

April 27, 2006

Mr. Gary Van Middlesworth
Vice-President
Duane Arnold Energy Center
3277 DAEC Road
Palo, IA 52324-9785

SUBJECT: DUANE ARNOLD ENERGY CENTER
NRC INTEGRATED INSPECTION REPORT 5000331/2006002

Dear Mr. Van Middlesworth:

On March 31, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Duane Arnold Energy Center. The enclosed integrated inspection report documents the inspection findings which were discussed on April 11, 2006, with you 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.

Based on the results of this inspection, there were three NRC-identified findings of very low safety significance, of which two involved a violation of NRC requirements. However, because these violations were of very low safety significance and because the issues were entered into the licensee's corrective action program, the NRC is treating these findings as Non-Cited Violations in accordance with Section VI.A.1 of the NRC's Enforcement Policy.

If you contest the subject or severity of a Non-Cited Violation (NCV), 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 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), is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Bruce L. Burgess, Chief
Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 5000331/2006002
w/Attachment: Supplemental Information

cc w/encl: J. Stall, Senior Vice President, Nuclear and Chief
Nuclear Officer
R. Helfrich, Senior Attorney
M. Ross, Managing Attorney
W. Webster, Vice President, Nuclear Operations
M. Warner, Vice President, Nuclear Operations Support
R. Kundalkar, Vice President, Nuclear Engineering
J. Bjorseth, Site Director
D. Curtland, Plant Manager
S. Catron, Manager, Regulatory Affairs
Chairman, Linn County Board of Supervisors
D. McGhee, Iowa Department of Public Health

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-331

License No: DPR-49

Report No: 05000331/2006002

Licensee: Florida Power and Light Energy Duane Arnold, LLC

Facility: Duane Arnold Energy Center

Location: Palo, Iowa 52324-9785

Dates: January 1 through March 31, 2006

Inspectors: G. Wilson, Senior Resident Inspector
R. Baker, Resident Inspector
J. House, Senior Radiation Specialist
M. Phalen, Radiation Specialist
S. Sheldon, Reactor Inspector
K. Stoedter, Senior Resident Inspector

Observers: None

Approved by: Bruce L. Burgess, Chief
Branch 2
Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000331/2006002; 01/01/2006 - 03/31/2006; Duane Arnold Energy Center, Operability Evaluations, and Radioactive Gaseous And Liquid Effluent Treatment And Monitoring Systems.

This report covers a 3-month period of baseline resident inspection and an announced baseline inspection of radiation protection. The inspections were conducted by Region III radiation specialists, reactor inspectors and the resident inspectors. Three Green findings with two associated Non-Cited Violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be "Green" or be assigned a severity level after Nuclear Regulatory Commission (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. Inspector-Identified and Self-Revealed Findings

Cornerstone: Mitigating Systems

- Green. A finding of very low safety significance was identified by the inspectors for the failure to ensure proper design control was maintained during loading of the standby diesel generators (SBDG). The licensee entered this issue into their corrective action program and performed additional analysis to verify operability.

The finding was determined to be greater than minor because the finding is associated with the design control attribute of the Mitigating Systems cornerstone and it affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The finding was of very low safety significance because overall system operability did not change. An NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified for the failure to verify or check the adequacy of design associated with the SBDG. (Section 1R15)

- Green. A finding of very low safety significance was identified by the inspectors for the failure to ensure proper design control was maintained with feedwater piping hangers DBD-4-H57A and DBD-4-H50A. The primary cause of this finding was related to the cross-cutting area of Human Performance because of the failure to provide adequate attention to detail during the preparation of calculations by engineering personnel. The licensee entered this issue into their corrective action program and performed additional analysis to verify operability.

The finding was determined to be greater than minor because the finding is associated with the design control attribute of the Barrier Integrity cornerstone and it affects the cornerstone objective of providing reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. The finding was of very low safety significance because overall system

operability did not change. An NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," was identified for the failure to verify or check the adequacy of design associated with feedwater piping hangers DBD-4-H57A and DBD-4-H50A. (Section 1R15)

Cornerstone: Public Radiation Safety

- Green. An inspector-identified finding of very low safety significance was identified for the failure to meet the industry standard of using the environmental Lower Limit of Detection (LLD) when surveying, and analyzing bulk aggregate and liquid materials prior to unconditional release from the site.

The finding was more than minor because it was associated with the Public Radiation Safety cornerstone attribute of program and processes, and potentially affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain. The finding was of very low safety significance because public exposure resulting from the release of bulk aggregate solid or liquid materials at effluent LLD values was less than 0.005 rem, and there were less than 5 occurrences during the inspection period. The finding was based on the licensee's failure to meet an industry standard. (Section 2PS1)

B. Licensee-Identified Violations

No findings of significance were identified.

REPORT DETAILS

Summary of Plant Status

Duane Arnold Energy Center 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.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

The inspectors performed four partial walkdowns of accessible portions of trains of risk-significant mitigating systems equipment. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure. Equipment alignment was reviewed to identify any discrepancies that could impact the function of the system and potentially increase risk. Redundant or backup systems were selected by the inspectors during times when the trains were of increased importance due to the redundant trains of other related equipment being unavailable. Inspection activities included, but were not limited to, a review of the licensee's procedures, verification of equipment alignment, and an observation of material condition, including operating parameters of in-service equipment. Identified equipment alignment problems were verified by the inspectors to be properly resolved.

The inspectors selected the following equipment trains to verify operability and proper equipment line-up for a total of four samples:

- 'B' Residual Heat Removal (RHR) System with the 'A' RHR System Out-of-Service (OOS) for maintenance during the week ending January 21, 2006;
- 'A' RHR System with the 'B' RHR System OOS for maintenance during the week ending January 28, 2006;
- High Pressure Coolant Injection (HPCI) with Reactor Core Isolation Cooling (RCIC) System OOS for maintenance during the week ending February 4, 2006; and
- 'A' Standby Diesel Generator (SBDG) with the 'B' SBDG OOS for maintenance during the week ending February 11, 2006.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown

a. Inspection Scope

During the week ending January 28, 2006, the inspectors performed a complete system alignment inspection of the Normal DC Electrical Distribution System for a total of one sample. This system was selected because it was considered risk-significant in the licensee's probabilistic risk assessment. The inspection consisted of the following activities:

- a review of plant procedures (including selected abnormal and emergency procedures), drawings, and the Updated Final Safety Analysis Report (UFSAR) to identify proper system alignment;
- a review of outstanding or completed temporary and permanent modifications to the system; and
- an electrical and mechanical walkdown of the system to verify proper alignment, component accessibility, availability, and current condition.

The inspectors also reviewed selected issues documented as Corrective Action Process (CAP) records, initiated within the previous year, to determine if they had been properly addressed in the licensee's corrective action program. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05A/Q)

.1 Quarterly Fire Zone Walkdowns

a. Inspection Scope

The inspectors walked down 10 risk-significant fire areas to assess fire protection requirements. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure. Various fire areas were reviewed 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 OOS, degraded or inoperable fire protection equipment, systems or features. Fire areas were selected based on their overall contribution to internal fire risk as documented in the plant's Individual Plant Examination of External Events, their potential to adversely impact equipment which is used to mitigate a plant transient, or their impact on the

plant's ability to respond to a security event. Inspection activities included, but were not limited to, the control of transient combustibles and ignition sources, fire detection equipment, manual suppression capabilities, passive suppression capabilities, automatic suppression capabilities, compensatory measures, and barriers to fire propagation.

The inspectors selected the following areas for review for a total of 10 samples:

During the week ending January 21, 2006:

- Area Fire Plan (AFP) 8, Reactor Building Standby Gas Treatment (SBGT) System & Motor Generator Set Rooms; and
- AFP 9, Reactor Building Closed-loop Cooling Water Heat Exchanger Area, Equipment Hatch Area, & Jungle Room.

During the week ending February 4, 2006:

- AFP 30, Pump House Basement Safety Related Piping Area.

During the week ending March 4, 2006:

- AFP 06, RHR Valve Room;
- AFP 16, Turbine Building Condensate Pump Area;
- AFP 18, Turbine Building North Ground Floor Areas;
- AFP 19, Turbine Building South Ground Floor Areas; and
- AFP 20, Turbine Building SBDG Rooms, Auxiliary Boiler Room & SBDG Day Tank Rooms.

During the week ending March 11, 2006:

- AFP 35, Radwaste Treatment and Access Area.

During the week ending March 18, 2006:

- AFP 34, Radwaste Building Drum Filling, Storage, and Shipping.

