

April 29, 2005

Mr. Mark Peifer
Site Vice-President
Duane Arnold Energy Center
Nuclear Management Company, LLC
3277 DAEC Road
Palo, IA 52324

SUBJECT: DUANE ARNOLD ENERGY CENTER
NRC INTEGRATED INSPECTION REPORT 5000331/2005002

Dear Mr. Peifer:

On March 31, 2005, 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 March 31, 2005, with Mr. D. Curtland 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 was one self-revealed finding of very low safety significance, which involved a violation of NRC requirements. However, because this violation was of very low safety significance and because the issue was entered into the licensee's corrective action program, the NRC is treating this finding as a Non-Cited Violation in accordance with Section VI.A.1 of the NRC's Enforcement Policy. Additionally, two licensee identified violations are listed in Section 4OA7 of this report.

If you contest the subject or severity of a Non-Cited Violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, 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.

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Sincerely,

/RA/

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

Docket Nos. 50-331
License Nos. DPR-49

Enclosure: Inspection Report 5000331/2005002
(w/Attachment: Supplemental Information)

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J. Cowan, Executive Vice President and Chief Nuclear Officer
J. Bjorseth, Site Director
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-331

License No: DPR-49

Report No: 05000331/2005002

Licensee: Nuclear Management Company, LLC

Facility: Duane Arnold Energy Center

Location: 3277 DAEC Road
Palo, Iowa 52324-9785

Dates: January 1, 2005 through March 31, 2005

Inspectors: G. Wilson, Senior Resident Inspector
R. Baker, Resident Inspector
G. Gibbs, Reactor Engineer
D. Melendez, Reactor Engineer
M. Mitchell, Radiation Specialist
L. Ramadan, Reactor Engineer

Observers: None

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

Enclosure

SUMMARY OF FINDINGS

IR 05000331/2005002; 01/01/2005 - 03/31/2005; Duane Arnold Energy Center, Post-Maintenance Testing.

This report covers a 3-month period of baseline resident inspection and an announced baseline inspection of radiation protection. The inspections were conducted by a Region III reactor inspector and the resident inspectors. 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 through a self-revealing event when the licensee failed to ensure that the excessive vibration problem associated with the diesel fire pump mechanical overspeed switch was properly addressed following the initial failure. Since the vibration problem was not properly addressed, a subsequent failure occurred, which resulted in additional pump unavailability. The licensee replaced the mechanical overspeed switch and placed compensatory actions in place to verify that the mechanical overspeed switch is still properly attached to the mounting bracket following each pump run. In addition, a design modification will be put into place to change the overspeed trip to a magnetic pickup design.

The finding was more than minor due to the effect on the mitigating system cornerstone attribute of equipment availability and reliability for the diesel fire pump. This finding was determined to be of very low safety significance, since the electric fire pump was always available and the diesel fire pump did not exceed the allowable outage time. A Non-Cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified for the failure to take prompt and adequate corrective actions. (Section 1R19)

B. Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

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 with the following exceptions:

- On February 20, 2005, fuel cycle coastdown began followed by a shutdown for a planned refueling outage on March 28, 2005. The refueling outage continued through March 31, 2005.

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 22, 2005;
- Electric Fire Pump with the Diesel Fire Pump OOS for maintenance during the week ending January 29, 2005;
- High Pressure Coolant Injection (HPCI) System with the Reactor Core Isolation Cooling (RCIC) System OOS for maintenance during the week ending February 5, 2005; and
- 'A' Standby Diesel Generator (SBDG) System with the 'B' SBDG System OOS for maintenance during the week ending February 12, 2005.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown

a. Inspection Scope

During the week ending January 15, 2005, the inspectors performed a complete system alignment inspection of the Normal 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;
- a review of control room operator log entries from January 10, 2004, through January 10, 2005, to identify potential system issues; 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 in the Corrective Action Program (CAP) to determine if they had been properly addressed. 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 ten 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 (IPEEE), 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 ten samples:

During the week ending January 15, 2005:

- Area Fire Plan (AFP) 34, Radwaste Building Drum Filling, Storage, and Shipping - EL 757' 6";
- AFP 35, Radwaste Treatment and Access Area - EL 773' 6"; and
- AFP 36, Radwaste Building Precoat and Access Area - EL 786', Control Room and Heating, Ventilation, Air-Conditioning (HVAC) Equipment Room.

During the week ending January 22, 2005:

- AFP 18, Turbine Building North Turbine Building Ground Floor and Tube Pulling Area;
- AFP 19, Turbine Building South Turbine Building Ground Floor;
- AFP 20, Turbine Building Aux Boiler Room, Emergency Diesel Generator Rooms, and Generator Day Tank Rooms;
- AFP 26, Control Building Control Room Complex; and
- AFP 27, Control Building Control Room HVAC Room.

During the week ending March 12, 2005:

- AFP 39, Off-Gas Control and Glycol Area EI 757' 6"; and
- AFP 38, Charcoal Adsorber Vault, Off-Gas Prefilter Room and Condenser Area EI 739' 6".

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill Review

a. Inspection Scope

During the week ending February 26, 2005, the inspectors conducted an annual observation of the licensee's fire brigade response activities during a drill which simulated a fire in the scaffold lumber storage area located in the south west corner of the 3rd floor of the Reactor 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 12, 2005, the inspectors performed a semi-annual review of flood protection barriers and procedures for coping with internal flooding in the Pump House 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 week ending February 12, 2005, the inspectors observed a training crew's performance on Simulator Exercise Guide (SEG) 2005A-1, Revision 0 for a total of one sample. The scenario included a small break Loss of Coolant Accident (LOCA), with a loss of flow from the condensate system, the feed system, and the HPCI system. 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 3;
- ACP 101.01, "Procedure Use and Adherence," Revision 29; 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 five 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 five samples:

- A function-oriented review of the Standby Gas Treatment (SBGT) System was performed because it was designated as risk-significant under the Maintenance Rule, during the week ending February 26, 2005;
- A function-oriented review of the Core Spray System was performed because it was designated as risk-significant under the Maintenance Rule, during the week ending February 26, 2005;
- An issue/problem-oriented review of the Primary Containment System was performed because it was designated as risk-significant under the Maintenance Rule and the system experienced problems with degraded Primary Containment Isolation Valve leakage rates during the week ending February 26, 2005;

- A function-oriented review of the Fuel Pool Cooling and Cleanup System was performed because it was designated as risk-significant under the Maintenance Rule, during the week ending March 5, 2005; and
- A function-oriented review of the Reactor Building Sump System was performed because it was designated as risk-significant under the Maintenance Rule, during the week ending March 5, 2005.

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 ten 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 ten samples:

- The inspectors reviewed the maintenance risk assessment for work planned during the weeks ending January 15, 22, 29, February 5, 12, 19, 26, March 5, 19, and 26, 2005.

