



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION III
2443 WARRENVILLE ROAD, SUITE 210
LISLE, IL 60532-4352

August 5, 2009

Mr. Christopher Costanzo
Vice President
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

**SUBJECT: DUANE ARNOLD ENERGY CENTER NRC INTEGRATED INSPECTION
REPORT 05000331/2009003**

Dear Mr. Costanzo:

On June 30, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Duane Arnold Energy Center. The enclosed report documents the inspection results, which were discussed on July 1, 2009, with 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.

Based on the results of this inspection, one NRC-identified finding and one self-revealed finding of very low safety significance were identified. Both findings involved a violation of NRC requirements. However, because of their very low safety significance, and because the issues were entered into your corrective action program, the NRC is treating the issues as non-cited violations (NCVs) in accordance with Section VI.A.1 of the NRC Enforcement Policy.

If you contest the subject or severity of these NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with a copy to the Regional Administrator, U.S. Nuclear Regulatory Commission - Region III, 2443 Warrenville Road, Suite 210, Lisle, IL 60532-4352; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the Resident Inspector Office at the Duane Arnold Energy Center. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region III, and the NRC Resident Inspector at the Duane Arnold Energy Center. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) 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/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Kenneth Riemer, Chief
Branch 2
Division of Reactor Projects

Docket No. 50-331
License No. DPR-49

Enclosure: Inspection Report 05000331/2009003
w/Attachment: Supplemental Information

cc w/encl: M. Nazar, Senior Vice President and Nuclear Chief Operating Officer
M. Ross, Vice President and Associate General Counsel
A. Khanpour, Vice President, Engineering Support
D. Curtland, General Plant Manager
S. Catron, Manager, Licensing
M. Mashhadi, Senior Attorney
Chairman, Linn County, Board of Supervisors
M. Rasmusson, State Liaison Officer
R. Anderson, Vice President, Nuclear Plant Support
R. Kundalkar, Vice President, Fleet Organizational Support
M. Cornell, Director, Licensing & Performance Improvement

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SUBJECT: DUANE ARNOLD ENERGY CENTER NRC INTEGRATED INSPECTION
REPORT 05000331/2009003

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-331
License No: DPR-49

Report No: 05000331/2009003

Licensee: FPL Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, IA

Dates: April 1 through June 30, 2009

Inspectors: R. Orlikowski, Senior Resident Inspector
R. Baker, Resident Inspector

Observers: None

Approved by: Kenneth Riemer, Chief
Branch 2
Division of Reactor Projects

Enclosure

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SUMMARY OF FINDINGS

IR 05000331/2009003; 04/01/09 – 06/30/09; Duane Arnold Energy Center; Equipment Alignment and Follow-Up of Events and Notices of Enforcement Discretion.

This report covers a three-month period of inspection by resident inspectors. One Green finding was identified by the inspectors and one Green finding was self-revealed. Both findings were considered Non-Cited Violations (NCVs) of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Cross-cutting aspects were determined using IMC 0305, "Operating Reactor Assessment Program." 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 4, dated December 2006.

A. NRC-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors for a failure of the licensee to promptly identify and correct a condition adverse to quality (CAQ) associated with a seismic restraint on the High Pressure Coolant Injection (HPCI) Suppression Pool suction line. The licensee's failure to promptly identify and correct the nonconforming condition during engineering walkdowns of the HPCI system was considered a performance deficiency. The licensee entered this issue into the Corrective Action Program (CAP) as items CAP 066713 and CAP 066750, declared the HPCI system inoperable, and isolated the HPCI Suppression Pool suction line. The seismic restraint was repaired to return it to a fully operable condition.

The performance deficiency was determined to be more than minor because the issue was associated with the Mitigating Systems Cornerstone attribute for protection against external events and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesired consequences. The inspectors evaluated this finding using the SDP and determined the finding was of very low safety significance (Green) because this finding was a design deficiency that did not result in a loss of operability of the HPCI System. The inspectors also determined that this finding had a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because the licensee did not promptly identify an adverse condition in the CAP in a timely manner commensurate with its safety significance. [P.1(a)] (Section 1R04.1.b)

Cornerstone: Initiating Events

- Green. A finding of very low safety significance and associated NCV of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed when Instrument and Controls (I&C) Technicians lifted a lead on a reactor water level recorder resulting in the indicated reactor water level failing low and an actual increase in reactor water level. This plant transient resulted in operators inserting a manual reactor scram to mitigate the transient condition. The inspectors determined that the

failure of I&C Technicians and Procedure Writers to include adequate procedural guidance in the Surveillance Test Procedure (STP) was contrary to the requirements of 10 CFR 50, Appendix B, Criterion V, and was therefore a performance deficiency. The licensee entered this into their corrective action program as CAP 066292. The reactor operators completed the required actions for a reactor scram and placed the plant in a stable condition. The STP was revised to include appropriate guidance to remove the reactor level recorder from service, and an extent of condition review was performed for other Refueling Outage 21 modifications that could result in plant trips or downpowers if similar conditions existed.

The performance deficiency was determined to be more than minor because the issue was associated with the Initiating Events Cornerstone attribute of procedure quality and affected the cornerstone objective of limiting the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. Specifically, I&C Technicians and Procedure Writers made an inadequate change to the STP that resulted in a plant transient that led to a reactor scram. The inspectors determined the finding was of very low safety significance (Green) because the finding only resulted in a reactor scram and did not contribute to the likelihood that mitigation equipment or functions would not be available. This finding has a cross-cutting aspect in the area of Human Performance, Resources, because the licensee did not ensure procedures were adequate to assure nuclear safety. Specifically, the inadequate change to the Reactor Water Level and Pressure Instrument Calibration STP resulted in an inaccurate procedure that caused a plant transient resulting in a reactor scram. [H.2(c)] (Section 4OA3.1)

B. Licensee-Identified Violations

No violations of significance were identified.

REPORT DETAILS

Summary of Plant Status

Duane Arnold Energy Center (DAEC) operated at full power for the entire assessment period except for brief down-power maneuvers to accomplish rod pattern adjustments and to conduct planned surveillance testing activities with the following exceptions:

- On April 3, 2009, operators inserted a manual reactor scram when I&C Technicians interrupted the reactor vessel level indication causing actual reactor water level to increase. The unplanned outage continued through April 5, 2009, when the generator was connected to the grid. Power ascension was completed on April 7, 2009, when the plant returned to full power.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness of Offsite and Alternate AC Power Systems

a. Inspection Scope

The inspectors verified that plant features and procedures for operation and continued availability of offsite and alternate alternating current (AC) power systems during adverse weather were appropriate. The inspectors reviewed the licensee's procedures affecting these areas and the communications protocols between the transmission system operator (TSO) and the plant to verify that the appropriate information was being exchanged when issues arose that could impact the offsite power system. Examples of aspects considered in the inspectors' review included:

- The coordination between the TSO and the plant during off-normal or emergency events;
- The explanations for the events;
- The estimates of when the offsite power system would be returned to a normal state; and
- The notifications from the TSO to the plant when the offsite power system was returned to normal.

The inspectors also verified that plant procedures addressed measures to monitor and maintain availability and reliability of both the offsite AC power system and the onsite alternate AC power system prior to or during adverse weather conditions. Specifically, the inspectors verified that the procedures addressed the following:

- The actions to be taken when notified by the TSO that the post-trip voltage of the offsite power system at the plant would not be acceptable to assure the continued operation of the safety-related loads without transferring to the onsite power supply;
- The compensatory actions identified to be performed if it would not be possible to predict the post-trip voltage at the plant for the current grid conditions;

- A re-assessment of plant risk based on maintenance activities which could affect grid reliability, or the ability of the transmission system to provide offsite power; and
- The communications between the plant and the TSO when changes at the plant could impact the transmission system, or when the capability of the transmission system to provide adequate offsite power was challenged.

Documents reviewed are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures.

This inspection activity constituted one readiness of offsite and alternate AC power systems sample as defined in Inspection Procedure (IP) 71111.01-05.

b. Findings

No findings of significance were identified.