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill Review

a. Inspection Scope

During the weeks ending March 18 and 25, 2006, the inspectors conducted an annual observation of the licensee's fire brigade response activities during drills which simulated a fire in the condensate pump area of the turbine building for a total of one sample. The inspectors evaluated the readiness of personnel to fight fires by verifying that protective clothing/turnout gear was properly donned; self-contained breathing apparatus equipment was properly worn and used; fire hose lines were capable of

reaching all necessary fire hazard locations, the lines were laid out without flow constrictions, the hoses were simulated being charged with water, and the nozzles were pattern (flow stream) tested prior to entering the fire area; the fire area was entered in a controlled manner; sufficient fire fighting equipment was brought to the scene by the fire brigade; the fire brigade leader's directions were thorough, clear, and effective; communications with plant operators and between fire brigade members were efficient and effective; the fire brigade checked for fire victims and for fire propagation into other plant areas; effective smoke removal operations were simulated; fire fighting pre-plan strategies were used; and the drill scenario was followed and the drill objectives met. The inspectors used the documents listed in the Attachment to accomplish the objectives of the inspection procedure.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

During the week ending February 18, 2006, the inspectors performed a semi-annual review of flood protection barriers and procedures for coping with internal flooding in the Torus basement for a total of one sample. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure. Inspection activities focused on verifying that flood mitigation plans and equipment were consistent with design requirements and risk analysis assumptions. Inspection activities included, but were not limited to, a review and/or walkdown to assess design measures, seals, drain systems, contingency equipment condition and availability of temporary equipment and barriers, performance and surveillance tests, procedural adequacy, and compensatory measures.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

During the weeks ending February 18 and March 11, 2006, the inspectors observed the operations department training crew performances on Simulator Exercise Guide (SEG) 2006A-06, Revision 0, for a total of one sample. The scenario involved a loss of main turbine lubrication necessitating a manual reactor SCRAM and plant stabilization, and included an unrelated Emergency Action Level (EAL) declaration due to a dropped spent fuel transfer cask at the Independent Spent Fuel Storage Installation. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure. The inspection activities assessed the licensee's effectiveness in evaluating the requalification program, ensuring that licensed individuals operated the facility safely and within the conditions of their license, and evaluated

licensed operators' mastery of high-risk operator actions. Inspection activities included, but were not limited to, a review of high-risk activities, emergency plan performance, incorporation of lessons learned, clarity and formality of communications, task prioritization, timeliness of actions, alarm response actions, control board operations, procedural adequacy and implementation, supervisory oversight, group dynamics, interpretations of technical specifications, simulator fidelity, and the licensee critique of performance.

The crews' performance was compared to licensee management expectations and guidelines as presented in the following documents:

- Administrative Control Procedure (ACP) 110.1, "Conduct of Operations," Revision 4;
- ACP 101.01, "Procedure Use and Adherence," Revision 36; and
- ACP 101.2, "Verification Process and SELF/PEER Checking Practices," Revision 5.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed two systems to assess maintenance effectiveness. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure. Maintenance activities were reviewed to assess maintenance effectiveness, including maintenance rule activities, work practices, and common cause issues. Inspection activities included, but were not limited to, the licensee's categorization of specific issues including evaluation of maintenance performance criteria, appropriate work practices, identification of common cause errors, extent of condition, and trending of key parameters. Additionally, the inspectors reviewed implementation of the Maintenance Rule (10 CFR 50.65) requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, functional failure determinations associated with reviewed condition reports, and current equipment performance status.

The inspectors performed the following maintenance effectiveness reviews for a total of two samples:

- A function oriented review of the RHR System was performed because it was designated as risk-significant under the Maintenance Rule, during the week ending March 11, 2006; and
- A function oriented review of the Control Building Chiller System was performed because it was designated as risk-significant under the Maintenance Rule, during the week ending March 25, 2006.

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 of plant risk, scheduling, and configuration control for a total of seven samples. An evaluation of the performance of maintenance associated with planned and emergent work activities was completed by the inspectors to determine if they were adequately managed. In particular, the inspectors reviewed the program for conducting maintenance risk safety assessments to ensure that the planning, assessment and management of on-line risk was adequate. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure. Licensee actions taken in response to increased on-line risk were reviewed including the establishment of compensatory actions, minimizing activity duration, obtaining appropriate management approval, and informing appropriate plant staff. These activities were accomplished when on-line risk was increased due to maintenance on risk-significant structures, systems, and components (SSCs).

The following activities were reviewed for a total of seven samples:

- The inspectors reviewed the maintenance risk assessment for work planned during the weeks ending January 7, 14, 21, 28, February 4, 11, and March 4, 2006.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events (71111.14)

a. Inspection Scope

The inspectors reviewed personnel performance during one preplanned non-routine evolution. A review of the planned evolution, associated procedures, briefings, and contingency plans were observed or evaluated by the inspectors. The inspectors observed and reviewed records of operator performance during these evolutions. Reviews included, but were not limited to, operator logs, pre-job briefings, instrument recorder data, and procedures. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure.

The inspectors observed the following planned non-routine evolution for a total of one sample:

- Pre-planned downpower evolution which included performance of the hot stroke timing surveillance test procedure (STP) for operability testing of a slow Control Rod Drive mechanism, during the week ending February 4, 2006.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed six of the licensee's operability evaluations of degraded or non-conforming systems. The documents listed in the Attachment were used by the inspectors to accomplish the objectives of the inspection procedure. Operability evaluations were reviewed that affected Mitigating Systems or Barrier Integrity cornerstones to ensure adequate justification for declaration of operability and that the component or system remained available. Inspection activities included, but were not limited to, a review of the technical adequacy of the evaluation against the Technical Specifications (TSs), UFSAR, and other design information; validation that appropriate compensatory measures, if needed, were taken; and comparison of each operability evaluation for consistency with the requirements of ACP - 110.3, "Operability Determination."

The inspectors reviewed the following operability evaluations for a total of six samples:

- Operability Recommendation (OPR) 000308, Containment Atmosphere Control System, during the week ending January 21, 2006;
- OPR 000313, Nitrogen System Drywell Penetrations, during the week ending February 4, 2006;
- OPR 000310, 1D1 Division 1 125 Battery and 1D4 Battery, during the week ending February 25, 2006;
- OPR 000303, SBDG, during the week ending March 4, 2006;
- OPR 000320, Feedwater Piping Hangers, during the week ending March 11, 2006; and
- OPR 000321, Feedwater Piping, during the week ending March 25, 2006.

b. Findings

.1 OPR 000303, SBDG

Introduction: A finding of very low safety significance (Green) and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," were identified by the inspectors for the failure to ensure proper design control was maintained during SBDG loading.

Description: During the week ending March 4, 2006, the inspectors evaluated OPR 303, "SBDG," which was written for a condition that resulted in the voltage decreasing to less than 75 percent of nominal voltage during SBDG loading. In their evaluation, the licensee only addressed the effect of the voltage dips on the 4160 volt electrical system large motors. Effects on the 4160 volt system were evaluated by utilizing testing results which had shown that the initial loading had caused the voltage of the SBDG to dip to approximately 73 percent of nominal. Since all safety related motors are capable of accelerating their loads at 70 percent of their rated nameplate voltage, there was no adverse condition on the system. After reviewing the evaluation the inspectors identified that the licensee's evaluation failed to address the overall effects of the voltage dips during the SBDG loading on the entire electrical distribution system. No analysis was performed by the licensee on the 480 volt motor control centers and motors. Therefore, additional analysis and calculations were performed by the licensee to address this issue. During the additional evaluation, the licensee discovered that the voltage dips of the SBDG during loading resulted in an additional delay of between 1 and 3 seconds for the Motor Operated Valves to operate. Even though there was an additional delay in the operation time of these valves, an acceptable margin still existed in the UFSAR requirements for the valve stroke times to prevent any adverse consequences.

Analysis: The inspectors determined that failing to ensure that the adequacy of the design associated with the SBDG was maintained was an example of not complying with a standard that could have reasonably been foreseen or corrected by the licensee, it was, therefore, a performance deficiency. Since a performance deficiency existed, the inspectors reviewed this issue against the guidance contained in Appendix B, "Issue Screening," of IMC 0612, "Power Reactor Inspection Reports," dated September 30, 2005. In particular, the inspectors compared this finding to the findings identified in Appendix E, "Examples of Minor Issues and Cross-Cutting Aspects," of IMC 0612 to determine whether the finding was minor. The inspectors concluded that the guidance in Appendix E was not applicable for this specific finding. The finding was determined to be greater than minor because the finding is associated with the design control attribute of the Mitigating Systems cornerstone and it affects the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences.

As a result, the inspectors reviewed this issue in accordance with IMC 0609, Attachment A, "Significance Determination of Reactor Findings for At-Power Situations," dated November 22, 2005, using the worksheet for the Mitigating Systems cornerstone. Since the finding did not result in a loss of operability per NRC Inspection Manual, Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety," it was of very low safety significance and screened as Green.

Enforcement: 10 CFR 50, Appendix B, Criterion III, "Design Control," requires, in part, that design control measures shall provide for verifying or checking the adequacy of design, such as the performance of design reviews, by the use of alternate or simplified calculational methods. Contrary to this requirement, the licensee failed to ensure that the adequacy of design was verified for loading on the SBDG that resulted in voltage dips below the required 75 percent nominal value, during their evaluation on December 21, 2005. The licensee evaluated the effects of the voltage dip on the

4160 volt electrical system large motors, but no analysis was performed on the 480 volt motor control centers and motors. Additional analysis was performed on March 10, 2006, which showed an ample margin remained. The failure to verify and check the adequacy of design is considered a violation of the requirements of 10 CFR 50, Appendix B, Criterion III. However, because of its low safety significance and because it was entered into the corrective action program, the NRC is treating this issue as an NCV (NCV 5000331/2006002-01), in accordance with Section VI.A.1 of the NRC's Enforcement Policy. This issue was entered into the licensee's corrective action program as CAP 040648.

Corrective actions taken included an evaluation of the effects of the voltage dips on the 480 volt electrical distribution system.

.2 OPR 000320, Feedwater Piping Hangers

Introduction: A finding of very low safety significance (Green) and an associated NCV of 10 CFR 50, Appendix B, Criterion III, "Design Control," were identified by the inspectors for the failure to ensure proper design control was maintained feedwater piping hangers DBD-4-H57A and DBD-4-H50A.