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 three preplanned non-routine evolutions. 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 evolutions for a total of three samples:

- Preplanned Fuel shuffles within the Spent Fuel Pool to perform an alignment of new fuel assemblies, during the week ending February 12, 2005;
- Preplanned Noble Chemical Injection into the Plant's Primary System, during the week ending March 31, 2005; and
- Preplanned Electrical Back Feed to support de-energizing the Start Up Transformer and non-safety related 4160 volt busses, during the week ending March 31, 2005.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed ten 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 - 114.5, "Action Request System" and ACP - 110.3, "Operability Determination."

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

- Operability Recommendation (OPR) 000279, Standby Liquid Control System (SBLC) System, during the week ending January 8, 2005;
- OPR 278, Steam Leak Detection, during the week ending January 22, 2005;
- OPR 280, Diesel Fire Pump Overspeed, during the week ending February 5, 2005;
- OPR 281, RCIC Motor Operated (MO) 2401 Outboard Steam Isolation Valve, during the week ending February 5, 2005;
- CAP 35040, RCIC Flow Controller, during the week ending March 5, 2005;
- CAP 34846, Radial Peaking Factor, during the week ending March 12, 2005;
- OPR 282, Temporary Ductwork in Reactor Building, during the week ending March 12, 2005;
- CAP 35236, 'A' SBDG as found frequency out of specification limits, during the week ending March 19, 2005;

- OPR 283, Minimum number of Inservice Inspections for Reactor Vessel not completed, during the week ending March 19, 2005; and
- CAP 35317, Piping Calculations don't include thermal movement, during the week ending March 31, 2005.

b. Findings

Two unresolved items (URIs) were identified.

1. OPR 283, Minimum number of Inservice Inspections for Reactor Vessel not completed

On March 10, 2005, the licensee identified that they were not in compliance with the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel (B&PV) Code Section XI percentage requirements for examining reactor vessel attachment welds. The non compliance was the result of the failure to perform the weld inspections on the four vessel stabilizer welds.

The vessel stabilizer welds support the vessel during seismic events by assisting in the transfer of the seismic load on the internal structure through the containment shell and into the external concrete shell. Vessel stabilizers are connected between the reactor vessel and the biological shield surrounding the vessel.

The licensee is committed to use Code Case –509 for examining the reactor vessel attachment welds. Code Case –509 requires the performance of surface exams on 100% of the reactor coolant pressure boundary vessel attachment welds.

In addition, the licensee is required to perform the exams in accordance with the frequencies described in Code Case –598. Code Case –598 breaks the ten-year interval into three periods. The interval consist of a three-year period, a four-year period, and a three-year period. Each period has a minimum percentage requirement and since the schedule did not include the vessel stabilizer welds the percentages were not meet for the first three-year period or the second four-year period. Therefore, this condition is not in compliance with the requirements of 10 CFR 50.55.a.

The licensee entered an action item into their corrective action program, CAP 35212, and added the weld exams to the scope of their upcoming refueling outage. Pending a review of the licensee's weld examination results, this issue is considered unresolved. (URI 5000331/2005002-01)

The inspectors noted the fact that no indications were found during the last weld examinations of the vessel stabilizer welds which occurred in 1996 and 1989. In addition, there has not been an inspection in which a failed weld attachment of the vessel was identified.

2. CAP 35317, Piping Calculations don't include thermal movement

On March 18, 2005, the licensee identified that piping calculations associated with modifications performed on the Containment Vent and Purge Exhaust lines did not include thermal movement of the Drywell.

Design requirements require the effects of Drywell shell movement to be determined and evaluated to assure structural integrity of the Drywell penetration, associated piping and supports. Various modifications, which created rigid attachments to the Reactor Building, have been performed on these lines thereby restricting movement between the Drywell and the Reactor Building, without the thermal movement of the Drywell being analyzed. Additional analysis will have to be performed to evaluate the overall effect on the existing design.

The licensee entered an action item into their corrective action program, CAP 35317, and they are performing an extent of condition review to evaluate the overall effect on the existing designs and to assess the physical configuration for piping attached to the Drywell. Pending a review of the extent of condition and the overall effect on the existing designs, this issue is considered unresolved. (URI 5000331/2005002-02)

1R16 Operator Workarounds (OWA) (71111.16)

.1 Individual Operator Workarounds

a. Inspection Scope

The inspectors reviewed two OWAs. Inspectors used the documents listed in the Attachment to accomplish the objectives of the inspection procedure. Inspectors verified that the selected OWA did not impact the functionality of a mitigating system. Inspection activities included, but were not limited to, a review of the selected OWAs to determine if the functional capability of the system or human reliability in responding to an initiating event was affected, including a review of the impact of the OWAs on the operator's ability to execute Emergency Operating Procedures (EOPs).

The inspectors reviewed the following OWA's for a total of two samples:

- CAP 34682, Failure To Obtain Desired Overspeed Trip, during the week ending February 12, 2005; and
- CWO A72030, Door Will Not Close On Its Own, during the week ending February 12, 2005.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed nine 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 SSC's 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 nine samples:

- Corrective Work Order (CWO) A68955, Diesel Fire Pump, during the week ending January 29, 2005;
- Preventative Work Order (PWO) 1123240, RCIC Rupture Disc, during the week ending February 5, 2005;
- CWO A71330, RCIC 'B' Room Cooling Unit during the week ending February 5, 2005;
- CWO A653255, 'B' DG Oil Booster Pump, during the week ending February 12, 2005;
- PWO 1130587; 'B' Control Rod Drive Pump, during the week ending February 12, 2005;
- PWO 1130493, HPCI Pump Discharge Flow, during the week ending February 26, 2005;
- PWO 1130471, 'B' SBTG Temperature Control, during the week ending February 26, 2005;
- CWO A72959, 'A' SBDG Null Voltage Adjustment, during the week ending March 19, 2005; and
- CWO A72980, Replace EG-B on 'A' SBDG, during the week ending March 31, 2005.

b. Findings

Introduction: A finding of very low safety significance (Green) and an associated Non-Cited Violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," were identified for the failure to take timely and corrective actions when Plant and Engineering Management failed to correct the excessive vibration problems associated with the diesel fire pump mechanical overspeed switch.

Description: The diesel fire pump tripped on overspeed, while performing strainer flushes on January 24, 2005. After investigating the issue, the licensee discovered that the mechanical overspeed switch mounting rivets, between the switch and the mounting bracket, had failed which resulted in an overspeed trip. Since a previous failure of the mounting rivets had occurred on March 15, 2004, the inspectors questioned the seismic environment of the mechanical overspeed switch. Following the seismic environment question by the inspectors, a vibration analysis was performed on the overspeed switch and it was discovered that the switch was in a seismic environment that exceeded the limits that it was designed for. When the initial failure occurred, Plant and Maintenance Management made a decision to only replace the mounting rivets on the mechanical overspeed switch, thereby not fully evaluating why the rivets failed. Since a full evaluation of the failure was not performed, a modification or field change to address

the excessive vibration condition of the overspeed switch was not performed, therefore a subsequent failure occurred.