.2 Summer Seasonal Readiness Preparations

a. Inspection Scope

The inspectors performed a review of the licensee's preparations for summer weather for selected systems, including conditions that could lead to an extended drought.

During the inspection, the inspectors focused on plant specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant specific procedures. Specific documents reviewed during this inspection are listed in the Attachment to this report. The inspectors also reviewed CAP items to verify that the licensee was identifying adverse weather issues at an appropriate threshold and entering them into their CAP in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Main Turbine Electro-Hydraulic Control (EHC) System;
- Main Plant Air Intake Coils System;
- Pump House Heating, Ventilation, and Air-Conditioning (HVAC) System; and
- General Service Water System.

This inspection activity constituted one seasonal extreme weather sample as defined in IP 71111.01-05.

b. Findings

No findings of significance were identified.

.3 External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the UFSAR for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed a walkdown of the protected area to identify any modification to the site which would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also walked down underground bunkers/manholes subject to flooding that contained multiple train or multiple function risk-significant cables. The inspectors also reviewed the abnormal operating procedure (AOP) for mitigating the design basis flood to ensure it could be implemented as written. Documents reviewed are listed in the Attachment to this report.

This inspection activity constituted one external flooding sample as defined in IP 71111.01-05.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Quarterly Partial System Walkdowns

a. Inspection Scope

The inspectors performed partial system walkdowns of the following risk-significant systems:

- HPCI with Reactor Core Isolation Cooling (RCIC) System Out-of-Service;
- 'A' Control Building (CB)/Standby Gas Treatment (SBGT) Instrument Control Air Compressor with the 'B' CB/SGTS Instrument Control Air Compressor Out-of-Service; and
- 'B' Standby Diesel Generator (SBDG) during planned maintenance on the 'A' SBDG.

The inspectors selected these systems based on their risk significance relative to the Reactor Safety Cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could impact the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, UFSAR, Technical Specification (TS) requirements, outstanding work orders (WOs), condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of

the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted three partial system walkdown samples as defined in IP 71111.04-05.

b. Findings

Failure to Promptly Identify and Correct a Nonconforming Condition on a High Pressure Coolant Injection Suppression Pool Suction Line Seismic Restraint

Introduction: A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," was identified by the inspectors for a failure of the licensee to promptly identify and correct a condition adverse to quality associated with the HPCI System.

Description: While performing a walkdown of the HPCI system on April 21, 2009, NRC inspectors identified a gap of approximately 0.25 inches between the wall and the base plate of the HPCI Suppression Pool suction line seismic restraint HBB-8-SR-3. The observation was communicated to the Shift Manager, who evaluated the condition with input from design engineers. The immediate operability determination was that the support was operable. This determination was based on input from design engineering that this gap was most likely introduced during original construction and that as long as the stud nuts holding the support to the wall were tight the support would be operable.

The NRC inspectors questioned the design engineers about the tightness of the studs, and the design engineers determined that it would be beneficial to perform a torque check of the support's stud nuts. Maintenance personnel performed a torque check of the nuts, and all nuts required some tightening (minimal to ¾ turn) to achieve the required 175 ft-lb of torque. The Shift Manager stated that the torquing of the nuts confirmed the operability of the HPCI system.

The NRC inspectors then questioned the design engineers for specific details of how this support is constructed. This seismic support is designed to restrain pipe movement in the axial direction. The support has a clamp ring around the pipe, and the design requires a 0.5 inch gap between the clamp ring and the pipe. Because the clamp ring and HPCI suction pipe are insulated, the clamp ring is not visible. When the NRC inspectors questioned how the seismic support could be assured to be in conformance with its design, station personnel decided to remove the pipe insulation to inspect the seismic restraint.

On April 22, the insulation was removed and the design engineers identified that the seismic support clamp ring was in contact with the HPCI suction pipe. This was identified as a nonconforming condition, and the Shift Manager declared the HPCI system inoperable. The HPCI Suppression Pool suction isolation valves were shut and deactivated. On April 24, the HPCI seismic support was repaired so that it was in conformance with its design, and the HPCI system was declared operable. On

June 10, 2009, Engineering approved calculation DA09-K128961-100, "Operability Evaluation of Mark 1 Model at Torus Penetration N-226," that determined the HPCI system remained operable even though the seismic support was in a nonconforming condition.

Analysis: The inspectors determined that the failure to promptly identify and correct a nonconforming seismic restraint was contrary to guidance contained in DAEC's Administrative Control Procedure (ACP) 1201.2, "Conduct of Systems/Plant Engineering," and was a performance deficiency. Specifically, ACP 1201.2 states that system engineers should perform walkdowns on a quarterly basis as a minimum. Additionally, members of Operations, Maintenance, and other department staff should periodically participate in joint walkdowns with the system engineer. The results of these joint walkdowns should be provided in writing to the Systems Engineering Manager and Supervisors. ACP1201.2 also states that a generic system walkdown guide is available to system engineers as an assessment tool. The "Systems Engineering Walkdown Guidelines" states that piping shall be inspected for "no evidence of excessive pipe movement / vibration." ACP 1201.2 further states that a defense-in-depth approach to observing equipment material condition is accomplished through in-plant walkdowns, tours, and inspection activities routinely conducted at DAEC, including In-plant operator rounds, Management and Supervisory Tours, Quality Assurance assessments, and Supervisory observations of field work activities.

The performance deficiency was determined to be more than minor because the issue was associated with the Mitigating Systems Cornerstone attribute of External Events and affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesired consequences. Specifically, the failure to promptly identify and correct the nonconforming condition of a seismic support on the HPCI Suppression Pool suction line could challenge the availability and reliability of the HPCI system during a seismic event.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a for the Mitigating Systems Cornerstone. Since this finding is a design deficiency that did not result in a loss of operability of the HPCI system, the finding was determined to be of very low safety significance (Green).

This finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Corrective Action Program, because the licensee did not promptly identify and correct a nonconforming seismic restraint on the HPCI Suppression Pool suction line in the CAP in a timely manner commensurate with its safety significance. [P.1(a)]

Enforcement: 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality, such as failures, malfunctions, deficiencies, deviations, defective material and equipment, and nonconformances, are promptly identified and corrected.

Contrary to the above, as of April 21, 2009, the licensee had failed to promptly identify and correct a nonconforming seismic support on the HPCI Suppression Pool suction line. Specifically, plant engineering personnel failed to identify the nonconforming support during required quarterly system walkdowns. Because this violation was of very

low safety significance and it was entered into the licensee's corrective action program as CAPs 066713 and 066750, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000331/2009003-01).

.2 Semi-Annual Complete System Walkdown

a. Inspection Scope

The inspectors performed a complete system alignment inspection of the Residual Heat Removal (RHR) System to verify the functional capability of the system. This system was selected because it was considered both safety-significant and risk-significant in the licensee's probabilistic risk assessment. The inspectors walked down the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. A review of a sample of past and outstanding WOs was performed to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the CAP database to ensure that system equipment alignment problems were being identified and appropriately resolved. Documents reviewed are listed in the Attachment to this report.

This inspection activity constituted one complete system walkdown sample as defined in IP 71111.04-05.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Resident Inspector Tours (71111.05Q)

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of firefighting equipment in the following risk-significant plant areas:

- Area Fire Plan (AFP) 01 and 02, Reactor Building Torus Area and North Corner Rooms;
- AFP 07 and 09, Reactor Building South Corner Rooms;
- AFP 21 and 22, Turbine Building North Turbine Operating Floor and South Turbine Building Operating Floor;
- AFP 24, 26, and 27, Control Building 1-A3 and 1-A4 Essential Switchgear Rooms, Control Room Complex, and Control Room HVAC Room; and
- AFP 31 and 32, Intake Structure Pump Rooms and Traveling Screen Areas.