Description: During the week ending March 11, 2006, the inspectors evaluated OPR 320, "Feedwater Piping Hangers," which was written due to the Bergen Patterson part 304 pipe clamps associated with feedwater piping hangers DBD-4-H57A and DBD-4-H50A being potentially undersized. Bergen Patterson's catalog listed the normal allowable load of 4300 pounds. The plant's design drawing, "M119AC-09719," stated the clamps would hold a load of 12360 pounds. During the prompt operability determination, the licensee's engineering department evaluated operability in accordance with ASME Appendix F requirements as described in NRC Inspection Manual, Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." After reviewing the calculation the inspectors identified that yield strength was not temperature corrected. The calculations performed by the licensee's engineering department used a temperature lower than the pipe clamp would see in service. Since yield strength declines as temperature increases, the allowable yield strength was lower and the resultant calculation output was non conservative. Therefore, the prompt operability evaluation was based on inaccurate data and the correct data could have resulted in a plant shutdown. Following the prompt operability evaluation, the licensee performed additional analysis including a finite element analysis which showed an ample margin still existed, therefore the pipe hanger was still operable.

Analysis: The inspectors determined that failing to ensure that the adequacy of the design associated with the feedwater piping hangers DBD-4-H57A and DBD-4-H50A was maintained was an example of not complying with a standard that could have reasonably been foreseen or corrected by the licensee, it was, therefore, a performance deficiency. Since a performance deficiency existed, the inspectors reviewed this issue against the guidance contained in Appendix B, "Issue Screening," of IMC 0612, "Power Reactor Inspection Reports," dated September 30, 2005. In particular, the inspectors compared this finding to the findings identified in Appendix E, "Examples of Minor Issues and

Cross-Cutting Aspects,” of IMC 0612 to determine whether the finding was minor. The inspectors concluded that the guidance in Appendix E was not applicable for this specific finding. The finding was determined to be greater than minor because the finding is associated with the design control attribute of the Barrier Integrity cornerstone and it affects the cornerstone objective of providing reasonable assurance that physical design barriers (containment) protect the public from radionuclide releases caused by accidents or events. In addition, the finding affected the cross-cutting area of Human Performance because of the failure to provide adequate attention to detail during the preparation of calculations by engineering personnel.

As a result, the inspectors reviewed this issue in accordance with IMC 0609, Attachment A, “Significance Determination of Reactor Findings for At-Power Situations,” dated November 22, 2005, using the worksheet for the Mitigating Systems cornerstone. Since the finding did not result in a loss of operability per NRC Inspection Manual, Part 9900, Technical Guidance, “Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety,” it was of very low safety significance and screened as Green.

Enforcement: 10 CFR 50, Appendix B, Criterion III, “Design Control,” requires, in part, that design control measures shall provide for verifying or checking the adequacy of design, such as the performance of design reviews, by the use of alternate or simplified calculational methods. Contrary to this requirement the licensee failed to ensure that the adequacy of design was maintained when they failed to temperature compensate yield strength for feedwater piping hangers DBD-4-H57A and DBD-4-H50A during their evaluation on March 6, 2006. Additional analysis was performed on March 7, 2006, which showed an ample margin remained. The failure to verify and check the adequacy of design is considered a violation of 10 CFR 50, Appendix B, Criterion III. However, because of its low safety significance and because it was entered into the corrective action program, the NRC is treating this issue as a Non-Cited Violation (NCV 5000331/2006002-02), in accordance with Section VI.A.1 of the NRC’s Enforcement Policy. This issue was entered into the licensee’s corrective action program as CAP 040787.

Corrective actions taken included additional analysis on the piping hangers to show ample margins still existed. In addition, an apparent cause evaluation is being performed on deficient operability evaluations.

.3 OPR 000321, Feedwater Piping

This operability evaluation will be further evaluated during the analysis of Unresolved Item (URI) 05000331/2006-003 as described in Section 4OA3.2.

1R17 Permanent Plant Modifications (71111.17A)

a. Inspection Scope

The inspectors reviewed one permanent plant modification. The documents listed in the Attachment were reviewed to accomplish the objectives of the inspection procedure. The

inspectors focused on verification that the design bases, licensing basis, and performance capability of related SSCs were not degraded by the installation of the modification. The inspectors also verified that the modifications did not place the plant in an unsafe configuration. The inspection activities included, but were not limited to, a review of the design adequacy of the modification by performing a review, or partial review, of the modification's impact on plant electrical requirements, material requirements and replacement components, response time, control signals, equipment protection, operation, failure modes, and other related process requirements.

The inspectors reviewed the following permanent plant modification for a total of one sample:

- 'A' and 'B' SBGT Flow Controller and Temperature Indicator Replacement Upgrade, Engineering Change Package (ECP) 1727, during the week ending March 4, 2006.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed seven post-maintenance testing (PMT) activities. The documents listed in the Attachment were used to accomplish the objectives of the inspection procedure. PMT procedures and activities were verified to be adequate to ensure system operability and functional capability. Inspection activities were selected based upon the SSCs ability to impact risk. Inspection activities included, but were not limited to, witnessing or reviewing the integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use and compliance, control of temporary modifications or jumpers required for test performance, documentation of test data, system restoration, and evaluation of test data. Also, the inspectors verified that maintenance and PMT activities adequately ensured that the equipment met the licensing basis, TS, and UFSAR design requirements.

The inspectors selected the following PMT activities for review for a total of seven samples:

- Corrective Work Order (CWO) A70636, SBGT 1V-SGT-1A\B Flow Indication Controller for Train B, during the week ending January 14, 2006;
- CWO A63165, Replace Pressure Set Valve (PSV) 2019, Install New PSV, during the week ending January 21, 2006;
- CWO A63163, Replace PSV 1919, Install New PSV, during the week ending January 28, 2006;
- Preventative Work Order (PWO) 1132974, Calibration of RCIC Governor, during the week ending February 4, 2006;

- CWO A64871, Replace 1B4207 Starter, for 'B' Emergency Service Water Pump, during the week ending February 11, 2006;
- CWO A70761, Replace Transformer on RCIC Division 2 Steam Leak Detection Power Supply Inverter, during the week ending February 18, 2006; and
- CWO A68132, 'A' Reactor Protection System MG [Motor Generator] Set Motor Bearings Replacement, during the week ending March 4, 2006.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed seven surveillance test activities. Surveillance testing activities were reviewed to assess operational readiness and ensure that risk-significant SSCs were capable of performing their intended safety function. Surveillance activities were selected based upon risk-significance and the potential risk impact from an unidentified deficiency or performance degradation that a SSC could impose on the unit if the condition were left unresolved. Inspection activities included, but were not limited to, a review for preconditioning, integration of testing activities, applicability of acceptance criteria, test equipment calibration and control, procedural use, control of temporary modifications or jumpers required for test performance, documentation of test data, TS applicability, impact of testing relative to Performance Indicator (PI) reporting, and evaluation of test data. The documents listed in the Attachment were used to accomplish the objectives of the inspection procedure.

The inspectors selected the following surveillance testing activities for review for a total of seven samples:

- STP 3.5.3-04, RCIC Simulated Auto Actuation Test, during the week ending January 7, 2006;
- STP NS13B001 Diesel Fire Pump Engine Overspeed Shutdown and Remote Manual Start Tests, during the week ending January 14, 2006;
- STP 3.0.0-01, Instrument Checks for Reactor Coolant System Identified and Unidentified Leakage Checks by Drywell Equipment and Floor Drains Sumps Pump down, during the week ending January 21 and 28, 2006;
- STP 3.3.1.1-19, Functional Test of Turbine Stop Valve Closure Input to the Reactor Protection System and Reactor Protection Trip Logic, during the week ending February 4, 2006;
- STP 3.8.1-06, SBDG Operability Test - Fast Start (Inservice Test), during the week ending February 11, 2006;
- STP 3.3.1.1-24, Local Power Range Monitor Calibration, during the week ending February 25, 2006; and
- STP 3.1.7-01, Standby Liquid Control (SBLC) (Inservice Test) Pump Operability, during the week ending March 4, 2006.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed two temporary modifications. The temporary modifications were reviewed to assess the modification's impact on the safety function of the associated systems. Inspection activities included, but were not limited to, a review of design documents, safety screening documents, UFSAR, and applicable TSs to determine that the temporary modification was consistent with modification documents, drawings and procedures. Inspectors also reviewed the post-installation test results to confirm that tests were satisfactory and the actual impact of the temporary modification on the permanent system and interfacing systems were adequately verified. The documents listed in the Attachment were used to accomplish the objectives of the inspection procedure.

The inspectors selected the following temporary modification for review for a total of two samples:

- Modification Work Order (MWO) 1135792, Div 1 RHR & Core Spray (CS) Cooling Unit, during the week ending January 28, 2006; and
- PWO 1133672, 'B' SBDG Jacket Cooling Water and Lube Oil Cooler Tube Plugging Repairs, during the week ending February 11, 2006.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Drill I Scenario, February 22, 2006

a. Inspection Scope

On February 22, 2006, the inspectors observed an Emergency Preparedness (EP) drill for a total of one sample. The drill simulated an Anticipated Transient Without Scram (ATWS) condition following the loss of a reactor feed pump from full power operations. The scenario was further complicated by a failure of a recirculation pump to trip and a main steam line break in the steam tunnel, which could not be isolated.

Inspectors evaluated the licensee's drill conduct and the adequacy of the post-drill performance critique to identify weaknesses and deficiencies. The documents listed in the Attachment were used to accomplish the objectives of the inspection procedure. Inspection activities included, but were not limited to, the classification of events, notifications to off-site agencies, protective action recommendation development, and

drill critiques. Observations were compared with the licensee's observations and corrective action program entries. Inspectors verified that there were no discrepancies between observed performance and reported PI statistics.