Analysis: The inspectors determined that the excessive vibration condition seen by the mechanical overspeed switch of the diesel fire pump was a condition that could have been reasonably foreseen and therefore was a performance deficiency. Since a performance deficiency existed, the inspectors reviewed this issue against the guidance contained in Appendix B, "Issue Dispositioning Screening," of Inspection Manual Chapter (IMC) 0612, "Power Reactor Inspection Reports." In particular, the inspectors compared this finding to the findings identified in Appendix E, "Examples of Minor Issues," of IMC 0612 to determine whether the finding was minor. Following that review, the inspectors concluded that the guidance in Appendix E was not applicable or useful for the specific finding. As a result, the inspectors compared this performance deficiency to the minor questions contained in Appendix B of IMC 0612. The inspectors concluded that the issue was more than minor due to the effect on the mitigating system cornerstone attribute of equipment availability and reliability for the diesel fire pump.

The inspectors reviewed this issue in accordance with IMC 0609, "Significance Determination Process (SDP)," Appendix F, "Fire Protection SDP." The inspectors determined that the finding affected the Fixed Fire Protection Systems due to the effect on the fire suppression systems. Since the electric fire pump was always available and the diesel fire pump did not exceed the allowable outage time the finding was assigned a low degradation rating, therefore the finding was of very low safety significance and screened as Green.

Enforcement: 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," requires that measures be established to assure that conditions adverse to quality, such as defective material and equipment, deficiencies, and nonconformances are promptly identified and corrected. On March 15, 2004, the diesel fire pump tripped on overspeed due to a failure in the mounting bracket associated with the mechanical overspeed trip switch. The issue was entered into the corrective action program but actions were not taken to fully evaluate why the rivets in the mounting bracket failed. On January 24, 2005, another inadvertent overspeed trip occurred due to a subsequent mounting bracket failure. Both of the failures affected the availability and reliability of the diesel fire pump, which is an Appendix B system. The failure to perform prompt corrective actions to correct inadvertent overspeed trips due to the excessive vibration conditions is considered an example of where the requirements of 10 CFR 50, Appendix B, Criterion XVI were not met and is a violation. 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 5000331/2005002-03), 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 034682.

Corrective actions taken included the replacement of the mechanical overspeed switch and the placement of compensatory actions in place to verify that the mechanical overspeed switch is still properly attached to the mounting bracket following each pump run. In addition, a design modification will be put into place to change the overspeed trip to a magnetic pickup design.

1R20 Outage Activities (71111.20)

.1 Refueling Outage

a. Inspection Scope

The inspectors observed outage activities for Scheduled Refueling Outage Number 19 that began on March 28, 2005, and continued through the end of the inspection period. The entire Refueling Outage, which will end during the next inspection period, will count as a total of one sample. Outage configuration management was also monitored on a daily basis by verifying that the licensee maintained appropriate defense in depth to address all shutdown safety functions and satisfy TS requirements, thereby ensuring that the licensee considered risk in developing, planning, and implementing the outage schedule.

The inspectors observed or reviewed the reactor shutdown and cooldown, outage equipment configuration and risk management, electrical lineups, selected clearances, control and monitoring of decay heat removal, control of containment activities, and identification and resolution of problems associated with the outage. In addition, proper operation of the decay heat removal system was reviewed during multiple reactor building and control room tours and observations. The documents listed in the Attachment were used to accomplish the objectives of the inspection procedure.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed nine 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 nine samples:

- Surveillance Test Procedure (STP) 3.3.5.1-28, 4 kilo volts (kV) Emergency Bus Sequential Loading Relay Calibration, during the week ending January 15, 2005;

- STP 3.3.3.1-02, Suppression Pool Water Level Post Accident Monitoring Instrumentation Calibration, during the week ending January 15, 2005;
- STP 3.0.0-1, Instrument Checks (Reactor Coolant System Leakage), during the week ending January 22, 2005;
- STP 3.5.1-02A, Low Pressure Coolant Injection (LPCI) Operability Tests, during the week ending January 22, 2005;
- STP 3.3.8.1-02, 4 kV Emergency Bus Degraded Voltage Calibration, during the week ending January 22, 2005;
- STP 3.5.3-02, RCIC System Operability Test, during the week ending, February 5, 2005;
- STP 3.4.5-05, Calibration of Equipment and Floor Drain Sump Flow Timers (Reactor Coolant System Leakage), during the week ending February 26 2005;
- STP NS490002, LPCI Inject Check Valve Full Flow Test, during the week ending March 31, 2005; and
- STP 3.6.1.1-06, Containment Isolation Valve Lea4k Tightness Test - Type C Penetrations - Feedwater Systems, during the week ending March 31, 2005.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed two temporary modifications. 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 modifications for review for a total of two samples:

- PWO 1129445, Temporary Power for Inservice Inspections, during the week ending March 12, 2005; and
- CWO A58391, Noble Chemical Application Skid, during the week ending March 31, 2005.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

.1 Training Drill I Scenario, January 26, 2005

a. Inspection Scope

On January 26, 2005, 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 Training Drill II Scenario, February 16, 2005

a. Inspection Scope

On February 16, 2005, the inspectors observed an EP drill for a total of one sample. The drill simulated a designed-based earthquake followed by a failure of the jet pump riser. The scenario was further complicated by a failure of a RCIC steam line.

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 Plant Walkdowns and Radiation Work Permit Reviews

a. Inspection Scope

The inspectors reviewed licensee controls and surveys in the following radiologically significant work area within radiation areas, high radiation areas and airborne radioactivity areas in the plant and reviewed work packages which included associated licensee controls and surveys of these areas to determine if radiological controls including surveys, postings and barricades were acceptable:

- Condenser Bay

This review represented one sample.

The inspectors reviewed the radiation work permits (RWPs) and work packages used to access this area and other high radiation work areas to identify the work control instructions and control barriers that had been specified. Electronic dosimeter alarm set points for both integrated dose and dose rate were evaluated for conformity with survey indications and plant policy. Workers were interviewed to verify that they were aware of the actions required when their electronic dosimeters noticeably malfunctioned or alarmed. 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.

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

.1 Radiological Work Planning

a. Inspection Scope

The inspectors evaluated the licensee's list of work activities ranked by estimated exposure that were in progress and reviewed the following five work activities of highest exposure significance:

- Refuel Floor Support Activities;
- Cavity Work;

- Reactor Vessel Disassembly/Reassembly;
- ISI/FAC and Support Work for Refuel Outage; and
- MH: Weld Repairs and Inspections in Torus Proper.