The inspectors reviewed areas to assess if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capability, maintained

passive fire protection features in good material condition, and had implemented adequate compensatory measures for out of service, degraded or inoperable fire protection equipment, systems, or features in accordance with the licensee's fire plan. The inspectors selected fire areas based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events with later additional insights, their potential to impact equipment which could initiate or mitigate a plant transient, or their impact on the plant's ability to respond to a security event. The inspectors verified that fire hoses and extinguishers were in their designated locations and available for immediate use; that fire detectors and sprinklers were unobstructed, that transient material loading was within the analyzed limits; and fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors also verified that minor issues identified during the inspection were entered into the licensee's CAP. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted five quarterly fire protection inspection samples as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On June 25, 2009, the inspectors observed the fire brigade activation for an unannounced drill response to an oil fire in the oil storage section of the low level radwaste building. Based on this observation, the inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were: (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of pre planned strategies; (9) adherence to the pre planned drill scenario; and (10) drill objectives. Documents reviewed are listed in the Attachment to this report.

This inspection activity constituted one annual fire protection inspection sample as defined in IP 71111.05-05.

b. Findings

No findings of significance were identified.

1R06 Flooding (71111.06)

.1 Internal Flooding

a. Inspection Scope

The inspectors reviewed selected risk important plant design features and licensee procedures intended to protect the plant and its safety-related equipment from internal flooding events. The inspectors reviewed flood analyses and design documents, including the UFSAR, engineering calculations, and abnormal operating procedures to identify licensee commitments. The specific documents reviewed are listed in the Attachment to this report. In addition, the inspectors reviewed licensee drawings to identify areas and equipment that may be affected by internal flooding caused by the failure or misalignment of nearby sources of water, such as the fire suppression or the circulating water systems. The inspectors also reviewed the licensee's corrective action documents with respect to past flood-related items identified in the corrective action program to verify the adequacy of the corrective actions. The inspectors performed a walkdown of the following plant areas to assess the adequacy of watertight doors and verify drains and sumps were clear of debris and were operable, and that the licensee complied with its commitments:

- Pump House; and
- Southeast Corner Room.

These inspection activities constituted two internal flooding samples as defined in IP 71111.06-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Regualification Program (71111.11)

.1 Resident Inspector Quarterly Review (71111.11Q)

a. Inspection Scope

On June 3 and 16, 2009, the inspectors observed crews of licensed operators in the plant's simulator during licensed operator regualification examinations to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems, and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- licensed operator performance;
- crew's clarity and formality of communications;
- ability to take timely actions in the conservative direction;
- prioritization, interpretation, and verification of annunciator alarms;
- correct use and implementation of abnormal and emergency procedures;
- control board manipulations;
- oversight and direction from supervisors; and

- ability to identify and implement appropriate TS actions and Emergency Plan actions and notifications.

The crew's performance in these areas was compared to pre-established operator action expectations and successful critical task completion requirements. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted one quarterly licensed operator requalification program sample as defined in IP 71111.11.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

.1 Routine Quarterly Evaluations (71111.12Q)

a. Inspection Scope

The inspectors evaluated degraded performance issues involving the following risk-significant systems:

- Feedwater and Feedwater Control System;
- Fuel Pool Cooling System; and
- RHR System.

The inspectors reviewed events such as where ineffective equipment maintenance had resulted in valid or invalid automatic actuations of engineered safeguards systems and independently verified the licensee's actions to address system performance or condition problems in terms of the following:

- implementing appropriate work practices;
- identifying and addressing common cause failures;
- scoping of systems in accordance with 10 CFR 50.65(b) of the maintenance rule;
- characterizing system reliability issues for performance;
- charging unavailability for performance;
- trending key parameters for condition monitoring;
- ensuring 10 CFR 50.65(a)(1) or (a)(2) classification or re-classification; and
- verifying appropriate performance criteria for structures, systems, and components/functions classified as (a)(2) or appropriate and adequate goals and corrective actions for systems classified as (a)(1).

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the CAP with the appropriate significance characterization. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted three quarterly maintenance effectiveness samples as defined in IP 71111.12-05.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's evaluation and management of plant risk for the maintenance and emergent work activities affecting risk-significant and safety-related equipment listed below to verify that the appropriate risk assessments were performed prior to removing equipment for work:

- Delayed Work due to SBDG Limited Condition of Operation (LCO) During Work Week 9914;
- Delayed Work due to HPCI System Inoperability During Work Week 9917;
- High Risk Work Activities During Work Week 9919; and
- Emergent Work Related to HPCI System Rupture Disc Identified as Beyond American Society of Mechanical Engineers Code Replacement Requirement During Work Week 9920.

These activities were selected based on their potential risk significance relative to the Reactor Safety Cornerstones. As applicable for each activity, the inspectors verified that risk assessments were performed as required by 10 CFR 50.65(a)(4) and were accurate and complete. When emergent work was performed, the inspectors verified that the plant risk was promptly reassessed and managed. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed TS requirements and walked down portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted four samples as defined in IP 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- 'A' SBDG Voltage Control Failure During Quarterly Surveillance Testing;
- HPCI Torus Suction Line Seismic Restraint;
- HPCI and RCIC Systems Past Operability after Foreign Material Found in the Condensate Storage Tank (CST);
- HPCI Rupture Disc Missed Surveillance Requirement for Replacement; and
- 'D' River Water Supply Pump Failure to Start.

The inspectors selected these potential operability issues based on the risk-significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that TS operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the TS and UFSAR to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also reviewed a sampling of corrective action documents to verify that the licensee was identifying and correcting any deficiencies associated with operability evaluations. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted five samples as defined in IP 71111.15-05.

b. Findings

No findings of significance were identified.

1R18 Plant Modifications (71111.18)

.1 Temporary Plant Modifications

a. Inspection Scope

The inspectors reviewed the following temporary modification:

- Temporary Modification 09-009, Drill and Tap Reactor Feed Pump Casing for Leak Sealant Injection.

The inspectors compared the temporary configuration changes and associated 10 CFR 50.59 screening and evaluation information against the design basis, the UFSAR, and the TS, as applicable, to verify that the modification did not affect the operability or availability of the affected system. The inspectors also compared the licensee's information to operating experience information to ensure that lessons learned from other utilities had been incorporated into the licensee's decision to implement the temporary modification. The inspectors, as applicable, performed field verifications to ensure that the modifications were installed as directed; the modifications operated as expected; modification testing adequately demonstrated continued system operability, availability, and reliability; and that operation of the modifications did not impact the operability of any interfacing systems. Lastly, the inspectors discussed the temporary modification with operations, engineering, and training personnel to ensure that the individuals were aware of how extended operation with the temporary modification in place could impact overall plant performance. Documents reviewed in the course of this inspection are listed in the Attachment to this report.

This inspection activity constituted one temporary modification sample as defined in IP 71111.18-05.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the following post-maintenance activities to verify that procedures and test activities were adequate to ensure system operability and functional capability:

- RCIC System Operability Testing Following Installation of Noise Suppression Equipment in 1D1408 for MO-2512 and MO-2517;
- Closeout Activities Following Divers Cleaning, Inspection, and Lining Repair as Required on the 'A' CST;
- EHC System Flow and Pressure Adjustments Following Replacement of the 'B' EHC Pump;
- Calibration and Functional Testing of the 'A' Recirculation Flow Unit Following Capacitor Replacements on the Flow Unit Chassis; and
- Operational Testing Following Replacement of the 'A' SBDG Normal Starting Air Filter Drain Valve.

These activities were selected based upon the structure, system, or component's ability to impact risk. The inspectors evaluated these activities for the following (as applicable): the effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed; acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate; tests were performed as written in accordance with properly reviewed and approved procedures; equipment was returned to its operational status following testing (temporary modifications or jumpers required for test performance were properly removed after test completion), and test documentation was properly evaluated. The inspectors evaluated the activities against TS, the UFSAR, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the CAP and that the problems were being corrected commensurate with their importance to safety. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted five post-maintenance testing samples as defined in IP 71111.19-05.

b. Findings

No findings of significance were identified.