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 Indicators for the Occupational Exposure Cornerstone

a. Inspection Scope

The inspectors reviewed the licensee's occupational exposure control cornerstone PI tracking system, to determine if there were any PIs that had not been reported and evaluated. This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors walked down and surveyed (using an NRC survey meter) radiologically significant area boundaries and other radiological areas in the turbine building, reactor building and radioactive waste (radwaste) building to verify that the prescribed radiological access controls were in place, that licensee postings were complete and accurate and that physical barricades/barriers were adequate. Radiological controls at selected work sites in the reactor building and radwaste facility, including air sampler locations, were compared to the radiological controls on the radiation work permits that described administrative and access control requirements for these areas. This review represented one sample.

The inspectors also reviewed the licensee's physical and programmatic controls for highly activated and/or contaminated materials (non-fuel) stored within spent fuel or other storage pools. This review represented one sample.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, Licensee Event Reports, and Special Reports related to the access control program to determine if identified problems were entered into the corrective action program for resolution. This review represented one sample.

The inspectors reviewed selected corrective action reports, and evaluated in detail three corrective action reports, and the associated apparent cause evaluations, related to access controls and high radiation area radiological incidents (non-performance indicators identified by the licensee in high radiation areas less than 1R/hr). Staff members were interviewed and corrective action documents were reviewed to determine if follow-up activities were being 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;
- Identification of contributing causes;
- Identification and implementation of effective corrective actions;
- Resolution of Non-Cited Violations tracked in the corrective action system; and
- Implementation/consideration of risk-significant operational experience feedback.

This review represented one sample.

The inspectors evaluated the licensee's process for problem identification, characterization, prioritization, and determined if problems were entered into the corrective action program and resolved. For repetitive deficiencies and/or significant individual deficiencies in problem identification and resolution, the inspectors determined if the licensee's self-assessment activities were capable of identifying and addressing these deficiencies. This review represented one sample.

There were no PI events to evaluate. This review represented one sample.

b. Findings

No findings of significance were identified.

.4 High Risk Significant, Locked High Radiation Area (LHRA) and Very High Radiation Area (VHRA) Access Controls

a. Inspection Scope

The inspectors reviewed the licensee's PIs for high risk high radiation areas (HRA) and VHRA and conducted plant walkdowns to determine if the posting, locking and barrier

integrity of numerous HRAs, LHRA and for VHRA (turbine building, reactor building, rad waste building, TIP room and Drywell airlock), complied with the licensee's TSs, procedures, the requirements of 10 CFR Part 20, and the guidance contained in Regulatory Guide 8.38. Discussions were held with radiation protection (RP) management, concerning high dose rate/HRA and VHRA controls and procedures, including procedural changes that had occurred since the last inspection. This was done to determine if workers were adequately protected from radiological overexposure and whether procedure modifications could have substantially reduced the effectiveness and level of worker protection. This review represented one sample.

The inspectors evaluated the controls including Procedures HPP-3104.07 "Diving Operations within Radiological Areas," HPP 3104.06 "Control of Radiography Activities," ACP 1411.13 "Control of Locked High Radiation Areas and Above," HPP 3104.01 "Control of Access to Locked High Radiation Areas and Above," and HPP 3104.09 "Drywell Initial Entry and Startup/Shutdown Entries;" that were in place for special areas had the potential to become VHRA during certain plant operations. Discussions were held with RP supervisors to determine how the required communications between the RP group and other involved groups would occur beforehand in order to allow corresponding timely actions to properly post and control the radiation hazards. This review represented one sample.

During the walkdowns, the inspectors physically challenged locked gate/door barriers to determine if HRA, LHRA, and VHRA access was controlled in compliance with the licensee's procedures, TSs, the requirements of 10 CFR 20.1601, and were consistent with Regulatory Guide 8.38, "Control of Access to High and Very High Radiation Areas in Nuclear Power Plants." This review represented one sample.

b. Findings

No findings of significance were identified.

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

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed plant collective exposure history, current exposure trends along with ongoing and planned activities, in order to assess current performance and exposure challenges. This included determining the plant's current 3-year rolling average collective exposure. This review represented one sample.

Site specific trends in collective exposures and source term measurements were reviewed to evaluate the effect of the plant's source term on worker exposure. This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Source Term Reduction and Control

a. Inspection Scope

The inspectors reviewed licensee records to evaluate the historical trends and current status of tracked plant source terms, and to determine if the licensee was making allowances, and had developed contingency plans for expected changes in the source term due to changes in plant fuel performance issues, or changes in plant primary chemistry. This review represented one sample.

The inspectors reviewed the source term reduction plan to determine if the licensee understood the plant source term including input mechanisms in order to reduce the source term. The licensee's source term control strategy, which included a process for evaluating radionuclide distribution plus a shutdown and operating chemistry plan, which can minimize the source term external to the core, was evaluated. Other methods used by the licensee to control the source term, including component/system decontamination, hotspot flushing and the use of shielding, were evaluated. This review represented one sample.

The licensee's process for identification of specific sources was reviewed along with exposure reduction actions and the priorities the licensee had established for implementation of those actions. Results achieved against these priorities since the last refueling cycle were reviewed to evaluate the effectiveness of the licensee's source term reduction program. For the current assessment period, source term reduction evaluations and actions taken to reduce the overall source term were reviewed and compared to the previous year. This review represented one sample.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

2PS1 Radioactive Gaseous And Liquid Effluent Treatment And Monitoring Systems (71122.01)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the most recent Annual Radioactive Material Release Reports, dated April 29, 2005, and April 30, 2004; and the most recent Annual Radiological Environmental Operating Reports, dated April 29, 2005, and April 30, 2004; along with current effluent release data to determine if the program was implemented as described in the Radiological Environmental Technical Specifications/Offsite Dose Calculation

Manual (RETS/ODCM), and the UFSAR. The effluent reports were also evaluated to determine if there were any significant changes to the ODCM or to the radioactive waste system design and operation, and if anomalous results were adequately resolved. There were no significant changes to the ODCM, and no significant modifications had been made to the radioactive waste system design and operation.

The RETS/ODCM and UFSAR were reviewed to identify the effluent radiation monitoring systems and associated flow measurement devices. Licensee records including condition reports, self-assessments, audits, and special reports were reviewed to determine if there were any radiological effluent performance indicator occurrences or any unanticipated offsite releases of radioactive material for follow-up. The UFSAR description of all radioactive waste systems was reviewed. This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Onsite Inspection

a. Inspection Scope

The inspectors walked down the major accessible components of the gaseous and liquid release systems, including radiation and flow monitors, tanks, and vessels. This was done to observe current system configuration with respect to the description in the UFSAR, ongoing activities, and equipment material condition. Selected effluent pathways were walked down. This review represented one sample.

The inspectors reviewed system diagrams of the radioactive liquid waste processing and release systems to determine how liquid radwaste was processed to determine if appropriate treatment equipment was used and that radioactive liquid waste was processed in accordance with procedural requirements. Liquid effluent release packages including projected doses to the public were reviewed to determine if regulatory effluent release limits were exceeded. The inspectors reviewed system diagrams of the radioactive gaseous effluent processing and release systems and observed a sample collection and analysis to determine if appropriate treatment equipment was used and if the radioactive gaseous effluent was processed and released in accordance with RETS/ODCM requirements. Radioactive gaseous effluent release data including the projected doses to members of the public was evaluated to determine if regulatory effluent release limits were exceeded. This review represented one sample.

The inspectors reviewed the licensee's process for making releases with inoperable effluent radiation monitors to determine if adequate compensatory sampling and analyses was performed and to determine if an adequate defense-in-depth was maintained against an unmonitored, unanticipated release of radioactive material to the environment. This included projected radiological doses to members of the public. This review represented one sample.

There had been no significant changes made to the ODCM or to the liquid and gaseous radioactive waste system design, procedures, or operation including effluent monitoring and release controls since the last inspection. This review represented one sample.

The inspectors reviewed a selection of various dose calculations to determine if the licensee properly calculated the offsite dose from radiological effluent releases and to determine if any annual RETS/ODCM (i.e., Appendix I to 10 CFR Part 50) values were exceeded. This review represented one sample.

The inspectors reviewed air cleaning system surveillance test results to determine if the system was operating within the licensee's acceptance criteria. The inspectors reviewed surveillance test results for the vent flow rates and determined if the flow rates were consistent with UFSAR values. This review represented one sample.

The inspectors reviewed records of instrument calibrations performed since the last inspection for each point of discharge effluent radiation monitor and flow measurement device. The current effluent radiation monitor alarm set point values were reviewed for agreement with RETS/ODCM requirements. The inspectors also reviewed calibration records of radiation measurement (i.e., counting room) instrumentation associated with effluent monitoring and release activities. Quality control data for the radiation measurement instruments were evaluated to determine if the instrumentation was operating under statistical control and that any problems observed were addressed in a timely manner. This review represented one sample.

The inspectors reviewed the results of the inter-laboratory comparison program to determine the adequacy of the quality of radioactive effluent sample analyses performed by the licensee. The inspectors reviewed the licensee's quality control evaluation of the inter-laboratory comparison test results. In addition, the inspectors reviewed the results of quality assurance audits to determine if the licensee met the requirements of the RETS/ODCM. This review represented one sample.

b. Findings

Introduction: An inspector-identified finding of very low safety significance was identified for the failure to meet the industry standard of using the environmental lower limit of detection (LLD) when surveying and analyzing bulk aggregate and liquid materials prior to unconditional release from the site.