This review represented one sample.

For these five activities, the inspectors reviewed the ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements in order to verify that the licensee had established procedures and engineering and work controls that were based on sound radiation protection principles in order to achieve occupational exposures that were ALARA. This also involved determining that the licensee had reasonably grouped the radiological work into work activities, based on historical precedence, industry norms, and/or special circumstances. This review represented one sample.

b. Findings

No findings of significance were identified.

.2 Declared Pregnant Workers

a. Inspection Scope

The inspectors reviewed dose records of declared pregnant workers for the current assessment period to verify that the exposure results and monitoring controls employed by the licensee complied with the requirements of 10 CFR Part 20. This review represented one sample.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

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

A specific issue related to the failure to take prompt corrective actions to correct excessive vibration problems associated with the diesel fire pump mechanical overspeed switch was discussed in Section 1R19.

.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

Two specific issues which involved Licensee-Identified Violations were identified during these daily reviews as discussed in Section 4OA7.

.3 Design Control Issues Associated with Vendor Drawing Control

Introduction: During routine reviews of the licensee's CAPs, the inspectors noted that inadequate vendor drawing control has caused several problems. These problems have included delays in completing modifications that have resulted in the unplanned extension of the associated limiting condition for operation (LCO). This inspection activity counts as one annual sample.

Based on these observations, the inspectors selected the following CAPs for review:

- CAP 32857, 'A' Core Spray Pump Seal was determined not to have a registered fit, September 1, 2004; and
- CAP 33242, Extension of 'A' Control Building Chiller Planned LCO, October 17, 2004.

a. Effectiveness of Problem Identification

(1) Inspection Scope

The inspectors reviewed the multiple related CAPs to determine if the licensee's identification of the problems were complete, accurate, and timely, and that the consideration of extent-of-condition reviews, generic implications, common causes, and previous occurrences were adequate.

(2) Issues

In September 2004, the licensee replaced the 'A' Core Spray Pump Seal with a new design. During the installation, they discovered that the new seal did not have the proper registered fit. This resulted in a spacer ring being installed with the seal to ensure that the proper registered fit was achieved. It was later discovered that the vendor had used the wrong drawing during the manufacturing of the seal.

In October 2004, the licensee replaced the 'A' Control Building Chiller control valve with a new design. Once again, a spacer ring had to be installed to ensure the proper registered fit for the valve. It was later discovered that the vendor had used the wrong revision of the drawing for the manufacturing process.

After the second issue occurred, the licensee performed a root cause evaluation to evaluate the problems associated with the design implication of the chiller modification. A corrective action was established as a result of the evaluation to assess vendor drawing control and usage during modifications. Lessons learned from that evaluation included the following: vendor drawings for installed equipment must be verified to reflect existing plant condition, vendor drawings must be verified before being placed in the master document list, and the sub-component modifications require particular diligence.

The inspectors plan to continue inspection activities of the licensee's efforts to improve vendor drawing control by reviewing the cumulative effect of their corrective actions.

.4 Weld Trend Review

Introduction: During routine reviews of the licensee's CAPs, the inspectors noted several issues in the area of welding that has caused several problems primarily due to human performance errors. These problems have included issues with weld planning, unqualified welders performing reviews on weld checklists, welders' inattention to detail, and unsatisfactory workmanship with particular welds. This inspection activity counts as one annual sample.

Based on these observations, the inspectors selected the following CAPs for review:

- Apparent Cause Evaluation (ACE) 001428, Potential trend in welding issues;
- CAP 034671, Improper information specified on weld data sheet;
- CAP 034600, Incorrect weld checklists information being used;
- CAP 034720, Unsatisfactory weld workmanship;
- CAP 034461, Welding in hogger room affects demin water tank level indicator;
- CAP 034450, Qualification near miss: Welder Qualifications expired;
- CAP 034778, Weld planning and implementation errors;
- CAP 035231, Weld checklists identifies non-destructive examination inspections not in accordance with procedures; and
- CAP 035238, Welding program assessment results in program determined below expectations.

a. Effectiveness of Corrective Actions

(1) Inspection Scope

Over the last few months, the inspectors identified several issues in the welding program. The inspector's reviewed the multiple weld-related corrective action documents and interviewed licensee personnel to determine if the licensee addressed generic implications and that corrective actions were appropriately focused to correct the problem.

(2) Issues

The licensee has begun an overall effort to address problems associated with the welding program. This effort began after a welding program assessment identified that the program was below expectations. As such, the licensee has begun to take adequate measures to improve procedure and administrative controls, along with work planning and training/qualifications associated with this program.

Corrective actions related to the ACE appeared to be adequate to ensure that the majority of the issues were appropriately addressed. For instance, improper information was specified on the weld data sheet (CAP 034671). As an interim measure, all the weld packages are being reviewed by a second qualified weld package planner.

Another corrective action that was put in place was the re-issuance of the Quality Control and Maintenance Shops Fleet Welding Manuals. This will ensure consistency among all welding manuals, thereby assisting in maintaining proper control of the welding manuals.

More generic corrective actions were also incorporated, such as performing refresher training for all the in-house and contract welders. In addition, the newly developed welding program procedures and processes will provide additional guidance to preclude the recurrence of some of the welding problems.

In general, the licensee identified issues and entered them into the CAP at an appropriate level. In addition, the licensee appropriately used the ACE to document instances where previous corrective actions were ineffective and inappropriate.

The inspectors plan to continue inspection activities of the licensee's efforts to improve the welding program by reviewing the cumulative effect of their corrective actions.

.5 External and Internal Operating Experience Implementation

Introduction: During routine reviews of the licensee's actions to effectively evaluate and implement lessons learned from both internal and external Operating Experience (OE), the inspectors noted several issues with the prioritization of the OE. Of particular note, the licensee's fleet procedure for the Operating Experience Program does not have a clearly documented prioritization process for identified OE that is applicable to site systems and processes. This inspection activity counts as one annual sample.

Based on these observations, the inspectors selected the following OE CAPs for a detailed review:

- OE 002510, Foreign Material in Diesel Generator Jacket Water System Results in Temperature Problem, November 5, 2004;
- OE 003002, Operating Experience with Global Nuclear Fuel's 3D MONICORE PANAC11 (PANACEA Version 11) Predictor Program Keff Values, December, 22, 2004;
- OE 004358, Single Failure Identified That Could Prevent Re-energizing Both Engineered Safeguards (ES) Busses, February 1, 2005: and
- OE 003993, Standby Liquid Control Pump Discharge Accumulator Bladder, February 11, 2005.

a. Prioritization and Evaluation of Issues

(1) Inspection Scope

The inspectors reviewed the multiple related CAPs associated with the OE Program and site OE Coordinator program guidance to determine if the licensee's evaluation and disposition of identified OE issues were complete, accurate, and utilized the application of risk insights for prioritization.