1R20 Outage Activities (71111.20)

.1 Non-Refueling Outage Activities

a. Inspection Scope

The inspectors evaluated outage activities for an unscheduled outage that began on April 3, 2009, and continued through April 5, 2009. The inspectors reviewed activities to ensure that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, startup and heatup activities, and identification and resolution of problems associated with the outage. Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted one non-refueling outage sample as defined in IP 71111.20-05.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the test results for the following activities to determine whether risk-significant systems and equipment were capable of performing their intended safety function and to verify testing was conducted in accordance with applicable procedural and TS requirements:

- STP 3.8.1-04B, 'B' SBDG Slow Start (routine);
- STP NS540002B, 'B' Emergency Service Water (ESW) Operability Test (inservice test);
- STP NS100102A, 'A' River Water Supply and Screen Wash System Vibration Measurement (routine);
- STP 3.5.1-10, HPCI System Operability Test (inservice test); and
- SBDG Fuel Oil Storage Tank Lo-Lo Level Calibration Check (routine).

The inspectors observed in plant activities and reviewed procedures and associated records to determine the following:

- did preconditioning occur;
- were the effects of the testing adequately addressed by control room personnel or engineers prior to the commencement of the testing;
- were acceptance criteria clearly stated, demonstrated operational readiness, and consistent with the system design basis;
- plant equipment calibration was correct, accurate, and properly documented;

- as-left setpoints were within required ranges; and the calibration frequency was in accordance with TSs, the UFSAR, procedures, and applicable commitments;
- measuring and test equipment calibration was current;
- test equipment was used within the required range and accuracy; applicable prerequisites described in the test procedures were satisfied;
- test frequencies met TS requirements to demonstrate operability and reliability; tests were performed in accordance with the test procedures and other applicable procedures; jumpers and lifted leads were controlled and restored where used;
- test data and results were accurate, complete, within limits, and valid;
- test equipment was removed after testing;
- where applicable for inservice testing activities, testing was performed in accordance with the applicable version of Section XI, American Society of Mechanical Engineers code, and reference values were consistent with the system design basis;
- where applicable, test results not meeting acceptance criteria were addressed with an adequate operability evaluation or the system or component was declared inoperable;
- where applicable for safety-related instrument control surveillance tests, reference setting data were accurately incorporated in the test procedure;
- where applicable, actual conditions encountering high resistance electrical contacts were such that the intended safety function could still be accomplished;
- prior procedure changes had not provided an opportunity to identify problems encountered during the performance of the surveillance or calibration test;
- equipment was returned to a position or status required to support the performance of its safety functions; and
- all problems identified during the testing were appropriately documented and dispositioned in the CAP.

Documents reviewed are listed in the Attachment to this report.

These inspection activities constituted three routine surveillance testing samples and two inservice testing samples as defined in IP 71111.22, Sections -02 and -05.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on May 20, 2009, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the Technical Support Center to determine whether

the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the Attachment to this report.

This inspection activity constituted one sample as defined in IP 71114.06-05.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

40A1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the first quarter 2009 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.

.2 Reactor Coolant System Specific Activity

a. Inspection Scope

The inspectors sampled licensee submittals for the Reactor Coolant System (RCS) Specific Activity performance indicator (PI) for the period from the second quarter 2008 through the first quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's RCS chemistry samples, TS requirements, issue reports, event reports and NRC Integrated Inspection Reports for the period of April 2008 through March 2009 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. In addition to record reviews, the inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample. Documents reviewed are listed in the Attachment to this report.

This inspection activity constituted one reactor coolant system specific activity sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

.3 Reactor Coolant System Leakage

a. Inspection Scope

The inspectors sampled licensee submittals for the RCS Leakage PI for the period from the second quarter 2008 through the first quarter 2009. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, were used. The inspectors reviewed the licensee's operator logs, RCS leakage tracking data, issue reports, event reports and NRC Integrated Inspection Reports for the period of April 2008 through March 2009 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the PI data collected or transmitted for this indicator and none were identified. Documents reviewed are listed in the Attachment to this report.

This inspection activity constituted one reactor coolant system leakage sample as defined in IP 71151-05.

b. Findings

No findings of significance were identified.

40A2 Identification and Resolution of Problems (71152)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, Public Radiation Safety, Occupational Radiation Safety, and Physical Protection

.1 Routine Review of Items Entered Into the Corrective Action Program

a. Inspection Scope

As part of the various baseline inspection procedures 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 CAP at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Attributes reviewed included: the complete and accurate identification of the problem; that timeliness was commensurate with the safety significance; that evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews were proper and adequate; and that the classification, prioritization, focus, and timeliness of corrective actions were commensurate with safety and sufficient to prevent recurrence of the issue.

Minor issues entered into the licensee's CAP as a result of the inspectors' observations are included in the Attachment.

These routine reviews for the identification and resolution of problems did not constitute any additional inspection samples. Instead, by procedure they were considered an integral part of the inspections performed during the quarter and documented in Section 1 of this report.

b. Findings

No findings of significance were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's CAP. This review was accomplished through inspection of the station's daily condition report packages.

These daily reviews were performed by procedure as part of the inspectors' daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings of significance were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's CAP and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors' review was focused on repetitive equipment issues, but also considered the results of daily inspector CAP item screening discussed in Section 4OA2.2 above, licensee trending efforts, and licensee human performance results. The inspectors' review nominally considered the six month period of January 2009 through June 2009, although some examples expanded beyond those dates where the scope of the trend warranted.

The review also included issues documented outside the normal CAP in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's CAP trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

b. Assessment and Observations

The inspectors performed a focused review of a potential trend involving the consistency of engineering department equipment evaluations and troubleshooting activities performed over the past six to nine months. Some examples include:

- The initial engineering evaluation performed for the as found condition of the HPCI seismic restraint in April 2009 was not thorough and was not as timely as the situation warranted, considering that the RCIC system was inoperable at the time the issue was identified.
- The modifications performed on the 'B' SBDG governor and voltage regulator, during the last refueling outage in February 2009, required several post-maintenance testing runs of the 'B' SBDG to identify and correct multiple wiring issues and discrepancies in the modification package, which added significant work as well as rework.
- The troubleshooting and evaluation performed for the failure of the 'D' RWS pump failure to start/supply breaker trip in March 2009, did not clearly identify why the pump seized. Additionally, an overtorqued condition generated during the pump reassembly/mounting activities was not assessed for the impact on seismic qualification and operability.
- The initial investigation of fluctuations in the output voltage of the 'A' SBDG experienced during the surveillance run the last week of March 2009, did not identify a failed component on the voltage regulator card. After the card was replaced, the 'A' SBDG ran successfully. Engineering was not able to find a reason why the original card had failed after approximately one month of service.

In April the licensee generated CAP 066797 to document the potential trend. A Condition Evaluation (CE 007388) was requested to select an additional five to ten past troubleshooting activities and review for common weaknesses and/or gaps in the process that may lead to ineffective resolution of identified issues. The evaluation will be completed in July 2009. Documents reviewed are listed in the Attachment to this report. The inspectors will review the completed corrective action activities as part of future baseline inspection activities.

This review constituted a single semi-annual trend inspection sample as defined in IP 71152-05.

c. Findings

No findings of significance were identified.

4OA3 Follow-Up of Events and Notices of Enforcement Discretion (71153)

.1 Manual Reactor Scram During Performance of Recorder Instrument Calibration Surveillance

a. Inspection Scope

The inspectors reviewed and evaluated the plant's response to an unplanned manual reactor scram due to increasing water level. Documents reviewed in this inspection are listed in the Attachment to this report.

This event follow-up review constituted one sample as defined in IP 71153-05.

b. Findings

Inadequate Surveillance Test Procedure Revision Results in a Plant Scram

Introduction: A finding of very low safety significance and associated NCV of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was self-revealed for an inadequate change to the Reactor Water Level and Pressure Instrument Calibration STP that caused a plant transient resulting in a reactor scram.