Description: During an evaluation of the licensee's gamma spectroscopy quality control program, the inspectors determined that the licensee was unconditionally releasing bulk aggregate and liquid materials by counting the samples using the effluent LLD as the detection limit criterion, instead of using the more conservative industry standard of the environmental LLD. The environmental LLDs are approximately one order of magnitude less than the effluent values. Guidance documents have been issued by the NRC, including NUREG 5569, Health Physics Position no. 221, and Information Notices 88-22 and 85-92, which address the use of the environmental LLD as the detection limit criterion for determining that bulk aggregate and liquid materials do not contain licensed by-product materials, prior to unconditional release.

Analysis: The inspectors determined that the licensee failed to have requirements in place to ensure that the environmental LLD was achieved in surveying and analyzing bulk aggregate and liquid materials prior to unconditional release from the station. This was determined to be a performance deficiency that warranted significance evaluation. The inspectors concluded that the finding was greater than minor in accordance with NRC IMC 0612 "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," dated September 30, 2005. The inspectors determined that the failure to use the environmental LLD was associated with the Public Radiation Safety cornerstone attribute of program and processes; and potentially affected the cornerstone objective of ensuring adequate protection of public health and safety from exposure to radioactive materials released into the public domain. Therefore, the issue was greater than minor and represented a finding which was evaluated using the SDP.

Since the finding involved radioactive material control, the inspectors utilized IMC 0609, Appendix D, Public Radiation Safety SDP, to assess its significance. The inspectors determined that the finding did not involve transportation; public exposure resulting from the release of bulk aggregate solids or liquids at effluent LLD values was less than 0.005 rem, and there were less than 5 occurrences. Consequently, the inspectors concluded that the SDP assessment for the finding was of very low safety significance (Green).

Enforcement: An industry standard based on NRC guidance instructs licensees to use the environmental LLD as the detection limit criterion when surveying and analyzing bulk aggregate and liquid materials prior to unconditional release from licensee control. Failure to follow the standard is a performance deficiency but is not a violation of regulatory requirements. Corrective actions taken by the licensee included a commitment to analyze bulk aggregate and liquid materials using the environmental LLD criteria.

Since the licensee documented this issue in its corrective action program (CAP 040506), and because this finding is of very low safety significance, it is being treated as a Green finding (FIN 05000331/2006002-04).

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the licensee's self-assessments, audits, and special reports related to the radioactive effluent treatment and monitoring program since the last inspection to determine if identified problems were entered into the corrective action program for resolution. The inspectors also determined whether the licensee's self-assessment program identified and addressed repetitive deficiencies, or significant individual deficiencies that were identified in problem identification and resolution.

The inspectors also reviewed corrective action reports from the radioactive effluent treatment and monitoring program, interviewed staff and reviewed documents to determine if the following activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes;
- Identification and implementation of effective corrective actions;
- Resolution of NCVs tracked in the corrective action system; and
- Implementation/consideration of risk-significant operational experience feedback.

This review represented one sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

Cornerstones: Initiating Events, and Barrier Integrity.

.1 Reactor Safety Strategic Area

a. Inspection Scope

The inspectors reviewed the licensee's submittals for five PIs. The inspectors used PI guidance and definitions contained in Nuclear Energy Institute Document 99-02, Revision 3, "Regulatory Assessment Performance Indicator Guideline," to verify the accuracy of the PI data. The documents listed in the Attachment were used to accomplish the objectives of the inspection procedure. The inspectors' review included, but was not limited to, conditions and data from logs, licensee event reports, condition reports, and calculations for each PI specified.

During the week ending February 4, 2006, the following PIs were reviewed for a total of five samples:

- Unplanned Scrams per 7000 Critical Hours, for the period of January 2004 through December 2005;
- Unplanned Scrams with Loss of Normal Heat Removal, for the period of January 2004 through December 2005;
- Unplanned Power Changes per 7000 Critical Hours, for the period of January 2004 through December 2005;
- Reactor Coolant System Specific Activity, for the period of April 2004 through December 2005; and
- Reactor Coolant System Leakage, for the period of April 2004 through December 2005.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

For inspections performed and documented 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 corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Minor issues entered into the corrective action program as a result of the inspectors' observations are included in the attached list of documents reviewed. This inspection activity does not count as an annual sample.

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. This inspection activity does not count as an annual sample.

b. Findings

No findings of significance were identified.

.3 Evaluation of Operability Determinations

Introduction: During performance of the baseline inspection samples for Operability Evaluations, the inspectors noted inconsistencies in the level of engineering rigor being applied to operability recommendations performed by the engineering department. Based on this observation, the inspectors conducted an in-depth review of all operability determinations performed during the past 6-month period to assess both the degree of engineering rigor associated with completed operability recommendations, and the

adequacy of the licensee's operability determination process. This inspection activity counts as one annual sample.

The documents listed in the Attachment were used to accomplish the objectives of the inspection procedure.

a. Effectiveness of Problem Identification

(1) Inspection Scope

The inspectors reviewed the 25 operability determinations completed between September 2005 and March 2006 to determine if conditions which challenge the operability of risk significant SSCs were promptly identified and adequately evaluated using the licensee's site specific procedure, ACP 110.3, "Operability Determination." Additionally, the inspectors evaluated the extent to which ACP 110.3 incorporated the revised guidance contained in NRC Inspection Manual, Part 9900, Technical Guidance, "Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety."

(2) Issues

The evaluation of the licensee's site specific procedure determined that, in general, ACP 110.3 adequately incorporated the revised guidance issued per Regulatory Issue Summary 2005-20, and provided an effective tool for performing operability determinations on risk-significant SSCs. One noted exception was that when an operability determination was performed, an extent of condition for all similarly affected SSCs was not consistently documented in all operability determinations reviewed by the inspectors.

The licensee's procedure incorporates NRC Inspection Manual Part 9900 guidance for timeliness in completing immediate and prompt operability determinations, and states that, "In most cases it is expected that the decision (of OPERABILITY) can be made within 24 hours of discovery even though complete information may not be available. Some few exceptional cases may take longer." During the inspector's in-depth review, it was noted that, although immediate operability determinations were performed in a timely manner, more than half of the prompt operability determinations (16 of the 25) required more than 24 hours to complete.

The licensee has established a corrective action to evaluate and incorporate additional guidance into the site specific procedure.

b. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors evaluated the level of engineering rigor associated with the 25 operability recommendations completed by the engineering department during the past six months.

(2) Issues

The inspector's assessment of operability determinations from September 2005 through March 2006 noted inconsistencies in the level of engineering rigor evident in these engineering products. The inspectors determined that a lack of engineering rigor was evident in more than 25 percent of the products evaluated. The resultant deficiencies noted in engineering products, produced by this lack of engineering rigor, varied significantly from minor typographical errors (due to cutting and pasting data) to incomplete and inadequate analyzes.

Specific examples include:

- Failure to address the overall effects of the voltage dips during the SBDG loading on the entire electrical distribution system (the 480 volt motor control centers and motors); OPR 000303, SBDG (See NCV Section 1R15); and
- Failure to provide adequate attention to detail during the preparation of calculations by engineering personnel; OPR 000320, FW Pipe Hanger (See NCV Section 1R15).

The licensee scheduled a self-assessment and outside peer review of operability determinations completed in the past 6 months to evaluate the adequacy and quality of completed operability recommendations and initiate corrective actions as appropriate.

Additionally the licensee generated a corrective action document and is performing a condition evaluation to assess the operation's department extent of challenging engineering department products (CAP 040709/CE 003571). The inspectors plan to continue inspection activities of the licensee's efforts to improve the quality of operability determinations by reviewing the cumulative effect of their corrective actions.

4OA3 Event Follow-up (71153)

.1 Loss Of Communication - Notice Of Unusual Event

The inspectors evaluated the facts and circumstances surrounding the loss of off-site communications on February 1, 2006, for a total of one sample. An evaluation was performed by the inspectors on the performance of the licensee actions. In addition, the inspectors assessed the licensee's performance in classifying the event in accordance with emergency action level procedures and in making timely notifications to the NRC and others in accordance with federal regulations. The initial EAL declaration was incorrect since the licensee used the shutdown EAL CU6.2 instead of the appropriate EAL for plant operation which was SU6.2. A failure of a DSX-3 jack in the Qwest system resulted in the loss of offsite communications and subsequent emergency plan Notice of Unusual Event declaration.

.2 (Closed) Licensee Event Report 05000331/2005-004, "Unplanned Inoperability of the High Pressure Coolant Injection Pump."

On September 29, 2005, HPCI was declared inoperable following unsatisfactory venting results of the system injection piping. A steady stream of water was not obtained for approximately 30 minutes, during the venting. Investigation into this event revealed that the HPCI discharge piping temperatures were higher than the original design. The cause of the elevated temperatures was due to the fact that the thermal energy was being conducted through the injection valve disc to the water on the pump side of the discharge line. This energy resulted in a steam void at the pipe elbow next to the HPCI discharge valve. A full-blown piping analysis will be performed to evaluate past and to ensure present operability of the HPCI system. Therefore, this issue will be closed to URI 05000331/2006-003 for further review and evaluation. The licensee entered this issue into their corrective action program as CAP 038124.

4OA5 Other Activities

.1 Review of Institute of Nuclear Power Operations Report

The inspectors and the Branch Chief completed a review of the report for the Institute of Nuclear Power Operations, October 2005 Evaluation, dated November 11, 2005.

.2 (Closed) VIO 05000331/2005011-01, "Failure to Comply with the Requirements of Technical Specification 3.10.1."