(2) Issues

The licensee's site OE Coordinator screens OE documents on a daily basis. After the screening takes place, the OE documents are distributed to the site Subject Matter Experts (SMEs) for initial review.

In addition, there are two other weekly OE screening meetings. One consists of the Operating Experience Review Group (OERG), consisting of the NMC site OE Coordinators, this meeting covers generic external OE issues. The other consists of the site specific OE Team screening, which covers internal OE and items not screened by the OERG.

Following the screening, each OE item is classified into one of four categories; no action required and the reason documented, distribution for information only, a request for training is generated per the Action Request Process, or an evaluation is required.

If an evaluation is initiated, a time frame of 60 days is given for the completion of that associated evaluation.

The inspectors noted that there is no formalized process for prioritizing the evaluations of OE. The initial identification of the risk significance of the issue is left up to the site OE Coordinator. There could be up to a two-week period before one of the screening teams also evaluates the issue, based on the day of the week that the OE is processed, therefore the importance of the initial review is amplified.

In addition, the individual OE evaluation has a limit of 60 days, so the amount of time utilized for that evaluation is left up to the SME. Therefore no formalized process exists

to ensure that evaluations are performed to incorporate OE into upcoming maintenance system outage windows.

The inspectors plan to continue inspection activities of the licensee's efforts to prioritize OE by reviewing the cumulative effect of their corrective actions.

4OA4 Cross-Cutting Aspects of Findings

- .1 A finding described in Section 1R19 of this report had, as its primary cause, a Problem Identification and Resolution deficiency, in that, Plant and Engineering Management failed to promptly and adequately address corrective action issues associated with the vibration problems that affected the diesel fire pump mechanical overspeed switch operation.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. D. Curtland and other members of licensee management on March 31, 2005. 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

Interim exit meetings were conducted for:

- Radiological Environmental Monitoring Program inspection with Mr. D. Curtland, Plant Manager on January 28, 2005.

4OA7 Licensee-Identified Violations

The following violations of very low significance were identified by the licensee and are violations of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Manual, NUREG-1600, for being dispositioned as NCVs.

Cornerstone: Mitigating Systems

- .1 10 CFR 50, Appendix B, Criterion III, "Design Control," requires, in part, that design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design. Contrary to these requirements, the licensee failed to ensure that the temporary structure and duct work on the roof of the control rod drive repair room in the reactor building had adequate seismic mounting to preclude potential interactions with safety-related structures, systems, and components. Based on the location of the temporary equipment, there was a potential for interactions to occur between the temporary equipment and the reactor building exhaust shaft high radiation monitor and the main steam line high flow instrumentation during a seismic event. Since other instruments were always available

to perform the associated isolation functions and the licensee identified the problem and took immediate corrective actions to remove the structures, this violation is of low safety significance and is being treated as an NCV. The licensee documented the issue in CAP 35112.

Cornerstone: Mitigating Systems

- .2 10 CFR, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be described by documented instructions, procedures, or drawings, of a type appropriate to the circumstance and shall have appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished. Contrary to these requirements, the licensee failed to satisfy Surveillance Requirement 3.8.1.2. to ensure that as found frequency data was being taken on the SBDGs during the performance of the monthly STP 3.8.1-04, "SBDG Operability Test (Slow Start)." Since the six-month STP 3.8.1-06, "SBDG Operability Test (Fast Start)," properly recorded the as found frequency data and the licensee took immediate corrective actions to modify the monthly procedure, this violation is of low safety significance and is being treated as an NCV. The licensee documented the issue in CAP 35242.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Peifer, Site Vice President
J. Bjorseth, Site Director
D. Curtland, Plant Manager
S. Catron, Regulatory Affairs Manager
S. Haller, Site Engineering Director
B. Kindred, Security Manager
C. Kress, Training Manager
G. Rushworth, Operations Manager
W. Simmons, Maintenance Manager
D. Wheeler, Chemistry Manager
J. Windschill, 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

5000331/2005002-01	URI	Failure to Perform Vessel Weld Attachment Inspections. (1R15)
5000331/2005002-02	URI	Failure to Include the Analysis of Thermal Movements in Piping Modifications. (1R15)
5000331/2005002-03	NCV	Failure to Perform Prompt and Adequate Corrective Actions for Excessive Vibration Conditions associated with the Diesel Fire Pump Mechanical Overspeed Switch. (1R19)

Closed

5000331/2005002-03	NCV	Failure to Perform Prompt and Adequate Corrective Actions for Excessive Vibration Conditions associated with the Diesel Fire Pump Mechanical Overspeed Switch. (1R19)
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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 or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1R04 Equipment Alignment

Operating Instruction (OI) 149A1, RHR System Electrical Lineup, Revision 2
OI 149A6, RHR System Control Panel Lineup, Revision 1
OI 149A4, 'B' RHR System Valve Lineup and Checklist, Revision 2
OI 304.A1, 4160V/480V Nonessential Electrical Distribution System Electrical Lineup, Revision 0
OI 304.A2, 4160V/480V Nonessential Electrical Distribution System Startup Transformer 1X3 System Valve Lineup, Revision 0
OI 304.A3, 4160V/480V Nonessential Electrical Distribution System Startup Transformer Control Panel Lineup, Revision 0
OI 317.A2, 120 VAC Regulated AC Distribution 1Y11 and 1Y21 Electrical Lineup (Inservice), Revision 2
OI 317.A4, 120 VAC Regulated AC Distribution 1D25/1Y2A Panel Lineup (Inservice), Revision 0
OI 317.A6, 120 VAC Regulated AC Distribution 1Y16 and 1Y26 Panel Lineup (Inservice), Revision 0
OI 317.A8, 120 VAC Regulated AC Distribution 1Y10 and 1Y20 Panel Lineup (In-Service), Revision 2
OI 357.A2, 120 VAC Uninterruptible Power Supply System 1Y23 Electrical Lineup (In-Service), Revision 1
OI 357.A4, 120 VAC Uninterruptible Power Supply System 1D45/1Y4 Panel Lineup (In-Service), Revision 1
CAP 34522, Insufficient Information to Perform Electrical Line-up, January 13, 2005 (NRC Identified)
CAP 30313, CB5550 (J) Breaker Failed to Close Following Maintenance on Start Up Transformer, January 8, 2004
CAP 33795, Foreign Material Found Inside Puffer Tube of Circuit Breaker, November 10, 2004
CAP 33908, DEI Names do not Match System Line-ups, November 18, 2004
CAP 33982, SOMS Database does not Match Labeled Equipment, November 21, 2004
CAP 34145, 1D10 and 1D20 Breaker Label Inconsistencies, December 7, 2004
OI 513A1, Fire Protection System Electrical Lineup, Revision 2
OI 513A2, Fire Protection System Valve Lineup, Revision 8
OI 152A1, HPCI System Electrical Lineup, Revision 0
OI 152A4, HPCI System Control Panel Lineup, Revision 0
OI 152A2, HPCI System Valve Lineup and Checklist, Revision 3
OI 324A1, SBDG System 1G-31 System Electrical Lineup, Revision 1
OI 324A7, SBDG 1G-31 System Control Panel Lineup, Revision 0

