, "Convert 2-1501-28B Motor Operated Valve from 2 rotor to 4 rotor geared limit switch assembly;"
- Work Order 01049528-01, "MM Perform Repair to U2 HPCI Inlet Drain Pot Piping Leak;"
- Work Order 549664-01, "Unit 3, PM exercise LPCI & CS suction valve from 2/3 B CST;"
- Work Order 99132854, "PMT [preventative maintenance test] of replacement of solenoid valve on Automatic Operated Valve 2-1601-92;" and
- Work Order 941449, "Standby gas treatment 'A' flow control valve instrument air supply tubing degraded."

This represented five inspection samples.

b. Findings

No findings of significance were identified.

1R20 Outage (71111.20)

.1 Unit 3 Shutdown to Repair High Pressure Core Injection (HPCI) Inboard Isolation Valve

a. Inspection scope

The unit was shutdown on September 14, 2007. The 3-2301-4 HPCI inboard steam isolation valve failed to close during a routine surveillance test. The licensee determined that the problem was in the drywell and that a shutdown was required to make repairs. The licensee replaced the motor on the 3-2301-4 valve, replaced a position indication limit switch on the C inboard main steam isolation valve, and performed boroscope examinations of other valve motors in the drywell that had magnesium rotors. The inspectors observed the plant shutdown and portions of the cooldown, and performed a drywell closeout on September 15, 2007.

This represents one inspection sample.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

.1 Routine Inspections

a. Inspection Scope

The inspectors observed surveillance testing on risk-significant equipment and reviewed test results. The inspectors assessed whether the selected plant equipment could perform its intended safety function and satisfy the requirements contained in TSs. Following the completion of each 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 inspectors witnessed one reactor coolant system (RCS) leakage detection surveillance test to assess whether the structures, systems, and components met the requirements of the TSs, and the Updated Final Safety Analysis Report. The inspectors also evaluated whether the testing effectively quantified RCS leakage and demonstrated that the structures, systems, and components were operationally ready and capable of performing their intended safety functions.

The inspectors observed surveillance testing activities and/or reviewed completed packages for the tests listed below, related to systems in the Initiating Events, Mitigating Systems, and Barrier Integrity cornerstones:

- Unit 2, DOS 1400-05, Revision 36, “Core spray system pump operability and Quarterly IST [in-service testing] test with torus available;”
- Unit 3, DOP 2000-24, Revision 14, “Drywell sump operation [reactor coolant system];”
- Unit 3, DOS 6600-01, Revision 98, “Diesel generator surveillance tests;”
- Work Order 946712-01, “Non-destructive examination of U2 diesel generator cooling water piping;” and
- Issue Report 666032, “3-1501-17A, Unit 3 LPCI [low pressure coolant injection] LOOP I discharge header relief valve passed its testing frequency.”

This represented a total of five inspection samples, of which one was in-service testing, one was reactor coolant system leakage detection, and three were routine surveillance tests.

b. Findings

No findings of significance were identified.

1R23 Temporary Modifications (71111.23)

a. Inspection Scope

The inspectors screened one active temporary modification and assessed the effect of the temporary modification on safety-related system functions as specified in the Updated Final Safety Analysis Report and TSs. The inspectors also determined if the installation was consistent with system design.

- Engineering Change 366727, “Force The 2A Gland Seal Condenser Loop Seal Valve (LCV 2-5404A) Full Open.”

This represented one inspection sample.

b. Findings

No findings of significance were identified.

1EP7 Force-on-Force Exercise Evaluation (71114.07)

a. Inspection Scope

The inspectors observed licensee performance during one site emergency preparedness drill in the Technical Support Center. This drill was in conjunction with a Force-on-Force inspection documented in Inspection Report 05000237/2007201; 05000249/2007201. The inspectors observed communications, event classification, and event notification activities by the simulated shift manager. The inspectors also

observed portions of the post-drill critique to determine whether their observations were also identified by the licensee's evaluators. The inspectors verified that minor issues identified during this inspection were entered into the licensee's corrective action program. The inspectors completed one inspection sample which can also be taken credit for under Inspection Procedure 71114.06.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Review of Licensee Performance Indicator (PI) for the Occupational Exposure Cornerstone

a. Inspection Scope

The inspectors reviewed licensee event reports, corrective action documents, electronic dosimetry (ED) transaction data for radiologically controlled area egress, and data reported on the NRC's web site relative to the licensee's occupational exposure control effectiveness performance indicator to determine whether or not the conditions surrounding any actual or potential PI occurrences had been evaluated, reported as applicable, and that identified problems had been entered into the corrective action program for resolution.

This review represented one inspection sample.

b. Findings

No findings of significance were identified.

.2 Plant Walkdowns/Boundary Verifications and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors identified work being performed within high and locked high radiation areas of the plant and selectively reviewed radiation work permit (RWP) packages and radiation surveys for these areas. These areas included the Unit 2 reactor water cleanup system pump room, areas of the Radwaste Building associated with the demineralizer vault cleanup project, and various turbine building areas during the transfer of a condensate filter into a shipping container. The inspectors evaluated the radiological controls to determine if these controls including postings and access control barriers were adequate.

The inspectors reviewed RWPs and associated work packages which governed activities in radiologically significant areas to identify the work control instructions and control barriers that had been specified. For these activities, electronic dosimeter alarm set points for both integrated dose and dose rate were evaluated for conformity with survey indications.