After reviewing the licensee's corrective actions, which included a quarantining of the inappropriate procedures and a statement that the licensee will submit a plant specific license amendment request for this issue, no other significant issues were identified; therefore, the inspectors closed this violation.

.3 (Closed) VIO 05000331/2005011-02, "Failure to Comply with the Requirements of 10 CFR 50.59 for a Change to the Procedures for Non-Nuclear Heat Class 1 System Leakage Pressure Test."

After reviewing the licensee's corrective actions, which included a review of other relevant procedures to ensure that no similar errors were made and extensively retraining the plant staff for the revisions to 10 CFR 50.59, no other significant issues were identified; therefore, the inspectors closed this violation.

.4 Implementation of Temporary Instruction (TI) 2515/165 - Operational Readiness of Offsite Power and Impact on Plant Risk

a. Inspection Scope

The objective of TI 2515/165, "Operational Readiness of Offsite Power and Impact on Plant Risk," was to confirm, through inspections and interviews, the operational readiness of offsite power systems in accordance with NRC requirements. During the week ending March 25, 2006, the inspectors reviewed licensee procedures and discussed the

attributes identified in TI 2515/165 with licensee personnel. In accordance with the requirements of TI 2515/165, the inspectors evaluated the licensee's operating procedures used to assure the functionality/operability of the offsite power system, as well as, the risk assessment, emergent work, and/or grid reliability procedures used to assess the operability and readiness of the offsite power system.

b. Findings

The information gathered while completing this TI was forwarded to the Office of Nuclear Reactor Regulation for further review and evaluation.

.5 Temporary Instruction 2515/161 - Transportation of Reactor Control Rod Drives in Type A Packages

a. Inspection Scope

The inspectors conducted interviews with cognizant licensee personnel and conducted record reviews to verify that: (1) the licensee had undergone refueling activities since calendar year 2002; and (2) did not ship irradiated control rod drive mechanisms in Department of Transportation Specification 7A, Type A packages during the time frame 2002 to the present.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. G. Van Middlesworth and other members of licensee management on April 11, 2006. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

An interim exit meeting was conducted for:

- The access control to radiologically significant areas program, the ALARA planning and controls program and the radioactive gaseous and liquid effluent treatment and monitoring systems program with Mr. Gary Van Middlesworth on February 17, 2006.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

G. Van Middlesworth, Site Vice President
J. Bjorseth, Site Director
D. Curtland, Plant Manager
S. Catron, Licensing Manager
S. Haller, Site Engineering Director
B. Kindred, Security Manager
J. Morris, Training Manager
G. Rushworth, Operations Manager
G. Pry, Maintenance Manager
J. Windschill, Chemistry & Radiation Protection Manager

Nuclear Regulatory Commission

D. Spaulding, Project Manager, NRR
B. Burgess, Chief, Reactor Projects Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

05000331/2006002-01	NCV	Failure to Ensure Proper Design Control was Maintained with the SBDG (1R15)
05000331/2006002-02	NCV	Failure to Ensure Proper Design Control was Maintained with the Feedwater Piping Hangers (1R15)
05000331/2006002-03	URI	Unplanned Inoperability of the High Pressure Coolant Injection Pump (4OA3)
05000331/2006002-04	FIN	Failure to meet industry standards for the unconditional release of bulk aggregate liquid and solid materials (2PS1)

Closed

05000331/2006002-01	NCV	Failure to Ensure Proper Design Control was Maintained with the SBDG (1R15)
05000331/2006002-02	NCV	Failure to Ensure Proper Design Control was Maintained with the Feedwater Piping Hangers (1R15)
05000331/2006002-04	FIN	Failure to meet industry standards for the unconditional release of bulk aggregate liquid and solid materials (2PS1)

05000331/2005-004	LER	Unplanned Inoperability of the High Pressure Coolant Injection Pump (4OA3)
05000331/2005011-01	VIO	Failure to Comply with the Requirements of Technical Specification 3.10.1 (4OA5)
05000331/2005011-02	VIO	Failure to Comply with the Requirements of 10 CFR 50.59 for a Change to the Procedures for Non-Nuclear Heat Class 1 System Leakage Pressure Test (4OA5)

Discussed

None.

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 of 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.

1R04 Equipment Alignment

Operating Instruction (OI) 149A1, RHR System Electrical Lineup, Revision 2
OI 149A4, 'B' RHR System Valve Lineup and Checklist, Revision 2
OI 149A6, RHR System Control Panel Lineup, Revision 1
OI 149A2, 'A' RHR System Valve Lineup and Checklist, Revision 6
OI 302, 125 VDC Power Distribution System, Revision 36
OI 302A3, Division 1, 125 VDC Power Distribution System 1D10, 1D11, 1D12, 1D13 and 1D14 Electrical Lineup, Revision 0
OI 302A4, Division 2, 125 VDC Power Distribution System 1D20, 1D21, 1D22, and 1D23 Electrical Lineup, Revision 0
OI 388, 250 VDC Power Distribution System, Revision 25
OI 388A1, 250 VDC Power Distribution System Electrical Lineup, Revision 0
OI 388A2, 250 VDC Power Distribution System 1D40 Normal Power Operation Electrical Lineup, Revision 0
OI 388A3, 250 VDC Power Distribution System 1D41 Normal Power Operation Electrical Lineup, Revision 0
OI 388A4, 250 VDC Power Distribution System 1D42 Normal Power Operation Electrical Lineup, Revision 0
OI 152A4, HPCI System Control Panel Lineup, Revision 0
OI 152A2, HPCI System Valve Lineup and Checklist, Revision 7
OI 152A1, HPCI System Electrical Lineup, Revision 0
OI 324A7, SBDG 1-G31 System Control Panel Lineup, Revision 1
OI 324A1, SBDG 1-G31 System Electrical Lineup, Revision 1
OI 324A3, SBDG 1-G31 System Valve Lineup and Checklist, Revision 2
Abnormal Operating Procedure (AOP) 302.1, Loss of 125 VDC Power, Revision 43
AOP 388, Loss of 250 VDC Power, Revision 18
CAP 034481, Insulation Damage on Cable to 1D12 125VDC Div 1 Charger, January 10, 2005
CAP 036886, Relay Reliability Concern, June 23, 2005
CAP 038814, 1D12 125 Div 1 Battery 1D1 Main Charger, November 9, 2005
CAP 039042, Div 2 125VDC Ground, November 26, 2005
System Description-375, Plant DC Power Supply System Description, August 15, 2005
CWO A70476, DIV 2 125 VDC Ground, January 6, 2005
CWO A72010, Repair Cable Insulation, January 13, 2005

1R05 Fire Protection

AFP-08, Reactor Building Standby Gas Treatment System and MG Set Rooms, Revision 24
AFP-09, Reactor Building, Reactor Building Closed Cooling Water (RBCCW) Heat Exchanger Area, Equipment Hatch Area, and Jungle Room, Revision 25
AFP-30, Pump House Safety Related Area, Revision 25
AFP-06, Reactor Building RHR Valve Room, Revision 23
AFP-16, Turbine Building, South Turbine Building Basement Condensate Pump Area, Revision 24
AFP-18, Turbine Building, North Turbine Building Ground Floor and Tube Pulling Area, Revision 27
AFP-19, Turbine Building, South Turbine Building Ground Floor, Revision 23
AFP-20, Turbine Building, Aux Boiler Room, Emergency Diesel Generator Rooms, and Generator Day Tank Rooms, Revision 28
AFP 35, Radwaste Treatment and Access Area, Revision 24
AFP 34, Radwaste Building Drum Filling, Storage, and Shipping, Revision 24

1R06 Flood Protection Measures

Individual Plant Examination, Internal Flooding Analysis, Section 3.3.6, November 1992
STP NS13F002, Fire Door and Frame Inspection, Revision 16
AOP 902, Flood, Revision 26

1R11 Licensed Operator Requalification Program

SEG 2006A-06, Revision 0
Emergency Operating Procedure (EOP) 1, Reactor Pressure Control, Revision 11
EOP 2, Primary Containment Control, Revision 12
Integrated Plant Operating Instruction 5, Reactor Scram, Revision 4
EAL Table 1, Revision 2
ACP 110.1, Conduct of Operations, Revision 4
ACP 101.01, Procedure Use and Adherence, Revision 36
ACP 101.2, Verification Process and SELF/PEER Checking Practices, Revision 5

1R12 Maintenance Effectiveness

November/December 2005 Maintenance Rule Monitoring and Status Report, January 28, 2006
Maintenance Rule Performance Criteria Basis Document for RHR, Revision 5
Operator Logs January 1, 2005 through March 6, 2006
CAP 040095, Evaluate HLE013, HLE015, and HLE016 exams, April 15, 2005
Condition Evaluation (CE) 002957, 1P229C pump seal may be degraded, September 19, 2005
Maintenance Rule Performance Criteria Basis Document for Control Building Heating and Air-Conditioning System, Revision 5
CAP 041072, SUS 30.00 Maintenance Rule Performance Criteria is Unclear, March 21, 2006