OI 324A3, SBDG 1G-31 System Valve Lineup and Checklist, Revision 2
OI 324A10, SBDG Standby/Readiness Condition Checklist, Revision 2

1R05 Fire Protection

Fire Drill Scenario and Objectives, Reactor Building - Elevation (EL) 812', AFP 9, Class A Scaffold Lumber Storage Area Fire, February 17, 2005/February 23, 2005 AFP 9, Reactor Building RBCCW Heat Exchanger Area, Equipment Hatch Area, and Jungle Room, Revision 25
Fire Hazards Analysis for Zone 04-B, RB South Hatch Area 812, Revision 8
Abnormal Operating Procedure (AOP) 913, Fire, Revision 40
AFP 34, Radwaste Building Drum Filling, Storage, and Shipping - EL 757' 6", Revision 24
AFP 35, Radwaste Treatment and Access Area - EL 773' 6", Revision 23
AFP 36, Radwaste Building Precoat and Access Area - EL 786', Control Room and HVAC Equipment Room, 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 26
AFP 26, Control Building Control Room Complex, Revision 30
AFP 27, Control Building Control Room HVAC Room, Revision 25
AFP 39, Off-Gas Control and Glycol Area - EL 757' 6", Revision 24
AFP 38, Charcoal Absorber Vault, Off-Gas Prefilter Room and Condenser Area - EL 739' 6", 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
Preplanned Task Z09724, Expansion Joint 'A' Circ Water Pump
Preplanned Task Z09726, Expansion Joint 'B' Circ Water Pump
AOP 902, Flood, Revision 25

1R11 Licensed Operator Requalification Program

SEG 2005A-1, EOP 1/EOP 2/ Alternate Level Control (ALC)/ Emergency Depressurization (ED), Revision 0
EOP 2, Primary Containment Control, Revision 12
EOP 1, Reactor Pressure Control, Revision 11
ALC, Revision 4
ED, Revision 4
Emergency Action Level (EAL) Table 1, Revision 2
ACP 110.1, Conduct of Operations, Revision 3
ACP 101.01, Procedure Use and Adherence, Revision 29
ACP 101.2, Verification Process and SELF/PEER Checking Practices, Revision 5

1R12 Maintenance Effectiveness

September/October 2004 Maintenance Rule Monitoring and Status Report,
January 27, 2005
Maintenance Rule Performance Criteria Basis Document for Secondary Containment/
Standby Gas Treatment (SUS 34.00, 70.00, 99.27, 99.28), Revision 1
Maintenance Rule Performance Criteria Basis Document for Low Pressure Core Spray
(SUS 51.00), Revision 1
Maintenance Rule Performance Criteria Basis Document for Primary Containment
(SUS 59.00, 99.17), Revision 3
Maintenance Rule Performance Criteria Basis Document for Main Steam (SUS 83.01,
83.02, 43.00), Revision 2
Maintenance Rule Performance Criteria Basis Document for Containment Atmosphere
Control System (SUS 73.01), Revision 5
Maintenance Rule Performance Criteria Basis Document for Reactor Building Sump
System (SUS 20.03), Revision 1
Maintenance Rule Performance Criteria Basis Document for Fuel Pool Cooling and
Cleanup System (SUS 35.00), Revision 2
Performance Based Containment Testing Program Manual (RFO 17 and RFO 18
Results)
CAP 030742, Determine if one train of SBGT needs to be secured during a loss of
1Y11/1Y21, February 16, 2004
CAP 031598, Lack of thread engagement on support bracket for 1VAD042A/B,
May 12, 2004
CAP 032329, PWOs for Secondary Containment Dampers pulled from week 30
schedule, July 16, 2004
CAP 032346, FS5826B setpoints of both knobs were outside allowable tolerance,
July 20, 2004
CAP 032348, TT5805B found out of tolerance while performing PWO 1127401,
July 20, 2004
CAP 032658, FIC5828A Transfer check data was outside allowable tolerance,
August 17, 2004
CAP 032663, TT5838A found low out of tolerance, August 17, 2004
CAP 032664, TT5805A found high out of tolerance, August 17, 2004
CAP 032665, TT5833A found low out of tolerance, August 17, 2004
CAP 032669, DO5816A required to high a pressure for full travel, August 17, 2004
CAP 032939, Testing inconsistency between SFU and Standby Gas Treatment System
(SGTS) deluge system heat detectors, September 9, 2004
CAP 034110, 'A' SGTS train Carbon Bed 'Channeling.', December 3, 2004
CAP 034908, Unable to hang SBGT SOMS Section due to not having a Temp Mod for
Secondary Containment, February 15, 2005
Condition Evaluation (CE) 001767, PWOs for Secondary Containment Dampers pulled
from week 30 schedule, July 21, 2004
CE 001898, Testing inconsistency between SFU and SGTS deluge system heat
detectors, September 14, 2004
OPR 000262, Lack of thread engagement on support bracket for 1VAD042A/B,
May 12, 2004
CAP 030985, Core Spray Pump Trip or Motor Overload Annunciators, March 11, 2004