Description: On April 1, 2009, an I&C Technician was reviewing STP 3.3.3.2-09, "Reactor Water Level and Pressure Instruments Calibration," prior to its scheduled performance on April 2. The I&C Technician identified that the STP was vague in its directions for removing the recorder from service and spoke to a Procedure Specialist to get the procedure revised to include more specific guidance. The Procedure Specialist stated that there was not enough time to revise the procedure prior to its scheduled performance.

Approximately three hours later, the same I&C Technician spoke to a second Procedure Specialist about revising the STP to include more guidance on removing the recorder from service. The I&C Technician wanted to change step 7.1.20, which read, "Remove the recorder from service," to read "Lift and tape the lead attached to the positive (+) terminal of channel 2 (black channel) on LRS-4559/60 (REACTOR WATER LEVEL recorder)." The second Procedure Specialist agreed to help the I&C Technician make the revision, and neither the I&C technician or the Procedure Specialist reviewed the system print to make this revision.

The revision to the STP was reviewed by the I&C Technician's supervisor, who also failed to review the system print while reviewing the STP revision. A third Procedure Specialist reviewed the revision to the STP as the "Qualified Reviewer." The third Procedure Specialist approved the revision to the STP without reviewing the system print.

At 2300 on April 2, 2009, two I&C Technicians (neither of which was involved in making the revision to the STP the previous day) began performing the newly revised STP 3.3.3.2-09, "Reactor Water Level and Pressure Instruments Calibration." At step 7.1.20, the two I&C Technicians used concurrent verification to lift the lead as directed by the STP. Upon lifting the lead, the control loop for the reactor vessel water level control circuit was opened, and indicated reactor water level failed low. The Feedwater system responded to the indicated low reactor water level by opening the feed regulating valves, causing the actual reactor water level to rise. Operators recognized the rising reactor vessel water level and inserted a manual scram at 0028 on April 3, 2009.

Analysis: The inspectors determined that the failure to provide adequate procedural steps to remove the reactor water level recorder from service was contrary to the requirements of 10 CFR 50, Appendix B, Criterion V, and was a performance deficiency.

The performance deficiency was determined to be more than minor because the issue was associated with the Initiating Events Cornerstone attribute of Procedure Quality and affected the cornerstone objective of limiting the likelihood of those events that upset

plant stability and challenge critical safety functions during power operations. Specifically, I&C Technicians and Procedure Writers made an inadequate change to the STP that resulted in a plant transient that led to a reactor scram.

The inspectors determined the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," Attachment 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," Table 4a, for the Initiating Events Cornerstone. The inspectors determined the finding was of very low safety significance (Green) because the finding only resulted in a reactor scram and did not contribute to the likelihood that mitigation equipment or functions would not be available.

This finding has a cross-cutting aspect in the area of Human Performance, Resources, because the licensee did not ensure procedures were adequate to assure nuclear safety. Specifically, the inadequate change to the Reactor Water Level and Pressure Instrument Calibration STP resulted in an inaccurate procedure that caused a plant transient resulting in a reactor scram [H.2(c)].

Enforcement: 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," 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, on April 2, 2009, the licensee failed to appropriately revise the Reactor Water Level and Pressure Instrument Calibration STP. Specifically, I&C Technicians and Procedure Writers revised the STP to include steps that resulted in the reactor water level indicating low, resulting in a plant transient that led to operators manually scrambling the reactor. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as CAP 066292, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 05000331/2009003-02).

.2 (Closed) Licensee Event Report 05000331/2009001-00: Manual Reactor Scram Due to Loss of Condenser Cooling

On February 1, 2009, operators were lowering reactor power in preparation for Refueling Outage 21. Using Operating Instruction (OI) 442, operators were preparing to secure the 'A' circulating water pump and the 'A' cooling tower. Per the OI, operators were assigned to throttle the cooling tower riser valves on the tower to be removed from service until circulating water discharge pressure was about 35 psig and then secure the circulating water pump. The operators in the control room were monitoring circulating water discharge pressure using computer point F015, which is fed from pressure transmitter PT4205. An operator in the pump house was assigned to monitor the local circulating water pump discharge pressure.

Operators at the cooling tower were responsible for closing the cooling tower riser valves. In coordination with the control room operators, the cooling tower operators bumped the cooling tower riser valves in the closed direction in 10-second intervals. Shortly after the cooling tower riser valves were shut, the pump house operator observed signs of circulating water pump cavitation. He also observed a lowering level in the circulating water pit. Operators also observed a lowering circulating water pit

level, and at 1801 hours, they inserted a manual reactor scram per the guidance in ARP 1C06A, D-11, since circulating water pit level was less than eight feet and could not be restored.

Following the reactor scram, operators found that the west riser of the 'B' cooling tower had catastrophically failed by separating at the slip joint between the riser and the distribution header and the top of the cooling tower. The Root Cause Evaluation (RCE) determined that the cooling towers were not designed to have both circulating water pumps discharging over a single cooling tower. The station determined that the root cause of the event was that OI 442 was inadequate to prevent an inappropriate operational configuration because the procedure did not prevent operators from operating both circulating water pumps over one cooling tower.

The licensee entered this issue into their corrective action program as CAP 063426. The 'B' cooling tower riser was repaired, structural support was added to all four cooling tower risers, and operating procedures were revised to preclude operators from operating two circulating water pumps with only one cooling tower in operation.

This Licensee Event Report (LER) was reviewed by the inspectors with no further action required. Inspection report 05000331/2009002 documents a Green finding associated with the events described in this LER. Documents reviewed as part of this inspection activity are listed in the Attachment to this report. This LER is closed.

This LER review constituted one sample as defined in IP 71153-05.

.3 (Closed) Licensee Event Report 05000331/2009003-00: Unplanned Manual Scram Due to Increasing Reactor Water Level

On April 3, 2009, I&C Technicians were performing STP 3.3.3.2-09, "Reactor Water Level and Pressure Instruments Calibration," and in the process of lifting a lead to isolate the level recorder, the control loop for the reactor vessel water level control circuit was opened, and indicated reactor water level failed low. The Feedwater system responded to the indicated low reactor water level by opening the feed regulating valves, causing the actual reactor water level to rise. Operators recognized the rising reactor vessel water level and inserted a manual scram. An RCE performed by the licensee identified that an inadequate change to the STP was performed. Section 4OA3.1 discusses details of this event and also documents a Green finding and associated NCV related to the events described in this LER. Documents reviewed as part of this inspection are listed in the Attachment to this report. This LER is closed.

This LER review constituted one sample as defined in IP 71153-05.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee

security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On July 1, 2009, the inspectors presented the inspection results to Mr. R. Anderson, Site Vice President, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

R. Anderson, Site Vice President
D. Curtland, Plant General Manager
B. Eckes, Nuclear Oversight Manager
S. Catron, Licensing Manager
J. Cadogan, Engineering Director
B. Kindred, Security Manager
J. Morris, Training Manager
C. Dieckmann, Operations Manager
G. Rushworth, Assistant Operations Manager
P. Giroir, Operations Support Manager
R. Porter, Chemistry & Radiation Protection Manager
M. Davis, Emergency Preparedness Manager
M. Lingenfelter, Design Engineering Manager
J. Swales, Design Engineering Supervisor
K. Kleinheinz, Maintenance Manager
D. Albrecht, Radwaste Supervisor
N. McKenney, General Supervisor Radiation Protection

Nuclear Regulatory Commission

K. Feintuck, Project Manager, NRR
K. Riemer, Chief, Reactor Projects Branch 2

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened

05000331/2009003-01	NCV	Failure to Promptly Identify and Correct a Nonconforming Condition on a HPCI Suppression Pool Suction Line Seismic Restraint (1R04.1.b)
05000331/2009003-02	NCV	Inadequate Surveillance Test Procedure Revision Results in a Plant Scram (4OA3.1)

Closed

05000331/2009003-01	NCV	Failure to Promptly Identify and Correct a Nonconforming Condition on a HPCI Suppression Pool Suction Line Seismic Restraint (1R04.1.b)
05000331/2009003-02	NCV	Inadequate Surveillance Test Procedure Revision Results in a Plant Scram (4OA3.1)
05000331/2009001-00	LER	Manual Reactor Scram Due to Loss of Condenser Cooling (4OA3.2)
05000331/2009003-00	LER	Unplanned Manual Reactor Scram due to Increasing Reactor Water Level (4OA3.3)

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.