1R13 Maintenance Risk Assessments and Emergent Work Control

Work Procedure Guidelines no. 2, On-Line Risk Management Guideline, Revision 21
Maintenance Risk Evaluation for Week 01, December 22, 2005
DAEC Online Schedule, Week 9551/9552/9601, December 22, 2005
Maintenance Risk Evaluation for Week 02, January 4, 2006
DAEC Online Schedule, Week 9601-9602, January 5, 2006
Maintenance Risk Evaluation for Week 03, January 10, 2006
DAEC Online Schedule, Week 9602-9603, January 12, 2006
Maintenance Risk Evaluation for Week 04, January 19, 2006
DAEC Online Schedule, Week 9603-9604, January 19, 2006
Other (OTH) 37628, Provide guidance on RHR and Core Spray system availability,
May 28, 2004
OTH 36216, ECCS Pump Room Heat Up, April 30, 2004
CE 001279, PRA Model not including ventilation, November 14, 2003
Maintenance Risk Evaluation for Week 05, Revision 2, January 25, 2006
DAEC Online Schedule, Week 9604-9605, January 26, 2006
Maintenance Risk Evaluation for Week 06, February 2, 2006
DAEC Online Schedule, Week 9605-9606, February 2, 2006
Maintenance Risk Evaluation for Week 09, February 23, 2006
DAEC Online Schedule, Week 9608-9609, February 23, 2006

1R14 Personnel Performance During Non-Routine Plant Evolutions and Events

Integrated Plant Operating Instruction 3, Power Operations (25%-100%), Revision 7
Control Rod Adjustment Sheets, Sequence B2/A2, Version 0128SE
Control Rod Sequence Sheets, Sequence A2, Version 06-001
CWO A70239, Tif #2, Control Rod Drive 18-15 Stall Flow Measurement,
January 26, 2006
STP NS550005, CRD Hot Stroke Timing, Revision 3
CAP 038631, Rod 18-15 Double Notched on Withdrawal, Then Twice Failed to Insert
Properly, October 30, 2005
CE 003183, Rod 18-15 Double Notched on Withdrawal, Then Twice Failed to Insert
Properly, November 1, 2005
CAP 039496, Control Rod 18-15 Insertion Problems, December 2, 2006
CAP 040054, Procedures Needed to be Updated to Allow Withdrawal Timing of CRD per
STP NS550005, January 28, 2006

1R15 Operability Evaluations

ACP 110.3, Operability Determination, Revision 5
OPR 000308, CACS piping, January 4, 2006
OPR 000313, Nitrogen System Drywell Penetrations, February 4, 2006
OPR 000310, 1D1 Division 1 125 Battery and 1D4 Battery, January 27, 2006
OPR 000303, SBDG, December 20, 2005
OPR 000303, SBDG, March 10, 2006
OPR 000320, Feedwater Piping Hangers, March 8, 2005
OPR 000321, Feedwater Piping, March 20, 2005

1R17 Permanent Plant Modifications

Engineering Change Package-1727, SBTG Flow Controller and Temperature Indicator Replacement Upgrade, Revision 1
PWO 1133319, SBTG 1V-SGT-1A/B Flow Indication Controller for Train A, February 27, 2006
CAP 040419, ECP 1726 Screening Needs Revision, February 16, 2006

1R19 Post-Maintenance Testing

Maintenance Directive-024, Post Maintenance Testing Program, Revision 31
CWO A70636, SBTG 1V-SGT-1A/B Flow Indication Controller for Train B, January 12, 2006
STP 3.6.4.3-05, Standby Gas Treatment Operation With Heaters On, Revision 3
CWO A63165, Replace PSV2019, Install New PSV, January 15, 2006
CWO A63163, Replace PSV1919, Install New PSV, January 22, 2006
STP 3.5.1-02, Low Pressure Coolant Injection System Operability Tests, Revision 17
STP NS490003, RHR System Leakage Inspection Walkdown, Revision 7
PWO 1132974, Calibration of RCIC Governor, January 31, 2006
STP 3.5.3-02, RCIC System Operability Test, Revision 18
CWO A64871, Replace 1B4207 Starter, for 'B' Emergency Service Water Pump, January 4, 2006
CWO A70761, Troubleshoot and Repair RCIC Division 2 Steam Leak Detection Power Supply Inverter, February 15, 2006
STP 3.3.6.1-33, HPCI/RCIC Room Temperature Monitoring Channel Functional Test, Revision 6
STP 3.3.6.1-41, Suppression Pool Steam Leak Detection Channel Functional Test, Revision 8
CAP 040387, TOPAZ Inverter Model N250-GWR-126-60-115 Serial #7095 Non-Conformance, February 14, 2006
CE 003490, TOPAZ Inverter Model N250-GWR-126-60-115 Serial #7095 Non-Conformance, February 14, 2006
10 CFR 50.59 Screening 5934, CAP 040387, Transformer Replacement, February 15, 2006

1R22 Surveillance Testing

STP 3.5.3-04, RCIC Simulated Auto Actuation Test, Revision 9
STP NS13B001, Diesel Fire Pump Engine Overspeed Shutdown and Remote Start Tests, Revision 22
CAP 034682, Failure to Obtain Desired Overspeed Trip Setting During NS13B001, January 27, 2005
CAP 039665, STP NS13B001 Delayed Due to Procedure Concerns, January 10, 2006
CAP 039680, Aborted STP NS13B001 Due to Not Being Able to Meet Step Requirements, January 10, 2006
OI 920, Drywell Sump System, Revision 31
CAP 039735, Drywell Equipment Sump Pump Down Times Are Not Consistent With Previous Trends, January 12, 2006

STP 3.3.1.1-19, Functional Test of Turbine Stop Valve Closure Input to RPS and RPT, Revision 10
CAP 038630, Bypass Valve #1 Spuriously Opened During STP 3.3.1.1-19 TSV Closure Test, October 30, 2005
CE 003176, Bypass Valve #1 Spuriously Opened During STP 3.3.1.1-19 TSV Closure Test, October 31, 2005
STP 3.8.1-06, SBDG Operability Test - Fast Start, Revision 27
OI 324A9, SBDG Operating Checklist, Revision 8
OI 324A10, SBDG Standby/Readiness Condition Checklist, Revision 3
CAP 039640, Small Candle Fire on 1G021 Exhaust Manifold, January 8, 2006
OPR 000309, Small Candle Fire on 1G021 Exhaust Manifold, January 8, 2006
STP 3.3.1.1-24, Local Power Range Monitor Calibration, Revision 10
CWO A71405, LPRM 32-17-C, February 22, 2006
STP 3.1.7-01, SBLC Pump Operability, Revision 10

1R23 Temporary Modifications

Fleet Modification Process, FP-E-MOD-03, Temporary Modification Index, Revision 0
Fleet Modification Process, FP-E-MOD-04, Design Input Checklist, Revision 3
Fleet Modification Process, FP-E-MOD-08, Engineering Change Notice, Revision 0
10CFR 50.59 Screening 5848, TM-06-001, Tube Plugging, January 22, 2006
Calculation CAL-M06-001, ECCS Pump Room Heat Transfer, January 22, 2006
MWO 1135792, Div 1 RHR & CS Cooling Unit, January 23, 2006
CWO A70669, Div 1 RHR & CS Cooling Unit, January 23, 2006
STP NS54001, ESW Class 3 Leakage Inspection, Revision 5
PWO 1133672, 'B' SBDG Jacket Cooling Water and Lube Oil Cooler Tube Plugging Repairs
Calculation CAL-M05-027, SBDG Heat Exchanger Heat Transfer Calculation, February 8, 2006

1EP6 Drill Evaluation

Training Drill 1, February 22, 2006
EOP 1, RPV Control, Revision 13
EOP 2, Primary Containment Control, Revision 12
EOP 3, Secondary Containment Control, Revision 18
EOP 4, Radioactivity Release Control, Revision 18
ATWS - RPV Control, Revision 14
Emergency RPV Depressurization, Revision 4
Emergency Plan Implementing Procedure (EPIP) 1.1, Determination of Emergency Action Levels, Revision 26
EPIP 1.2, Notifications, Revision 33
EPIP 2.5, Control Room Emergency Response Operation, Revision 16

2OS1 Access Control to Radiologically Significant Areas; and
2OS2 ALARA Planning and Controls

CAP Apparent Cause Evaluation (ACE) 001396, Operator Signed Onto the Wrong Job Step in the Radiation Work Permit, dated December 14, 2004
CAP ACE 001439, Radiological Workers Sign Onto Incorrect Radiation Work Permit Job Step, dated May 23, 2005
CAP ACE 001530, Radiological Worker Signs Onto Incorrect Radiation Work Permit Job Step, dated December 1, 2005
CAP 035487, Tri-Nuke Filter degradation When Repositioning in SFP, dated March 30, 2005
CAP 039968, Need to Access the Need to Post the Drywell Equipment Hatch LHRA During Outages, dated January 24, 2006
Form HP-51, High Radiation Area Verification, dated February 13, 2006
ACP-1411.13, Control of Locked High Radiation Areas and Above, Revision 18
HPP-3104.01, Control of Access to High Radiation Areas and Above, Revision 30
HPP-3104.06, Control of Radiography Activities, Revision 11
HPP-3104.07, Diving Operations Within Radiological Areas, Revision 14
HPP-3104.09, Drywell Initial Entry and Startup/Shutdown Entries, Revision 20
ACP-1411.1, The ALARA Emphasis Program, Revision 12
ACP-1411.17, Occupational Dose Limits and Upgrades, Revision 18
HPP-3101.05, RWP Writers Guide, Revision 27
Effluent LLD Determinations, dated March 7, 2006
Integrated Action Plan For Reduction Of Cobalt In Reactor Coolant