CAP 032920, Core Spray Pump Trip or Motor Overload Annunciators, September 8, 2004
CAP 031612, Consider replacing cooling pipe inside the bearing for Core Spray Pump Motor Coolers, May 13, 2004
CAP 032072, Moisture Intrusion of "A" RHR Service Water (RHRSW) Motor Upper Bearing, June 23, 2004
CAP 033463, 1P211A, 'A' Core Spray pump motor heater wire sheathing found disconnected, October 21, 2004
CAP 033731, B Core Spray venting, November 5, 2004
CAP 034155, 1P211B core spray pump seal shaft sleeve discolored, December 7, 2004
CE 02160, 1P211B core spray pump seal shaft sleeve discolored, December 9, 2004
CE 02166, 1P211B core spray pump seal shaft sleeve discolored, December 13, 2004
OTH 037975, Consider replacing cooling pipe inside the bearing for Core Spray Pump Motor Coolers, May 18, 2004
ACE 01217, Moisture Intrusion into 1P022C-M "C" RHRSW Pump Motor Upper Bearing, July 8, 2003
CAP 026533, MO4424 Main Steam Line Drain Outboard Isolation failed LLRT, March 30, 2003
CAP 032585, Equation for Torus free air volume is incorrect in STP 3.6.1.1-02, August 8, 2004
CAP 038643, Equation for Torus free air volume is incorrect in STP 3.6.1.1-02, August 13, 2004
CAP OTH 039035, Maintenance Rule unavailability for "A" H2/O2 monitor not logged, October 22, 2004
CAP 034754, RCIC Steam Side Pressure Isolation, February 2, 2005
CWO A54224, MO4424 Failed LLRT, April 19, 2001
CWO A61907, MO4424 Failed LLRT, March 30, 2003
OTH 011707, MO4424 Main Steam Line Drain Outboard Isolation failed Local Leak Rate Testing (LLRT), April 19, 2001
OI 435, Fuel Pool Cooling System, Revision 43
CAP 031937, Fuel Pool pH exceeded expected range, June 11, 2004
CAP 029253, Fuel Pool pH is not within expected range, October 31, 2003
CAP 034043, Fuel Pool pH value lower than expected range, November 26, 2004
CAP 031501, RIS413A (Refuel Floor RM) did not trip during 'A' RPS bus power supply transfer, May 4, 2004
CAP 001515, Rad Monitors RM4131B and RM4138 did not trip when 'B' RPS power supply transferred, May 5, 1998
CAP 032425, Delay in tagging activities for Fuel pool cooling, July 27, 2004
CAP 032426, RB south floor drain backed up when attempting to drain fuel pool cooling pump, July 27, 2004
CAP 035059, 1P214B Refuel Cooling Pump Further Degradation, February 25, 2005
CE 001239, Fuel Pool pH is not within expected range, October 3, 2003
OPR 000261, PIS4131A (Refuel Floor RM) did not trip during 'A' RPS bus power supply transfer, May 4, 2004
CAP 030966, Incorrectly sized part issued from Warehouse for CV3750-O, March 10, 2004
CAP 031029, Reactor Building Equipment Sump leakage rate is on a slowly rising trend, March 18, 2004

CAP 031918, Invalid alarm, 1C84B(A-1) in solid with no abnormal conditions, June 9, 2004
CAP 033406, Difficulties in draining 'A' RHR for maintenance, October 18, 2004
CAP 034434, Perform multiple PWOs during one Jump, January 6, 2005
CAP 034930, Reactor Building Equipment Drain Sump Increased In-leakage Noted after RWCU work, February 17, 2005
CA 037425, Incorrectly sized part issued from Warehouse for CV3750-O, March 15, 2004
CA 039822, Reactor Building Equipment Drain Sump Increased In-leakage Noted after RWCU work, February 21, 2005
CE 001575, Reactor Building Equipment Sump leakage rate is on a slowly rising trend, March 23, 2004
CE 002218, Perform multiple PWOs during one Jump, January 10, 2005

1R13 Maintenance Risk Assessments and Emergent Work Control

Work Procedure Guidelines (WPG) - 2, On-Line Risk Management Guideline, Revision 17
Maintenance Risk Evaluation for Week 02, January 7, 2005
DAEC Online Schedule, Week 9501/9502, January 7, 2005
Maintenance Risk Evaluation for Week 03, January 14, 2005
DAEC Online Schedule, Week 9502/9503, January 14, 2005
Maintenance Risk Evaluation for Week 04, January 21, 2005
DAEC Online Schedule, Week 9503/9504, January 21, 2005
Maintenance Risk Evaluation for Week 05, January 28, 2005
DAEC Online Schedule, Week 9504/9505, January 28, 2005
Maintenance Risk Evaluation for Week 06, February 03, 2005
DAEC Online Schedule, Week 9505/9506, February 03, 2005
CAP 33127, Detailed Risk Review for STP 3.3.6.1-10, September 24, 2004
Maintenance Risk Evaluation for Week 07, February 10, 2005
DAEC Online Schedule, Week 9506/9507, February 10, 2005
Maintenance Risk Evaluation for Week 08, February 17, 2005
DAEC Online Schedule, Week 9507/9508, February 17, 2005
Maintenance Risk Evaluation for Week 09, February 24, 2005
DAEC Online Schedule, Week 9508/9509, February 24, 2005
Maintenance Risk Evaluation for Week 11, March 11, 2005
DAEC Online Schedule, Week 9510/9511, March 11, 2005
Maintenance Risk Evaluation for Week 12, March 18, 2005
DAEC Online Schedule, Week 9510/9512, March 18, 2005
CAP 34587, Inconsistent use of protected area signs, January 19, 2005 (NRC Identified)

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

Spent Fuel Pool Work Plan Number 05-001, February 4, 2005
Spent Fuel Pool Shuffle Plan, February 1, 2005
Refueling Procedure (RFP) 403, Performance of Fuel Handling Activities, Revision 19
RFP 301, Refueling Bridge Operations, Revision 16
ACP 1408.12, Refuel Floor Housekeeping Control, Revision 15

PWO 1129393, Back feed through the Main and Auxiliary Transformers,
March 10, 2005
General Maintenance Procedure (GMP) -ELEC-20, Main Transformer Backfeed,
Revision 9
RFP 606, NobleChem Addition, Revision 1
CWO A58391, Noble Chemical Application Skid, March 10, 2005

1R15 Operability Evaluations

ACP 110.3, Operability Determination, Revision 2
ACP 114.5, Action Request System, Revision 32
OPR 279, SBLC System, January 3, 2005
OPR 278, Steam Leak Detection, December 6, 2004
OPR 280, Diesel Fire Pump Overspeed, February 1, 2005
OPR 281, RCIC MO 2401 Outboard Steam Isolation Valve, February 4, 2005
CAP 35040, RCIC Flow Controller, February 24, 2005
CAP 34846, Radial Peaking Factor, February 9, 2005
OPR 282, Temporary Ductwork in Reactor Building, March 4, 2005
CAP 35236, 'A' SBDG as found frequency out of specification limits, March 11, 2005
OPR 283, Minimum number of Inservice Inspections for Reactor Vessel not completed,
March 11, 2005
CAP 35212, Program may not meet period percentages, March 10, 2005
CAP 35317, Piping Calculations don't include thermal movement, March 18, 2005
CAP 34466, Operability Determination Process Shortcomings, January 9, 2005 (NRC
Identified)

1R16 Operator Workarounds

ACP 1410.12, Operator Burden Program, Revision 0
CAP 34682, Failure To Obtain Desired Overspeed Trip, January 27, 2005
CWO A72030, Door Will Not Close On Its Own, February 8, 2005
AOP 913, Fire, Revision 40
AOP 301.1, Station Blackout, Revision 24
AOP 981, Fuel Handling Event, Revision 0
EOP 3, Secondary Containment, Revision 15
Reactor Pressure Vessel Flooding, Revision 7
Alternate Level Control, Revision 4