Section 1R01

ACP 101.16; Midwest ISO [Independent Transmission System Operators] Real-Time Operations: Communication and Mitigation Protocols; Revision 5
AOP 304; Grid Instability; Revision 22
CAP 059577; NCAQ [Condition Not Adverse to Quality] – Effective Implementation of Portions of the Ops Burden Program are Challenged
Corrective Work Order (CWO) A82762; Replace Instrument [Temperature Indicating Switch TIS9207B], Would Not Calibrate on Preventative Work Order (PWO) 1143631
OI 304.2; 4160/480V Essential Electrical Distribution System; Revision 77
CAP 049514; NCAQ – Clarification of Offsite AC Sources Operability Requested
CAP 058315; NCAQ – Lessons Learned from Flood
CAP 058331; NCAQ – 2008 Flood Recovery Intake/Pit/River Related Actions
CAP 058416; NCAQ – Staging of Materials per the Flood AOP
CAP 058834; CAQ – Procedure not used During Flooding Event
CAP 058369; NCAQ – Update UFSAR Sections 2.4 and 3.4.1
AOP 902; Flood; Revision 34
ACP 119.0; Offsite Emergency Preparedness Following Natural Disasters; Revision 1
Integrated Plant Operating Instruction (IPOI) 6; Weather Impacted Operations; Revision 50
IPOI 6 Attachment 2; Plant Return to Normal Operation Checklist; Revision 50
ACP 110.6; Seasonal Readiness; Revision 7
PWO 1145834; Convert to Summer Mode and Inspect and Clean the External Cooling Coils
CWO A80364; 'A' GSW [General Service Water] Pump Auto Started While Performing a Bump Start During Swapping Pumps

Section 1R04

Drawing Number BECH-M119; Residual Heat Removal System; Revision 82
Drawing Number BECH-M120; Residual Heat Removal System; Revision 65
OI 149; Residual Heat Removal System; Revision 111
OI 149A1; RHR System Electrical Lineup; Revision 3
CAP 058942; CAQ – 'A' RHR LCO was 21.5 hours longer than expected
CWO A75201; Valve Leaks by when 'B' Core Spray is Running. 'A' Core Spray Slowly Pressurizes
CWO A93804; Work with A93805 to Determine Which PLCI Inject Valve is Leaking. RHR System has been Vented 4 times in April. The Last time was 100 PSIG to 350 PSIG in 47 hours. This valve or MO-1903 is Leaking by, Recommend TIF to Determine
OI 149A4; 'B' RHR System Valve Lineup and Checklist; Revision 2
OI 149A2; 'B' RHR System Valve Lineup and Checklist; Revision 9
CE 007377; CAQ – RHR System Pressure
OI 730A2; Control Building Ventilation Compressed Air System Valve Lineup; Revision 4
Drawing BECH-M173; Air Flow Diagram Standby Filter Unit Control Building; Revision 54
CAP 040786; V13-0141 Valve Stem and Disc Found Separated

CAP 058521; CAQ – 1K003 System Leakage Exceeded SMART Alert Level
CAP 051460; CAQ – Water Leak on 1K003 SBT Instrument Air Compressor After Cooler
1E243
CAP 063177; NCAQ – Unexpected Alarm 1K-4 Trouble
STP 3.7.9-02A; 'A' CB/SBGTS Instrument Air Compressor Functional Test and Check Valve
Testing; Revision 0
STP 3.7.9-03; CB/SBGTS Instrument Air Compressors System Leakage and Capacity Test;
Revision 1
OI 730; Control Building HVAC System; Revision 99
ACP 201-2; Conduct of Systems/Plant Engineering; Revision 20
Record of Visual examination of Component Supports VT-3/VT-4: Support HBB-8-SR-3
(HPA-CE036); ISI Number 93-396; dated July 16, 1993
CAP 066713; CAQ – HPCI Suction from Torus Pipe Support HBB-8-SR-3 Wall Plate Gap
CAP 066750; CAQ - HPCI Suction from Torus Pipe Support HBB-8-SR-3 not in Accordance
with Design
CAP 066755; Reportable Event HPCI Inoperable
CWO A96143; Reestablish Gap Between Pipe Clamp and Pipe for Support HBB-8-SR-3
CWO A96142; Remove Insulation and Perform VT-3 on Support. Verify +/- Gap Between
Clamp and Pipe
ACP 1211.10; Nondestructive Examination Procedure Visual Examination of Component
Supports VT-3; Revision 10
OI 152A2; HPCI System Valve Lineup and Checklist; Revision 15
OI 152A1; HPCI System Electrical Lineup; Revision 3
OI 152A4; HPCI System Control Panel Lineup; Revision 3
OI 324A2; SBDG 1G-21 System Electrical Lineup; Revision 2
OI 324A4; SBDG 1G-21 System Valve Lineup and Checklist; Revision 12
OI 324A8; SBDG 1G-21 System Control Panel Lineup; Revision 4

Section 1R05

ACP 1412.2; Control of Combustibles; Revision 35
ACP 1412.3; Control of Ignition Sources; Revision 22
AFP 01; Reactor Building Torus Area and North Corner Rooms; Revision 25
AFP 02; Reactor Building South Corner Rooms; Revision 23
AFP 07; Reactor Building Laydown Area, Corridor and Waste Tank Area, and Spent Resin Tank
Room; Revision 28
AFP 09; Reactor Building RBCCW [Reactor Building Closed-loop Cooling Water] Heat
Exchanger Area, Equipment Hatch Area, and Jungle Room; Revision 27
AFP-22; Turbine Building South Turbine Operating Floor, Elevation 780'-0"; Revision 25
AFP-21; Turbine Building North Turbine Operating Floor; Revision 24
AFP-31; Intake Structure Pump Rooms Elevation 767'-0"; Revision 26
AFP-32; Intake Structure Traveling Screen Areas; Revision 27
AFP-24; Control Building 1-A4, 1-A3 Essential Switchgear Rooms; Revision 28
AFP-26; Control Building Control Room Complex; Revision 32
AFP-27; Control Building Control Room HVAC Room; Revision 25
FHA-400; Fire Hazards Analysis; Revision 9
DAEC Fire Plan – Volume 1; Program; Revision 56
DAEC Fire Plan – Volume 2; Fire Brigade Organization; Revision 45
DAEC Fire Plan – Volume 3; Catastrophic Event Plan; Revision 0
CAP 068122; Was Correct EAL [Emergency Action Level] Declared for Unannounced Fire Drill

Section 1R06

CAP 065970; NCAQ – MRC [Management Review Committee] Identified Trend of CAP for Plugged Drains
CAP 064449; NCAQ – 4 Inch Drain Line in Southeast Corner Room is Plugged
CAP 046367; What Compensatory Measure is Required for an Inoperable Watertight Door?
CE 004061; NRC Noted a Small Amount of Air Leaking Around Watertight Door 507
CAP 067556; NCAQ – Spurious Annunciator During HPCI Run
CAP 067048; NCAQ – Reactor Building Drain Sump Hi Leak Rate Alarm Received due to CST [Condensate Storage Tank] Overflow
CAP 066963; NCAQ – Unexpected Annunciator 1C04C (D-3), Drywell Equipment Drain Sump HI Temperature
CAP 066791; NCAQ – Increased In-leakage into Building Floor Drain Sump
CAP 062500; NCAQ – Increased In-leakage into Turbine Building Floor Drain Sump
CAP 060961; NCAQ – Evaluate Turbine Building Sump System Capacity