2PS3 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems Program

2004 Annual Radioactive Material Release Report, dated April 29, 2005
2003 Annual Radioactive Material Release Report, dated April 30, 2004
2003 Annual Radioactive Material Release Report Correction, dated July 23, 2004
2004 Annual Radiological Environmental Operating Report, dated April 29, 2005
2003 Annual Radiological Environmental Operating Report, dated April 30, 2004
CAP 031776 Review Site Practices for Monitoring Exposure to Tritium, dated May 26, 2004 and the associated Rad Engineering Calculation 04-002-H, Relationship Between Waterborne and Airborne Tritium Concentrations, dated June, 15, 2004
CAP 030997, Re-Evaluate Gamma Spec System LLD Application Effluent vs Environmental, dated March 12, 2004
CAP 030983, Rad Effluents: Evaluate Reporting of Identified Nuclides when Quantity is <LLD, dated March 11, 2004
CAP 031866, Following a Fleet Wide Meeting of the Radiological Environmental Monitoring Program (REMP) Program Owners, It Is Apparent That Some Sites May be Taking More Samples Than Needed. Movement Toward Standardization Is Needed, dated June 4, 2004
CAP 035655, Trace Levels of Tritium Identified in Sewage Treatment Plant Liquid Effluent, dated April 5, 2005
CAP 040506, Evaluate the Use of Effluent LLDs versus the more Conservative Environmental LLDs Bulk Radioactive Material Release, dated February 20, 2006

CA 041847, Beckman (Tritium Instrument) fails System Efficiency Checks During Run, dated January 10, 2006
DAEC Gamma Spectroscopy Reports (Particulate and Iodine), dated February 16, 2006
NCS Corporation Radioiodine Retention/Penetration/Efficiency Test Reports (SBGT A/B), dated November 23, 2005
Nuclear Oversight Observation Report 2004-002-1-001, Radiological Environmental Monitoring Program, dated April 14, 2004
Nuclear Oversight Observation Report 2005-003-1-014, Environmental Monitoring REMP Tritium Assessment, dated August 24, 2005
ODCM, Revision 20
ODCM, Revision 21
Snap Shot Report SA004934, DAEC Chemistry (EPRI Failed Fuel), dated July 15, 2005
Snap Shot Report SA037140, DAEC REMP Program, dated June 25, 2004
Surveillance Test Procedure 3.6.4.3-03, Standby Gas Treatment System HEPA and Charcoal Filter Efficiency Tests, Revision 14 (Trains A/B), dated November 2005
Surveillance Test Procedure NS790201, Off-Gas Post Treatment Radiation Monitor Calibration, Revision 7 (Channels A/B), dated November 2005
Surveillance Test Procedure NS791003, LLRPSF Flow Monitor Functional/Calibration, Revision 12, dated November 2005
Surveillance Test Procedure NS791015, TB Bldg Flow Monitor Calibration, Revision 6, dated July 2005
Surveillance Test Procedure NS340003, Reactor Building Flow Monitor Calibration, Revision 4, dated October 2004
Surveillance Tests and Procedures for ODCM Listed Radiation Monitors, dated 2004/2005

40A1 Performance Indicator Verification

Nuclear Energy Institute 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 3
Memo, DAEC 4th Quarter 2005 PI Summary, February 2, 2006
Memo, DAEC 3rd Quarter 2005 PI Summary, October 13, 2005
Memo, DAEC 2nd Quarter 2005 PI Summary, July 6, 2005
Memo, DAEC 1st Quarter 2005 PI Summary, April 19, 2005
Memo, DAEC 4th Quarter 2004 PI Summary, January 21, 2005
Memo, DAEC 3rd Quarter 2004 PI Summary, October 20, 2004
Memo, DAEC 2nd Quarter 2004 PI Summary, July 6, 2004
Memo, DAEC 1st Quarter 2004 PI Summary, April 16, 2004
ACP 1402.4, NRC & WANO Performance Indicators Reporting, Revision 5

40A2 Identification and Resolution of Problems

ACP 114.4, Corrective Action Program, Revision 21
ACP 110.3, Operability Determination, Revision 5
CAP 037802/OPR 000295, Hi B RHR Service Water Strainer DP When Running Emergency Service Water Operability STP NS540002, September 7, 2005
CAP 038236/OPR 000296, Suggest Moving ISI Boundary from V23-41 to V23-76 and V23-42, October 6, 2005

CAP 038940/OPR 000297, Broken Welded Stud for the Vertical Drive Shaft Compartment Cover on A SBDG, November 17, 2005
CAP 039227/OPR 000301, SBDG Fuel Oil 7-Day Supply Has Low Margin, December 7, 2005
CAP 039228/OPR 000302, Lack of Design Basis for SBDG Load Values, December 7, 2005
CAP 039229/OPR 000303, Calculation CAL-E02-003 Shows SBDG Voltage Dips Less Than UFSAR/RG 1.9 Required, December 7, 2005
CAP 040658, Failure to Meet UFSAR 1.8.9.4 (EDG Voltage Dips) Not Documented in CAP, March 1, 2006
CAP 039366/OPR 000305, UFSAR Table Voltages Indicate Plant Transfer to SBDG, December 15, 2005
CAP 039375/OPR 000306, Concern on Testing for the A/B Chiller Motors, December 15, 2005
CAP 039465/OPR 000307, Unplanned SBDG Limiting Condition of Operation (LCO) Entry, December 21, 2005
CAP 039556/OPR 000308, A Guide on 1"-HCD-53 Riser is Required to be Added, January 3, 2006
CAP 039640/OPR 000309, Small Candle Fire on 1G021 Exhaust Manifold, January 8, 2006
CAP 040026/OPR 000310, Small Pieces of Construction Material Found in 1D1 and 1D4 Jars, January 27, 2006
CAP 040084/OPR 000311, AN4162 A/B Calibration Gas Out of Certification Date, January 30, 2006
CAP 040081/OPR 000312, Modify and Add Supports to the Piping System Connected to DW Pent. X-39A, January 30, 2006
CAP 035317, HLE-023 Piping Calculations Don't Include Thermal Movement of the Drywell, March 18, 2005
CAP 039647/OPR 000313, Supports for Piping Connected to Pent. X24A are Required to be Modified, January 9, 2006
CAP 039822/OPR 000314, One Pipe Hanger for Piping Connected to Penetration X54 is Required to be Removed, January 17, 2006
CAP 039823/OPR 000315, One Pipe Hanger for Piping Connected to Penetration X55 is Required to be Removed, January 17, 2006
CAP 039338/OPR 000316, Two Supports on HLE-21/38 are Required to be Modified Due to DW Thermal Movement, December 14, 2005
CAP 039843/OPR 000318, Modify Piping Connected to pent. X23A to Account for DW Thermal Movements, January 18, 2006
CAP 040182, Typographical Error in OPR, February 3, 2006
CAP 040521/OPR 000319, Modify and Add Supports to the Piping System Connected to DW Pent. X-39B, February 21, 2006
CAP 040744/OPR 000320, Pipe Clamp in BOM Not Compatible with Load on Design Drawing, March 6, 2006
CAP 041015/OPR 000321, FW Piping Design Calc Discrepancies, March 17, 2006
CAP 041114/OPR 000322, Deviation of Commitment to NUREG-0737, Item II.K.3.22, March 22, 2006
CAP 041122/OPR 000323, As-Built Plant Configuration Different from That Assumed in HPCI Voiding CE, March 23, 2006

CAP 041156/OPR 000324, Battery Intercell Connector Torque Discrepancy,
March 24, 2006
CAP 040709, Operations Challenging Engineering Products, March 3, 2006

4OA3 Event Follow-up

EPIP 1.1, Determination of Emergency Action Levels, Revision 26
EPIP 1.2, Notifications, Revision 33
DAEC Emergency Plan, Section F Emergency Communications, Revision 23

4OA5 Other Activities

ACP 101.16, Midwest ISO Real-Time Operations, Revision 0
Work Procedure Guideline no. 2, On-Line Risk Management Guideline, Revision 21
AOP 304, Grid Instability, Revision 10
OI 698, Main Generator System, Revision 52

LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ACP	Administrative Control Procedure
AFP	Area Fire Plan
ALARA	As-Low-As-Is-Reasonably-Achievable
AOP	Abnormal Operating Procedure
ATWS	Anticipated Transient Without Scram
CAP	Corrective Action Process
CE	Condition Evaluation
CFR	Code of Federal Regulations
CS	Core Spray
CWO	Corrective Work Order
EAL	Emergency Action Level
ECP	Engineering Change Package
EP	Emergency Preparedness
EOP	Emergency Operating Procedure
EPIP	Emergency Plan Implementing Procedure
HPCI	High Pressure Coolant Injection
HRA	High Radiation Area
IMC	Inspection Manual Chapter
LCO	Limiting Condition for Operation
LHRA	Locked High Radiation Area
LLD	Lower Limit of Detection
MG	Motor Generator
MWO	Modification Work Order
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OI	Operating Instruction
OOS	Out-of-Service
OPR	Operability Recommendation
OTH	Other
PARS	Publicly Available Records
PI	Performance Indicator
PMT	Post-Maintenance Testing
PSV	Pressure Set Valve
PWO	Preventative Work Order
RBCCW	Reactor Building Closed Cooling Water
RCIC	Reactor Core Isolation Cooling
REMP	Radiological Environmental Monitoring Program
RETS	Radiological Environmental Technical Specifications
RHR	Residual Heat Removal
RP	Radiation Protection
SBDG	Standby Diesel Generator
SBGT	Standby Gas Treatment
SBLC	Standby Liquid Control
SDP	Significance Determination Process

LIST OF ACRONYMS USED

SEG	Simulator Exercise Guide
SSC	Structures, Systems and Components
STP	Surveillance Test Procedure
TI	Temporary Instruction
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
VHRA	Very High Radiation Area