The inspectors walked down and surveyed (using an NRC survey meter) radiologically significant area boundaries and other radiological areas in the Unit 2 and 3 Reactor, Turbine, and Radwaste Buildings to determine if the prescribed radiological access controls were in place, licensee postings were complete and accurate, and physical barricades/barriers were adequate. During the walkdowns, the inspectors challenged access control boundaries to determine if high radiation area (HRA), locked high radiation area (LHRA), and very high radiation area (VHRA) access was controlled in compliance with the licensee's procedure, Technical Specifications, and the requirements of 10 CFR 20.1601, and was consistent with Regulatory Guide 8.38, "Control of Access to High and Very High Radiation Areas in Nuclear Power Plants."

The inspectors selectively reviewed RWP and post-job review documents for selected activities completed during approximately the seven month period that preceded the inspection dating back to the licensee's previous refueling outage to determine if barrier integrity and engineering controls performance (e.g., filtered ventilation system operation) were adequate and to determine if there was a potential for individual worker internal exposures of greater than 50 millirem committed effective dose equivalent. The inspectors reviewed the licensee's methods for the assessment of internal dose, as required by 10 CFR 20.1204, to ensure methodologies were technically sound and included assessment of the impact of hard to detect radionuclides such as pure beta and alpha emitters, as applicable. The inspectors reviewed internal dose assessment results and associated calculations for selected workers that had positive whole body count results since November 2006. No worker internal exposures greater than 50 millirem committed effective dose equivalent occurred for the period reviewed by the inspectors.

The inspectors reviewed the licensee's physical and programmatic controls for activated and/or contaminated materials (non-fuel) stored within the spent fuel pools. Specifically, radiation protection (RP) procedures were reviewed; RP staff were interviewed; and a walkdown of the refuel floor was conducted. In particular, the radiological control for non-fuel materials stored in the spent fuel pools was evaluated to ensure adequate barriers were in-place to reduce the potential for the inadvertent movement of these materials and to determine compliance with the licensee's procedure and for consistency with NRC regulatory guidance.

These reviews represented six inspection samples.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the results of an RP department self-assessment related to the radiological access control program, and the assignment report (AR) database along with individual ARs related to the radiological access and exposure control programs to determine if identified problems were entered into the corrective action program for resolution. In particular, the inspectors reviewed radiological issues which occurred over the 11-month period that preceded the inspection including the review of any HRA radiological incidents (non-PI occurrences identified by the licensee in high and locked high radiation areas) to determine if follow-up activities were conducted in an effective and timely manner commensurate with their importance to safety and risk based on the following:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Resolution of Non-Cited Violations (NCVs) tracked in the corrective action system;
- Identification of contributing causes; and
- Identification and implementation of corrective actions.

The inspectors evaluated the licensee's process for problem identification, characterization, and prioritization and determined if problems were entered into the corrective action program and were being resolved in a timely manner. For potential repetitive deficiencies or possible trends, the inspectors determined if the licensee's self-assessment activities were capable of identifying and addressing these deficiencies, if applicable.

The inspectors reviewed the licensee's documentation for all potential PI events occurring since the previous radiological access control inspection performed in July 2006 to determine if any of these events involved dose rates greater than 25 Rem/hour at 30 centimeters or greater than 500 Rem/hour at one meter, or involved unintended exposures greater than 100 millirem total effective dose equivalent (or greater than 5 Rem shallow dose equivalent or greater than 1.5 Rem lens dose equivalent). None were identified.

These reviews represented four inspection samples. Specifically, the samples pertained to the licensee's self-assessment capabilities, its problem identification and resolution program for radiological incidents, a review of the licensee's ability to identify and address repetitive deficiencies, and a review of those radiological incidents and potential PI occurrences of greatest radiological risk.

b. Findings

No findings of significance were identified.

.4 Job-In-Progress Reviews and Review of Work Practices in Radiologically Significant Areas

a. Inspection Scope

The inspectors evaluated the radiological controls, job coverage and radiation worker practices during the transfer of a condensate pre-filter from the turbine deck down into a shipping cask positioned in the Turbine Building trackway. The inspectors also evaluated the work practices of contractor staff involved in the radwaste demineralizer vault cleanup project in the Radwaste Building. Radiation survey information to support these work activities was reviewed by inspectors, the radiological job requirements and the access control provisions for these areas was assessed for conformity with Technical Specifications and with the licensee's procedure, and field observations were made to determine if measures were implemented to reduce dose. The inspectors also attended the pre-job briefing for the filter transfer activity to assess the adequacy of the information exchanged.

Job performance was observed to determine if radiological conditions in the work areas were adequately communicated to workers through the pre-job briefing and area postings. The inspectors also evaluated the adequacy of the controls provided by the radiation protection staff including the performance of radiological surveys, the work coverage provided by the radiation protection technicians (RPTs) and supervisory oversight, and the administrative and physical controls used over ingress/egress into these areas.

The inspectors reviewed the licensee's procedures and associated records, and discussed with RP staff its practices for entry into locked high and very high radiation areas and for areas with the potential for changing radiological conditions such as steam sensitive areas at power. These reviews were conducted to determine the adequacy of the radiological controls and the radiological hazards assessment associated with such entries. Work instructions provided in RWPs and in pre-entry briefing documents were discussed with RP staff to determine their adequacy relative to industry practices and NRC Information Notices.