Section 1R11

Evaluation Scenario Guide 110; Revision 0
ACP 110.1; Conduct of Operations; Revision 22
AOP 255.2; Power/Reactivity Abnormal Change; Revision 32
AOP 683; Abnormal Safety Relief Valve Operation; Revision 9
IPOI 5; Reactor Scram; Revision 51
EOP (Emergency Operating Procedure) Support Procedure SEP 307; Rapid Depressurization with Bypass Valves; Revision 2
EOP-1; RPV [Reactor Vessel Level] Control; Revision 16
EOP-3; Secondary Containment/Rad Release Control; Revision 19
ED [Emergency Depressurization]; Emergency RPV Depressurization; Revision 6
Emergency Plan Implementing Procedure (EPIP) 1.1; Determination of Emergency Action Levels; Revision 28
EPIP Form EAL [Emergency Action Level]-01
EAL Matrix – Hot Modes; Revision 7
CAP 067924; Simulator PPC [Plant Processing Computer] Unavailable at Start of LOR [Licensed Operator Requal] Training
OTH [other] 039497; Develop a Scenario Where the PPC Goes Inoperable

Section 1R12

DAEC Maintenance Rule Program Module 0; Overview; Revision 3
DAEC System Level Performance Criteria Basis Document; Feedwater and Condensate SUS 44.00, 45.01, 45.02; Revision 0
Summary of DAEC Maintenance Rule System Goals for RED (a)(1) Systems; dated April 23, 2009
DAEC System Checklist/Health Report for SUS 45.01 & 45.02 Feedwater and Feedwater Control Systems
CAP 067683; NCAQ – Potential Steam Leak on the 'B' Reactor Feed Pump
DAEC Performance Criteria Basis Document; Fuel Pool Cooling & Cleanup System SUS 35.00; Revision 2
DAEC Maintenance Rule Criteria Calculation Report for SUS 35.00
DAEC System Checklist/Health Report for SUS 35.00 Fuel Pool Cooling & Cleanup System

CAP 067838; CAQ – June Fuel Inspection – 50.59 Screening Not Completed for 4 Procedures Issued

CAP 067901; Dropped Pole in the Spent Fuel Pool

CAP 067943; Bucket with Unknown Contents Discovered in the Cask Pool

CWO A93804; Work with A93805 to Determine Which PLCI Inject Valve is Leaking. RHR System has been Vented 4 times in April. The Last time was 100 PSIG to 350 PSIG in 47 hours. This valve or MO-1903 is Leaking by, Recommend TIF to Determine

Drawing Number BECH-M119; Residual Heat Removal System; Revision 82

Drawing Number BECH-M120; Residual Heat Removal System; Revision 65

CWO A75201; Valve Leaks by when 'B' Core Spray is Running. 'A' Core Spray Slowly Pressurizes

Section 1R13

Work Planning Guideline 1; Work Process Guideline; Revisions 29, 30, 31, and 32

Work Planning Guideline 2; On-Line Risk Management Guideline; Revisions 47, 48, 49, 50, 51, and 52

WM-AA-1000; Work Activity Risk Management Process; Revision 1

Maintenance Risk Evaluations for Work Week 9914; Revisions 0, 1, 2, 3, and 4

DAEC On-line Schedule for Work Week 14

Maintenance Risk Evaluations for Work Week 9917; Revisions 0, 1, and 2

DAEC On-line Schedule for Work Week 17

Maintenance Risk Evaluations for Work Week 9919; Revision 0 and 1

DAEC On-line Schedule for Work Week 19

Maintenance Risk Evaluations for Work Week 9920; Revisions 1, 2, 3, 4, 5 and 6

DAEC On-line Schedule for Work Week 20

CWO A64921; Valve is Extremely Difficult to Operate. Stem has Adequate Grease

CWO A77226; V13-0044 Should be Replaced Along with Other Similar Valves V130043 ('B' Inlet), V13-0040, V13-0041 ('B' RHR Seal). Work for these Valves is Scheduled for Week 9718 ('B' SBDG) ESW

CWO A77227; V13-0042 Should be Replaced Along with Similar Valve V13-0041 (inlet) WO A73699 Scheduled 9715

CWO A77228; V13-0102 Should Be Replaced Along with Similar Valve V13-0040 (Inlet) WO A73698 Scheduled 9715 (R4). Note, A73698 has already been Worked. This Small Globe Valve has never been Worked and only needs [to be] refurbished

CAP 067038; Plugged Sensing Line Extent of Condition

CAP 067030; STP 3.4.5-01 Cannot be Performed as Written due to Yokogawa Modification

CAP 067042; Yoke Grease Zerk Stripped out of Valve V13-0125

CAP 067173; Missed Surveillance on PSE2213 [HPCI Rupture Disc]

Section 1R15

EN-AA-203-1001; Operability Determinations / Functionality Assessments; Revision 1

Drawing BECH-M109; Condensate and Demineralized Water System; Revision 71

CAP 067041; HPCI Unavailability When Torus Suction Line or Either CST is Isolated

CAP 066051; CAQ – Operating Procedures Allow for One CST in Service While Calculation does not

CAP 067028; FME [Foreign Material Exclusion] – Two Large Pieces of Rubber found in 'B' CST

CAP 067066; FME- Foreign Material Found in 'B' CST – Appears to be Ball Bearing

CAP 067068; 1T005B – Significant Coating Blistering Found on Tank Walls

CAP 067034; 1T005B – Gasket and Coating Damage Found at Shell Manway

CAP 066119; CAQ – ‘A’ SBDG Manually Tripped Following 1C08A (b-11) Annunciator
DAEC ‘A’ Emergency Diesel Generator Automatic Voltage Regulator Board Replacement
Post-Maintenance Testing Acceptance Evaluation; Revision 0
Apparent Cause Evaluation 001940; CAQ – ‘A’ SBDG Manually Tripped Following 1C08A
(b-11) Annunciator
CAP 067173; CAQ – Missed Surveillance on PSE2213
Operability Recommendation 000398; CAQ – Missed Surveillance on PSE2213
CAP 066341; CAQ – 1P117D Trip
CAP 066485; CAQ – River Water Supply Pump ‘D’ Failure
ACE 001942; CAQ – 1P117D Trip
CAP 067412; CAQ – NRC PI&R Concerns with ‘D’ River Water Pump Mounting
Operability Recommendation 000400; CAQ – NRC PI&R Concerns with ‘D’ River Water Pump
Mounting

Section 1R18

FP-E-MOD-03; Temporary Modifications; Revision 3
TM-09-009; Drill and Tap Reactor Feed Pump Casing for Leak Sealant Injection
DAEC 5059SCRN 036387; TM-09-009
CAP 067683; NCAQ – Potential Steam Leak on the ‘B’ Reactor Feed Pump

Section 1R19

WM-AA-1000; Work Activity Risk Management Process; Revision 1
Maintenance Work Order 1141696; Install Noise Suppression in Bucket 1D1408 for MO2512-M
per ECP [Engineering Change Package] 1819
PWO 1145154; Perform External, Limit Switch Compartment, Motor Housing & Main Housing
Inspections and Grease Addition if Necessary; Operability Check
CAP 066698; LCO Entry Near Miss
STP 3.5.3-02; RCIC System Operability Test; Revision 26
PWO 1148306; Divers to Clean ‘A’ CST and Inspect for Damage/ Deterioration to Coatings;
Repair as Necessary
Underwater Engineering Services, Inc. Procedure QCP-10-3-DAEC-NUC2009101; Underwater
Inspection of Condensate Storage Tanks; Revision 0
Underwater Engineering Services, Inc. Procedure QCP-10-4-DAEC-NUC2009101; Underwater
Coating Repair of Condensate Storage Tanks; Revision 0
CAP 066765; Risk and Look Ahead Process Issues Identified for Diving Activities
CAP 067052; CAQ – Quality Plan for the ‘A’ CST Repair Work Was Not Provided to NOS
[Nuclear Oversight] Manager
CAP 067109; Concerns Raised with Regard to Diving Operations in the CSTs
CWO A81440; Replace [‘B’ EHC] Pump and Adjust Pump with System in Service. Check the
Setting of PSV3676B and Adjust as Required
CAP 051477; CAQ – ‘B’ EHC Pump Amps Swinging from 20 to 50 Amps
CAP 067642; NCAQ – Unexplained EHC Discharge Pressure and Amp Indications
CAP 067670; NCAQ – Review of EHC Fluid Document Provided by NRC Resident
PWO 1148261; Replace Chassis-Mounted Capacitors C1 and C2
Equipment-Specific Maintenance Procedure I.FIY-G080-01; G.E. APRM [Average Power Range
Monitor] Flow Units; Revision 9
STP 3.3.1.1-34; Recirculation Flow Unit Functional Test and Calibration; Revision 19
CWO A92472; Replace [V32-0065, ‘A’ SBDG Normal Starting Air Filter Drain Valve] Gate Valve