The inspectors also reviewed the licensee's procedure and generic practices associated with dosimetry placement and the use of multiple whole body dosimetry for work in high radiation areas having significant dose gradients for compliance with the requirements of 10 CFR 20.1201(c) and applicable industry guidelines. Additionally, previously completed work in areas where dose rate gradients were subject to significant variation, such as work under-vessel, were reviewed to evaluate the licensee's practices for dosimetry placement.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.5 High Risk Significant, LHRA and VHRA Access Controls

a. Inspection Scope

The inspectors reviewed the licensee's procedures and radiological job standards, and evaluated RP practices for the control of access to radiologically significant areas (high, locked high, and very high radiation areas). The inspectors assessed compliance with the licensee's Technical Specifications, procedures and the requirements of 10 CFR Part 20, and for consistency with the guidance contained in Regulatory Guide 8.38. In particular, the inspectors evaluated the RP staff's control of keys to LHRAs and VHRAs, the use of access control guards during work in these areas, and methods and practices for independently verifying proper closure and locking of access doors upon area egress. The inspectors selectively reviewed LHRA and VHRA key issuance/return and door lock verification records and key accountability logs for selected periods between August 2006 and July 2007 to determine the adequacy of accountability practices and documentation. The inspectors also reviewed selected records and evaluated the RP staff's practices for radiation protection manager and station management approval for access into Level 2 LHRAs and VHRAs, and for the use of flashing lights in lieu of locking areas to determine if compliance with procedure requirements and those of 10 CFR 20.1602 was achieved.

The inspectors discussed with RP staff the controls that were in place for areas that had the potential to become high radiation areas during certain plant operations to determine if these plant operations required communication before hand with the RP group, so as to allow corresponding timely actions to properly post and control the radiation hazards.

The inspectors conducted plant walkdowns to verify the posting and locking of entrances to numerous LHRAs in the Unit 2 and 3 Reactor and Turbine Buildings and the common Radwaste Building including all five Level-2 LHRAs, and for all four VHRAs (TIP rooms and Drywell airlocks).

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.6 Radiation Worker Performance

a. Inspection Scope

During inspector job performance observations, the inspectors evaluated radiation worker performance for conformity with radiation protection work requirements, and to determine whether workers were aware of the radiological conditions, the RWP controls and limits in place, and if their performance had accounted for the level of radiological hazards present.

The inspectors also reviewed radiological problem reports, which found the cause of the event was due to radiation worker errors, to determine if there was an observable pattern traceable to a similar cause and to determine if this matched the corrective action approach taken by the licensee to resolve the identified problems.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

.7 Radiation Protection Technician Proficiency

a. Inspection Scope

During job observations and plant walkdowns, the inspectors evaluated RPT performance with respect to radiation protection work requirements, conformance with those requirements specified in the RWP, and assessed overall proficiency with respect to radiation protection requirements, station procedures and health physics practices.

The inspectors reviewed selected radiological problem reports generated between November 2006 and June 2007 to determine the extent of any specific problems or trends that may have been caused by deficiencies with RPT work control and to determine if the corrective action approach taken by the licensee to resolve the reported problems, if applicable, was adequate.

These reviews represented two inspection samples.

b. Findings

No findings of significance were identified.

2OS2 As-Low-As-Is-Reasonably-Achievable (ALARA) Planning and Controls (71121.02)

.1 Radiological Work Planning and Exposure Performance

a. Inspection Scope

The inspectors reviewed the licensee's dose performance for its November 2006 refueling outage (D3R19) focusing on the following work activities which each expended a collective dose greater than 5 rem and exceeded the licensee's initial dose estimate by 50 percent or greater:

- Drywell Main Steam Safety, Electromatic and Target Rock Valve Maintenance (RWP 10006770);
- Drywell Strain Gauges (RWP 10006786);
- Drywell Ventilation System Maintenance (RWP 10006764);
- Turbine and Generator Maintenance Activities (RWP 10006801); and
- Main Condenser Maintenance (RWP 10006800).

For each of the activities listed above, the inspectors examined the reasons for inconsistencies between intended (projected) and actual work activity doses as well as time/labor differences, as applicable, to determine if each of these activities were adequately planned and executed. In particular, the inspectors reviewed the licensee's

D3R19 Outage Dose Performance Root Cause Investigation Report and examined the impact of moisture carryover problems and the licensee's actions to address those problems to determine whether appropriate actions were taken consistent with the requirements to maintain doses ALARA. Moreover, the inspectors reviewed the timeliness of the licensee's actions relative to moisture carryover issues, and evaluated the adequacy of the dose mitigation strategies that were considered and implemented by the licensee. Additionally, the inspectors examined the ALARA planning for drywell ventilation system maintenance to determine if walkdowns were completed and/or design drawings were reviewed to allow the work scope and the specific routes for drywell cooler motor rigging to have been adequately defined.

The inspectors reviewed the licensee's process for adjusting outage exposure estimates when unexpected changes in scope, emergent work or other unanticipated problems were encountered which could significantly impact worker exposures. This included determining that adjustments to estimated exposure (intended dose) were based on sound radiation protection and ALARA principles and not adjusted to account for failures to effectively plan or control the work.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.2 Monitoring of Declared Pregnant Women and Dose to Embryo/Fetus

a. Inspection Scope

The inspectors reviewed the licensee's monitoring methods and procedures, radiation exposure controls, and the information provided to declared pregnant women to determine if an adequate program had been implemented to limit embryo/fetal dose. The inspectors also reviewed the pregnancy declaration forms and the radiation exposure information for several individuals that declared their pregnancy to the licensee in 2006 through June 2007, to determine if the licensee met the requirements of 10 CFR 20.1208 and 20.2106.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Initiating Events, Mitigating Systems, and Barrier Integrity Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed, at a minimum, the most recent 24 months of licensee event reports, licensee data reported to the NRC, plant logs, issue reports, and NRC inspection reports to verify the following performance indicators reported by the licensee for the 2nd Quarter of 2007:

- Emergency AC Power System, Units 2 and 3;
- High Pressure Injection System, Units 2 and 3;
- Heat Removal System, Units 2 and 3;
- Residual Heat Removal System, Units 2 and 3; and
- Cooling Water Systems, Units 2 and 3.

The inspectors verified that the licensee accurately reported performance as defined by the applicable revision of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline."

These performance indicator reviews constitute ten inspection samples.

b. Findings

No findings of significance were identified.

.2 Radiation Safety Strategic Area

a. Inspection Scope

The inspectors sampled licensee submittals for the performance indicator (PI) listed below for the period indicated. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in Revision 4 of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," were used. The following PI was reviewed:

Cornerstone: Occupational Radiation Safety

- Occupational Exposure Control Effectiveness

The inspectors reviewed the licensee's assessment of the PI for occupational radiation safety to determine if indicator related data was adequately assessed and reported for the period August 2006 through June 2007. To assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with radiation protection staff, the scope and breadth of its data review, and the results of those reviews. The inspectors independently reviewed electronic dosimetry dose rate and accumulated dose alarm reports, the dose assignments for any intakes that occurred during the time period reviewed and the licensee's AR database along with individual ARs generated during the period reviewed to determine if there were potentially unrecognized

occurrences. The inspectors also conducted walkdowns of numerous locked high and very high radiation area entrances to determine the adequacy of the controls in place for these areas.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.4 Data Submission

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the 2nd Quarter 2007 performance indicators for any obvious inconsistencies prior to its public release in accordance with IMC 0608, "Performance Indicator Program."

This review was performed as part of the inspectors' normal plant status activities and, as such, did not constitute a separate inspection sample.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Quarterly Review

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action system at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. In addition, in order to help identify repetitive equipment failures or specific Human Performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by reviewing daily issue reports and attending daily issue report review meetings.

b. Findings

There were no findings of significance identified.

4OA3 Event Followup (71153)

.1 (Closed) Licensee Event Report (LER) 249/2007-001-00, "Unit 3 High Pressure Coolant Injection [HPCI] System Declared Inoperable"

a. Inspection Scope

The inspectors interviewed engineering management personnel. The inspectors reviewed the licensee's root cause report of the event associated with IR 598719, "HPCI Drain Pot Outlet Piping Down Stream of 3-2301-55 VL," on which LER 259/2007-001 was based. The inspectors also reviewed IR 578305, "HPCI Drain Line Leaking Near Trap."

This LER is closed with the associated Non-Cited Violation.

This represents one inspection sample.

b. Findings

Introduction: A Green finding involving a Non-Cited Violation of 10 CFR Part 50, Appendix B, Criterion III, was self revealed after the Unit 3 HPCI system was removed from service on March 2, 2007, due to a steam leak on the inlet drain pot drain piping.

Description: On March 2, 2007, the licensee identified a small through wall leak on the Unit 3 HPCI inlet drain pot drain line. The licensee isolated the HPCI system to isolate the steam leak making HPCI inoperable. The licensee replaced the leaking pipe and declared the system operable on March 3, 2007.

The leaking pipe was made of carbon steel. In 1997, the licensee generated a work order (WO) to replace the carbon steel piping with A-355 P-11 chrome-moly piping. The carbon steel piping was susceptible to flow accelerated corrosion (FAC). To facilitate the piping replacement, engineering created drawing M-4455, sheets 1 and 2, to provide a clear scope of work. The WO was closed out without the carbon steel piping being replaced. Documentation was insufficient to determine why the WO was closed without replacing the piping. Major revision 12 made on April 25, 1997, removed 9 field welds from the scope of work, "per outage support center direction," without further explanation. The scope changes were also not reflected in drawing M-4455. In addition, drawing M-374 was updated with Note 6, which stated, "the piping and pipe fittings are replaced with chrome-moly per Alternate Pipe Replacement Evaluation D-1996-15-1." Note 6 was incorrect, in that, portions of the carbon steel piping had not been replaced. The HPCI inlet drain pot drain piping was removed from the FAC inspection program based on the assumption that the piping was no longer carbon steel.

Analysis: The inspectors concluded that the failure to adequately maintain the design basis was a performance deficiency that affected the Mitigating Systems cornerstone. Using IMC 0612, Appendix B, "Issue Screening," dated November 2, 2006, the inspectors determined that this finding was greater than minor because the performance deficiency impacted the Mitigating Systems cornerstone objective in that the failure to implement the planned modification affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events. The inspectors used IMC 0609, Appendix A, "Determining the Significance of Reactor Inspection Findings for At-Power Situations," dated March 23, 2007. The inspectors determined the finding to be of very low safety significance (Green). The finding was determined to be under the Mitigating System cornerstone. The inspectors answered

question 2 in the Mitigating System cornerstone column yes, there was an actual loss of safety function and went to Phase 2. The inspectors reviewed a pre-solved plant specific worksheet for the Phase 2 analysis for HPCI being unavailable for less than three days and the result was Green. The finding was determined not to have a cross cutting aspect because it was greater than two years old and not reflective of current performance.