Section 1R20

IPOI 2; Startup; Revision 110
IPOI 3; Power Operations (35% to 100% Rated Power); Revision 108
IPOI 4; Shutdown; Revisions 97
IPOI 5; Reactor Scram; Revision 51
Reactivity Management Plan: Plant Startup; April 5, 2009

Section 1R22

WO S017709; Perform STP 3.8.1-04 on 1G021 ('B' SBDG)
STP 3.8.1-04B; 'B' Standby Diesel Generator Operability Test (Slow Start from Normal Start Air; Revision 4
OI 324A9; SBDG Operating Checklist; Revision 9
OI 324A10; SBDG Standby/Readiness Condition Checklist; Revision 10
STP NS540002B; Emergency Service Water Operability Test 'B'; Revision 1
CA 051090; CAQ – During 'B' ESW STP Found Cooling Flow to 1VAC015B at 13.4 gpm
WO S01017; STP NS540002, Emergency Service Water Operability Test 'B'
Drawing BECH-M113; RHR Service Water and Emergency Service Water Systems; Revision 64
STP NS100102A; 'A' River Water Supply and Screen Wash System Vibration Measurement and Operability Test; Revision 4
CAP 067175; NCAQ – M&TE P738 Over Calibrated Range During NS100102A
WO S016012; Perform STP 3.5.1-10 for HPCI Operability Test
STP 3.5.1-10; HPCI System Operability and Comprehensive Pump Test; Revision 16
STP NS520001; HPCI System Leakage Inspection Walkdown; Revision 19
PWO 1143393; Calibration Check per Procedure [Diesel Fuel Oil Storage Tank, 1T-35, Lo-Lo-Level]
Equipment-Specific Maintenance Procedure I.LS-A568-01; Amprodux Models 310 & 320 Level Switches; Revision 2
Equipment-Specific Maintenance Procedure I.LIS-S146-01; Shand & Jurs Model 92020 Tank Level Gauges; Revision 4

Section 1E06

EAL-01; Emergency Action Level Matrix - Modes 1, 2, 3; Revision 7
EAL-02; Emergency Action Level Matrix - Modes 4, 5; Revision 6
EPIP 1.2; Notifications; Revision 39
EPIP 6.1; Drill and Exercise Program; Revision 1
CAP 067417; NCAQ – 09TD2 – Appropriateness of Controller Interjection Questions
2009 Emergency Response Organization Training Drill #2 Final Report; Dated June 24, 2009
DAEC Emergency Action Level Notification Forms for Declaration of Notice of Unusual Event, Alert, Site Area Emergency, and General Emergency
CAP 067465; 09TD2 – Attention to Detail Error on Alert Classification Note-05
CAP 067467; 09TD2 – Emergency Response Organization Team did not Consider Using HPCI with Exhaust Diaphragm Broken
CAP 067460; 09TD2 – Wide Range Yarway Indication in the Simulator Related to Minimum Indicating Level and Emergency Depressurization Decision

Section 4OA1

ACP 1402.4; NRC and WANO Performance Indicator Reporting; Revision 13
FPL Nuclear Administrative Procedure-206; NRC Performance Indicators; Revision 6
NRC PI Data Calculation, Review and Approval Report for RCS Activity; Report Quarter No. 2
Year 2008; dated July 11, 2008
NRC PI Data Calculation, Review and Approval Report for RCS Activity; Report Quarter No. 3
Year 2008; dated October 9, 2008
NRC PI Data Calculation, Review and Approval Report for RCS Activity; Report Quarter No. 4
Year 2008; dated January 13, 2009
NRC PI Data Calculation, Review and Approval Report for RCS Activity; Report Quarter No. 1
Year 2009; dated April 13, 2009
NRC PI Data Calculation, Review and Approval Report for RCS Leakage; Report Quarter No. 2
Year 2008; dated July 9, 2008
NRC PI Data Calculation, Review and Approval Report for RCS Leakage; Report Quarter No. 3
Year 2008; dated October 14, 2008
NRC PI Data Calculation, Review and Approval Report for RCS Leakage; Report Quarter No. 4
Year 2008; dated January 12, 2009
NRC PI Data Calculation, Review and Approval Report for RCS Leakage; Report Quarter No. 1
Year 2009; dated April 15, 2009
NEI 99-02; Regulatory Assessment Performance Indicator Guideline; Revision 5
DAEC First Quarter 2009 PI Summary; Submitted April 21, 2009

Section 4OA2

ACP 114.8; Action Request Trending; Revision 6
PI-AA-204; Condition Identification and Screening Process; Revision 3
PI-AA-205; Condition Evaluation and Corrective Action; Revision 2
DAEC Corrective Action Effectiveness Review Manual; Revision 2
ACP 109.3; Troubleshooting Process; Revision 1
PI-AA-100-1002; Guideline for Failure Investigation Process; Revision 0
Maintenance Directive 026; Troubleshooting Guidelines; Revision 16
CAP 066119; CAQ – ‘A’ SBDG Manually Tripped Following 1C08A (B-11) Annunciator
CAP 066797; CAQ – Complex Troubleshooting Effectiveness
CAP 066341; CAQ – 1P117D Trip
CAP 066485; CAQ – River Water Supply Pump ‘D’ Failure
CAP 066750; CAQ - HPCI Suction from Torus Pipe Support HBB-8-SR-3 not in Accordance
with Design

Section 4OA3

LER 2009-003-00; Unplanned Manual Scram due to Increasing Reactor Water Level
LER 2009-001-00; Manual Reactor Scram Due to Loss of Condenser Cooling
CAP 066292; SCAQ – Manual Reactor Scram with EOP 1 Entry
RCE 001081; SCAQ – Manual Reactor Scram with EOP 1 Entry
ACP 106.1; Procedure Preparation, Revision, Review, and Approval; Revisions 64 and 66
LRS4559 Extent of Condition Evaluation; dated April 3, 2009

LIST OF ACRONYMS USED

AC	Alternating Current
ACP	Administrative Control Procedure
AFP	Area Fire Plan
AOP	Abnormal Operating Procedure
CAP	Corrective Action Program
CAQ	Condition Adverse to Quality
CB	Control Building
CFR	Code of Federal Regulations
CWO	Corrective Work Order
CST	Condensate Storage Tank
DAEC	Duane Arnold Energy Center
DRP	Division of Reactor Projects
EAL	Emergency Action Level
EHC	Electro-Hydraulic Control
EOP	Emergency Operation Procedure
EPIP	Emergency Plan Implement Procedure
ESW	Emergency Service Water
HPCI	High Pressure Coolant Injection
HVAC	Heating, Ventilation, and Air-Conditioning
I&C	Instrument and Controls
IMC	Inspection Manual Chapter
IP	Inspection Procedure
IPOI	Integrated Plant Operating Instruction
LCO	Limiting Condition for Operation
LER	Licensee Event Report
NCAQ	Condition Not Adverse to Quality
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OI	Operating Instruction
PARS	Publicly Available Records
PI	Performance Indicator
PWO	Preventative Work Order
RCIC	Reactor Core Isolation Cooling
RCE	Root Cause Evaluation
RCS	Reactor Coolant System
RHR	Residual Heat Removal
SBDG	Standby Diesel Generator
SBGT	Standby Gas Treatment
SDP	Significance Determination Process
STP	Surveillance Test Procedure
TS	Technical Specification
TSO	Transmission System Operator
UFSAR	Updated Final Safety Analysis Report
WO	Work Order