Enforcement: 10 CFR 50, Appendix B, Criterion III, states, in part, design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design and be approved by the organization that performed the original design unless the applicant designates another responsible organization.

Contrary to the above, from April 1997 until March 2007, the Unit 3 High Pressure Coolant Injection system inlet drain pot drain piping was not replaced with chrome-moly piping as scheduled under the Flow Accelerated Corrosion Piping Program and the change in work scope was not approved by the organization that performed the original design change. The documentation associated with the piping replacement failed to identify that not all of the original planned work scope had been completed. Specifically, Major Revision 12 to Work Order 960034237 made on April 25, 1997, removed nine field welds from the work order “per Outage Support Center direction.” The Outage Support Center was not the organization that performed the original design change. Because this violation was of very low safety significance and it was entered into the licensee’s corrective action program, this violation is being treated as a Non-Cited Violation, consistent with Section VI.A.1 or the NRC Enforcement Policy. The corrective actions included repair of the HPCI drain pot drain line leak with the appropriate piping. Unit 2 and 3 HPCI system carbon steel piping susceptible to flow accelerated corrosion was identified and evaluated for acceptance of the degraded condition until replacement. In addition, the licensee stated that the work control process has been improved since 1997 to require more detailed information upon document close out.

(NCV 0500249/2007004-02)

.2 Units 2 and 3 Cribhouse Grass Incursion

a. Inspection Scope

The inspectors observed the licensee’s response to a large influx of grass to the Units 2 and 3 cribhouse traveling screens on August 21, 2007. The grass influx caused a significant drop in water levels within the cribhouse until a circulating water pump was secured for each unit. The inspectors interviewed operators, reviewed abnormal operating procedures, observed water levels in the cribhouse, and monitored the licensee’s restoration activities.

This represents one inspection sample.

b. Findings

There were no findings of significance identified.

40A5 Other Activities

Inadequate Reactor Operator Shift Turnover

Introduction: The inspectors identified a performance deficiency involving a Severity Level IV Violation of Technical Specification (TS) 5.4.1 for the failure of two Nuclear Station Operators (NSOs) to follow station procedures during shift turnover. The licensee's corrective actions for this issue included: 1) the Unit Supervisor had an alternate operator relieve the on-coming operator involved with improper turnover, 2) the licensee convened a fact finding investigation to determine the facts of the event, 3) the licensee increased the awareness of the operators at the facility to the importance of proper shift turnover, and 4) the licensee took disciplinary action toward the two individuals.

Description: On January 16, 2007, the inspectors observed an abbreviated shift turnover between the on-coming and off-going NSOs, licensed reactor operators, at the NSO work station at Dresden Power Station, Unit 2. The inspectors observed the on-coming operator enter the control room approximately 15 minutes after normal shift turnover, the on-coming operator spoke briefly with the off-going operator, and the off-going operator exited the control room. At the time of this event, Unit 2 was in an elevated risk profile (yellow) due to various plant components, such as the 2C and 2D containment cooling service water pumps and the 2C and 2D low pressure coolant injection pumps, being out of service.

The inspectors questioned if the turnover could have been sufficient to allow the on-coming operator to gain the appropriate level of knowledge of plant status for safe operations and communicated this observation to the on-duty Unit 2 Supervisor. The Unit 2 Supervisor had the on-coming operator relieved by another qualified operator and commenced a fact finding investigation into the matter. Both operators were questioned, individually, within 24 hours of the event to determine to what extent they performed shift turnover. Verification of the card reader transaction history report for the control room door showed that the two operators were in the control room for less than three minutes together during their shift turnover. This issue was referred to the NRC Office of Investigations (OI) due to potential wrongdoing. (OI Report 3-2007-009)

During various interviews, including the licensee's fact finding investigation and OI interviews, the on-coming operator stated that: 1) he did not perform a panel walk down of the control room back panels and common panels associated with the unit; 2) he did not review the operating logs for the unit prior to turnover; 3) he did not tour the main control panels for the unit with the off-going operator; and 4) he did not discuss all the information regarding the unit status with the off-going operator. The on-coming operator indicated to the Shift Operations Superintendent that he knew this did not constitute a proper shift turnover, but the operator felt this was acceptable since he was on shift eight hours previously and had a firm understanding of plant conditions. The on-coming operator also stated that this decision was due to his late arrival to the control room and that he made a "bad decision."

The inspectors concluded that the NSO shift turnover was inadequate and did not comply with the requirements in operating procedure OP-AA-112-101, "Shift Turnover and Relief." Specifically, Section 3.1 requires that, "All shift personnel are responsible

for reviewing and understanding the logs, checklist and turnover sheets applicable to their shift position before assuming the shift,” Section 3.2 requires that, “the off-going operator shall not leave his/her work area until he/she is satisfied that his/her relief is fully aware of existing conditions,” and Section 4.1.3 requires shift personnel to, “VERIFY important operating parameters, especially those relating to safety systems, as identified on the turnover sheet prior to assuming the shift.” Additionally, Operator Aid #159, “Nuclear Station Operator Turnover Checklist,” further outlines the requirements of the operating procedures, including for example, the on-coming NSO must read the control room logs, tour main control panels, tour main control room back and common panels, and discuss system status with the off-going operator.

Shift turnover provides power plant operators with the appropriate level of knowledge of plant conditions and system configurations to allow safe operation of the reactor core and support systems. Operators are required to react to postulated accident scenarios in order to help mitigate predicted consequences. Insufficient knowledge of plant status increases the likelihood that an operator could perform an error of commission/omission which could magnify the consequences resulting from postulated accident scenarios or potentially introduces additional initiating events through incorrect equipment manipulations. At the time of this event, Unit 2 was in an elevated risk profile (yellow) due to various plant components. This increased risk profile amplified the importance of knowing and understanding plant conditions. Therefore, inadequate shift turnovers unnecessarily increase the risk to public health and safety.

The inspectors supported by the regional staff determined that the licensed operators knew the requirements to be followed during shift turnover at the NSO work station based upon their extensive work experience and the testimonies given during the licensee’s fact finding investigation. The OI investigation report concluded that the operators deliberately failed to perform shift turnover and relief procedure requirements. Failure to follow these requirements was a willful act promoted by the on-coming operator arriving late in the control room.

Analysis: The inspectors and the regional office staff concluded that there was no Significance Determination Process finding associated with this case. Because this performance deficiency involved a willful act, this issue was dispositioned using the traditional enforcement process instead of the Significance Determination Process. The violation of TS 5.4.1 was categorized in accordance with the NRC Enforcement Policy. The failure to follow the shift turnover procedure, absent willfulness, had no actual safety consequences, and constitutes a minor violation. Considering willfulness on part of the operators, a Severity Level IV violation is warranted. The violation is being cited because it was willful and was identified by the NRC.

Enforcement: Dresden Nuclear Power Station, Unit 2, Technical Specification (TS) 5.4.1 states, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, dated February 1978. Regulatory Guide 1.33, (1)(g) states that a typical safety-related activity that should be covered by written procedures is shift and relief turnover. Dresden Nuclear Power Station uses operating procedure OP-AA-112-101, “Shift Turnover and Relief,” and Operator Aid #159, “Nuclear Station Operator (NSO) Turnover Checklist,” to meet TS 5.4.1 at the NSO position.

Operating procedure OP-AA-112-101, Section 3.1, requires that, “all shift personnel are responsible for reviewing and understanding the logs, checklist and turnover sheets applicable to their shift position before assuming the shift.” Section 3.2 requires that, “the off-going operator shall not leave his/her work area until he/she is satisfied that his/her relief is fully aware of existing conditions.” Section 4.1.3 requires shift personnel to, “VERIFY important operating parameters, especially those relating to safety systems, as identified on the turnover sheet prior to assuming the shift...”

Operator Aid #159 requires the on-coming NSO to perform the following before relieving shift:

- READ control room logs from last date on-shift or previous four days, whichever is less.
- DISCUSS with off-going NSO all items on unit and common turnover sheets, shift and daily surveillances, and any other pertinent information.
- TOUR main control panels and DISCUSS:
 - Status of safety related systems,
 - Running equipment and safety train alignments,
 - Inoperable equipment, including instrumentation,
 - LCORAs [limiting condition for operation required action], including surveillance requirements,
 - Reasons for annunciator alarms,
 - C/O [clearance order] and surveillance work in progress, and
 - Abnormal events over past 24 hours.
- TOUR main control room back panels.
- TOUR main control room common panels.

Contrary to the above, on January 16, 2007, two NSOs failed to perform a proper shift turnover and relief at Dresden Unit 2 when the operators did not comply with operating procedure OP-AA-112-101 and Operator Aid # 159. Specifically, the on-coming operator did not read the control room logs for the last date on-shift, did not tour the main control room back panels, and did not tour the main control room common panels. The on-coming and off-going operators did not tour the main control panels, and did not discuss all the information regarding unit status. The off-going operator left the work area without the on-coming operator being fully aware of existing conditions.

A Notice of Violation (NOV) was issued (**VIO 05000237/2007004-03**). See Enclosure 1 of this Inspection Report. The NRC has concluded that information regarding the reason for the violation, the corrective actions taken and planned to correct the violation and prevent recurrence and the date when full compliance was achieved is already adequately addressed in this report and this violation is closed.

40A6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to the Plant Manager, Mr. D. Wozniak, and other members of licensee management on October 11, 2007. The inspectors

asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was discussed.

.2 Interim Exit Meetings

- Occupational radiation safety radiological access control and post-outage ALARA [As Low As Reasonably Achievable] dose performance inspection with Mr. D. Bost and other licensee staff on July 13, 2007.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

D. Bost, Site Vice President
D. Wozniak, Plant Manager
C. Barajas, Operations Director
H. Bush, Radiation Protection Manager
J. Ellis, Regulatory Assurance Manager
D. Galanis, Design Engineering Manager
D. Glick, Shipping Specialist
G. Graff, Operations Training Manager
J. Griffin, Regulatory Assurance - NRC Coordinator
T. Hanley, Engineering Director
D. Leggett, Nuclear Oversight Manager
M. Overstreet, Lead RP Supervisor
C. Podczerwinski, Maintenance Rule Coordinator
E. Rowley, Chemistry
R. Rybak, Regulatory Assurance
J. Sipek, Assistant Engineering Director
J. Strmec, Chemistry Manager
C. Symonds, Training Director

NRC personnel

M. Ring, Chief, Division of Reactor Projects, Branch 1

IEMA personnel

R. Schulz, Illinois Emergency Management Agency

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000237/2007004-01 05000249/2007004-01	NCV	Failure to Identify and Correct Issues with the Operation and Testing of the Isolation Condenser Emergency Make-up Pump (1R06)
05000249/2007004-02	NCV	High Pressure Coolant Injection System Removed from Service Due to a Steam Leak on the Inlet Drain Pot Drain Piping (4OA3.1)
05000237/2007004-03	VIO	Inadequate Reactor Operators Shift Turnover (4OA5)

Closed

05000237/2007004-01 05000249/2007004-01	NCV	Failure to Identify and Correct Issues with the Operation and Testing of the Isolation Condenser Emergency Make-up Pump (1R06)
05000249/2007004-02	NCV	High Pressure Coolant Injection System Removed from Service Due to a Steam Leak on the Inlet Drain Pot Drain Piping (4OA3.1)
05000237/2007004-03	VIO	Inadequate Reactor Operators Shift Turnover (4OA5)
05000249/2007-001-00	LER	Unit 3 High Pressure Coolant Injection [HPCI] System Declared Inoperable (4OA3.1)

Discussed

05000237/2006010-04 05000249/2006010-04	URI	Full Flow Testing of the Diesel Driven Flooding Pump at Design Conditions (1R06)
05000237/2007003-04 05000249/2007003-04	NCV	Failure To Identify And Correct Issues With The Operation And Testing Of The Diesel Driven Pump Used To Respond To External Flooding (1R06)

LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R04S Equipment Alignment

- DOP 7500-M1/E1, "Standby Gas Treatment," Revision 06
- DOP 7500-01, "Standby Gas Treatment System Fan Trip," Revision 15
- DOP 7500-01, "Standby Gas Treatment," Revision 26
- DEOP 0300-01, "Secondary Containment Control," Revision 07
- EC 3160025, "Engineering Evaluation of SBTGS B Train AFU Leakage," Revision 000
- DAN 923-5 A-6, "Standby Gas Treatment System A Trouble," Revision 08

1R06 Flood Protection Measures

- IR 655584; "NRC ID's - Deficiencies Identified with Flood Pump Review"
- DOS 0100-36, "Operations Support Equipment Inspection," Revision 7
- DOA 0010-04, "Floods," Revision 28
- DMS 1600-04, "Torus Water Tight Door, Surveillance and Maintenance," Revision 07
- DOA 0040-02, "Localized Flooding in Plant," Revision 21
- IR 500923, "Unit 2 Subhatch Door Found Unsecure"
- IR 388895, "U2 E Corner Room Submarine Door Latched But Not Dogged"
- IR 331158, "U2 West Side ECCS Corner Room Watertight Door ½" Ajar"
- IR 176624, "East Corner Room Door Not Dogged"

1R12 Maintenance Effectiveness

- Expert panel notes of 4/26/07 for HPCI Pressure Control Mode Issue: (a)(2) determination
- Maintenance Rule Data Base for HPCI system
- Operations Log
- IR 657050, "CDF Valve not revised in MSPI [Mitigating Systems Performance Indicator] CDE [Consolidated Data Entry]"
- IR 543651, "HPCI maintenance rule criteria exceeded for pressure control mode"
- IR 475721, "Breaker tripped while performing recorder replacement"
- IR 654273, "U2 HPCI inlet drain pot piping leak"
- IR 498590, "Dresden Merlin Gerin AMHG Air Gap Inspection Results"
- IR 438705, "Maintenance Rule Functional Failures Related to 4KV Breakers"
- IR 361528, "Compatibility of Breaker Grease Not Formally Evaluated"
- Maintenance Rule Data Base for 4kV Distribution
- Maintenance Rule Periodic Assessment #6, dated 12/12/2006

1R13 Maintenance Risk Assessments and Emergent Work Control

- Maintenance Rule Data Base for Isolation Condenser
- Operations Log
- Dresden MSPI [Mitigating Systems Performance Indicator] Basis Document
- Work Order 99132854, D2 8Y PM Replace Solenoid Valv on AOV 2-1601-92
- DOS 1300-01, Inspection of 2/3 A ISO Cond
- IR 668236, "U3 SBO Diesel Generator Fails PMT"

1R15 Operability Evaluations

- IR 654569, "Tech Eval Not Documented in Passport"
- DOS 0500-25, "RPS Channels A1,A2,B1 and B2 Automatic Scram Contactor Test"
- DOP 1700-10, "Estimating the Post Accident Noble Gas Activity Release Rate with/without the Eberline Spring-4 Monitor Available," Revision 07
- DOP 5400-05, "Startup of the Charcoal Adsorber system," Revision 30
- DGA-16, "Coolant High Activity/ Fuel Element Failure," Revision 17

1R19 Post-Maintenance Testing

- IR 654708, "HPCI Drain Line Piping UT Less Than Min Wall Thickness"
- IR 631966, "Unable to open valve 3-1501-37"
- IR 645368, "Valve 3-1501-37 not in maintenance rule scope"
- IR 659260, "Maintenance Rule Scope Extent of Condition Review Results"
- WO 941449, "SBGT 'A' Flow Control VLV INST Air Supply Tubing Degraded"
- WO 339047, "D2 6Y PM Insp 480V MCC BKR SBGT Outside Air 2/3-7504-A"
- WO 767615, "D2 6Y PM REPL ATS (DIV II) Normally Energized Master Trip"
- WO 941449, "SBGT 'A' Flow Control VLV Inst Air Supply Tubing Degraded"
- WO 1032080, " Unable to Open the 3-1501-37 Valve"
- DEOP 0500-03, "Alternate Water Injection Systems," Revision 17
- Engineering Change Request 371851
- Engineering Change Request 381252

1R22 Surveillance Testing

- Unit 2 (3) Appendix A, Revision 107
- IR 656804, NRC identifies enhancements for DOS 6600-01
- ER-AA-335-004, "Manual Ultrasonic Measurement of Material Thickness and Interfering Conditions," Revision 2
- DOS 6600-01, "Diesel Generator Surveillance Tests," Revision 98
- Work Order 01029863, "D2 QTR TS CS PMP Test with Torus Available for IST DATA SURV"
- DOP 2000-24, "Drywell Sump Operation," Revision 14

2OS1 Access Control to Radiologically Significant Areas

- RP-AA-460; Controls for High and Very High Radiation Areas; Revision 12
- RP-DR-460-1001; Additional High Radiation Exposure Controls; Revision 2
- RP-AA-210; Dosimetry Issue, Usage and Control; Revision 9
- RWP 10008220 and Associated ALARA Plan; Unit 2 Fuel Pool Filter Replacement; Revision 0
- RWP 10006776 and Associated ALARA Plan (and survey data); D3R19 Drywell Control Rod Drive Support; Revision 1
- Technical Information Document 2004-007; Dosimetry Placement Under Vessel; Revision 0
- RP-AA-376-1001; Radiological Posting, Labeling and Marking Standard; Revision 3
- RP-DR-463; Quarterly High, Locked High and Very High Radiation Posting and Door Checks; Revision 1 and Associated Surveillance Records for 2007
- RWP 10007399; Unit 2 Steam Sensitive Areas - Activities at Power; Revision 0
- Focus Area Self-Assessment Report; Access Control to Radiologically Significant Areas; dated May 23, 2007
- DFP 0800-39; Control of Material/Equipment Hanging in Units 2 and 3 Spent Fuel Pools; Revision 14
- Dresden Unit 2 and 3 Fuel Pool Inventory; dated May 31, 2007

- RWP 10008219 and Associated ALARA Plan (and survey data); Waste Demineralizer Vault Cleanup; Revision 0
- RWP 10007415 and Associated ALARA Plan (and survey data); Remove/Replace 3A and 3B Condensate Pre-filters; Revision 0
- IR 00643860; Fuel Pool Walkdown Identified Items Not Tagged; dated June 25, 2007
- IR 00577479; Radwaste Door Does Not Lock With High Rad Core Installed; dated January 9, 2007
- IR 00559950; Positive Whole Body Count After Work on Refuel Floor; dated November 18, 2006
- Whole Body Count Results and Associated Dose Calculations; Various Dates in November 2006

2OS2 ALARA Planning and Controls

- Root Cause Investigation Report; D3R19 Outage Dose Exceeded Goal; dated February 16, 2007
- Survey Data for Various Plant Areas Impacted by Moisture Carryover; Various dates in November 2006
- RP-AA-270; Prenatal Radiation Exposure; Revision 3
- Declarations of Pregnancy and Associated Exposure Information; Various Dates in 2006 thru June 2007
- Dresden Unit 2 Moisture Carryover Evaluation; dated February 16, 2005
- IR 00555552; D3R19 Impact From Moisture Carryover; dated November 9, 2006
- Station ALARA Committee Meeting Notes; dated September 26, 2006

4OA1 Performance Indicator Verification

- IR 657050, CDF value not revised in MSPI CDE
- Dresden MSPI Bases Document, Revision 2
- Dresden MSPI Derivation Report
- Operations Log
- LS-AA-2140; Monthly Data; August 2006 - June 2007
- IR 00640844; Individual Briefed on Correct RWP but Logs onto Incorrect RWP; dated June 15, 2007
- IR 00524279; ED Alarm Received While Hanging Out-Of-Service Tags in RWCU Filter Pipeway; dated August 27, 2006
- IR 00558784; Welder Accessed Drywell Area Beyond Briefed Locations; dated November 15, 2006
- IR 00559846; LHRA Control Verifications; dated November 18, 2006
- Electronic Dosimetry (ED) Alarm and ED Transaction Reports; Selected Data for August 2006-June 2007
- IR Database (RP Department Generated or Assigned); August 2006 - June 2007

LIST OF ACRONYMS USED

AC	Alternate Current
ADAMS	Agencywide Documents Access and Management System
ALARA	As-Low-As-Reasonably-Achievable
CFR	Code of Federal Regulation
D2	Dresden Unit 2
DOP	Dresden Operating Procedure
DOS	Dresden Operating Surveillance
DRP	Division of Reactor Projects
DRS	Division of Reactor Safety
HPCI	High Pressure Coolant Injection
HRA	High Radiation Area
IEMA	Illinois Emergency Management Agency
IMC	Inspection Manual Chapter
IR	Inspection / Issue Report
LHRA	Locked High Radiation Area
LPCI	Low Pressure Coolant Injection
MCC	Motor Control Center
MWe	megawatts electrical
NCV	Non-Cited Violation
NPSH	Net Positive Suction Head
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records
PI	Performance Indicator
PM	Preventative Maintenance
QTR	Quarterly
RP	Radiation Protection
RPT	Radiation Protection Technician
RWP	Radiation Work Permit
SDP	Significance Determination Process
U2	Unit 2
U3	Unit 3
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved item
VHRA	Very High Radiation Area
WO	Work Order