1R19 Post-Maintenance Testing

Maintenance Directive-024, Post Maintenance Testing Program, Revision 31
CWO A68955, Diesel Fire Pump, January 25, 2005
CAP 34682, Failure to obtain desired overspeed trip, January 27, 2005
PWO 1123240, RCIC Rupture Disc, January 5, 2005
CWO A71330, RCIC 'B' Room Cooling Unit, January 5, 2005
STP 3.5.3-02, RCIC System Operability Test, Revision 17
NS540001, Emergency Service Water (ESW) System Class 3 Leakage Inspection,
Revision 5
NS540001, ESW Operability Test, Revision 14

CWO A653255, 'B' DG Oil Booster Pump, January 27, 2005
STP 3.8.1.-05, 'B' DG Operability Test, Revision 14
PWO 1130587, 'B' Control Rod Drive Pump, January 3, 2005
PWO 1130493, HPCI Pump Discharge Flow, February 22, 2005
STP 3.5.1-05, HPCI System Operability Test, Revision 22
PWO 1130471, 'B' SBTG Temperature Control, February 24, 2005
STP 3.6.4.3-05, SBTG Operation with Heaters On, Revision 1
CWO A72959, 'A' SBDG Null Voltage Adjustment, March 12, 2005
STP 3.8.1-06 SBDG Operability Test (Fast Start), Revision 21
CWO A72980, Replace EG-B on 'A' SBDG, March 28, 2005
CAP 34619, Work Order Steps not signed and dated after completion, January 22, 2005 (NRC Identified)
CAP 35080, SBTG Heater Discussion in UFSAR, March 1, 2005 (NRC Identified)

1R20 Outage Activities

Planned Outage Look Ahead Report, March 4, 2005
Planned Outage Risk Analysis, February 17, 2005
Integrated Plant Operating Instruction (IPOI) 3, Power Operations, Revision 69
IPOI 4, Shutdown, Revision 70
IPOI 5, Reactor SCRAM, Revision 41
IPOI 8, Outage and Refueling Operations, Revision 35
OI 149, RHR System, Revision 91
Outage Management Guidelines (OMG) 7, Outage Risk Management Guidelines, Revision 12
CAP 35468, Blue Staining found on Drywell Floor, March 29, 2005 (NRC Identified)
CAP 35476, Water Found On Drywell Floor, March 29, 2005 (NRC Identified)

1R22 Surveillance Testing

STP 3.3.5.1-28, 4 kV Emergency Bus Sequential Loading Relay Calibration, Revision 6
STP 3.3.3.1-02, Suppression Pool Water Level Post Accident Monitoring Instrumentation Calibration, Revision 8
STP 3.0.0-1, Instrument Checks (Reactor Coolant System Leakage), Revision 50
STP 3.5.1-02A, LPCI Operability Tests, Revision 15
STP 3.4.5-01, Calibration of Equipment Drain Sump and Floor Drain Sump Flow Integrators, Revision 7
STP 3.4.5-04, Functional Test of Equipment and Floor Drain Sump Flow Timers, Revision 6
STP 3.4.5-05, Calibration of Equipment and Floor Drain Sump Flow Timers, Revision 6
STP 3.3.8.1-02, 4 kV Emergency Bus Degraded Voltage Calibration, Revision 1
Equipment-Specific Maintenance Procedure Relay-B455-02, Brown-Boveri ITE-27D Undervoltage Relays
STP 3.5.3-02, RCIC System Operability Test, Revision 17
STP 3.4.5-05, Calibration of Equipment and Floor Drain Sump Flow Timers, Revision 7
STP NS490002, LPCI Inject Check Valve Full Flow Test, Revision 7
STP 3.6.1.1-06, Containment Isolation Valve Leak Tightness Test - Type C Penetrations - Feedwater Systems, Revision 7

CAP 34610, Work Order Steps not signed off as performed, January 21, 2005 (NRC Identified)

1R23 Temporary Modifications

ACP 1410.6, Temporary Modification Process, Revision 40
PWO 1129445, Temporary Power for Inservice Inspections, March 3, 2005
Corrective Work Order (CWO) A58391, Noble Chemical Application Skid,
March 10, 2005

1EP6 Drill Evaluation

2005 Duane Arnold Energy Center Emergency Response Training Drill I Scenario,
January 26, 2005
2005 Duane Arnold Energy Center Emergency Response Training Drill II Scenario,
February 16, 2005
EOP 1, RPV Control, Revision 11
EOP 2, Primary Containment Control, Revision 12
EOP 3, Secondary Containment Control, Revision 15
EOP 4, Radioactivity Release Control, Revision 15
ATWS - RPV Control, Revision 12
Emergency RPV Depressurization, Revision 4
Emergency Plan Implementing Procedure (EPIP) 1.1, Determination of Emergency
Action Levels, Revision 24
EPIP 1.2, Notifications, Revision 31
EPIP 2.5, Control Room Emergency Response Operation, Revision 16
AOP 255.1, Control Rod Movement/Indication Abnormal, Revision 26
AOP 255.2, Power/Reactivity Abnormal Change, Revision 25
AOP 644, Feedwater/Condensate Malfunction, Revision 0
AOP 913, Fire, Revision 40
AOP 901, Earthquake, Revision 15
CAP 34958, Emergency Response Drill Controller leaves drill book open,
February 18, 2005 (NRC Identified)

2OS1 Access Control to Radiologically Significant Areas

HPP 3104.01, Control of Access to High Radiation Areas; Revision 22
HPP 3111.09, Providing Radiological Briefings; Revision 2
ACE 1415, The Electronic Dosimeter Was Not Programmed to Monitor for Criticality;
dated January 18, 2005
RWP 187 Step 3, New Fuel Receipt and Inspection; Revision 8
RWP 187 Step 3, New Fuel Receipt and Inspection; Revision 11

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

ACP 1411.17, Occupational Dose Limits and Upgrades; Revision 16
HPP 3102.02, ALARA Job Planning; Revision 16
HPP 3102.03, Radiation Protection Job Planning; Revision 2
APP 3101.05, Administration of Radiation Work Permits; Revision 21

HPP3 3111.05, RWP Writers Guide; Revision 4
RWP 30009, Refuel Floor Support Activities
RWP 30014, Cavity Work
RWP 30016, Reactor Vessel Disassembly/Reassembly
RWP 40210, ISI/FAC and Support Work for Refuel Outage; Revision 8
RWP 50380, MH: Weld Repairs and Inspections in Torus Proper; Revision 17

4OA2 Identification and Resolution of Problems

ACP 114.4, Corrective Action Program, Revision 19
ACP 114.5, Action Request System, Revision 45
CAP 34676, Revision number not changed, January 27, 2005 (NRC Identified)
CAP 32857, 'A' Core Spray Pump Seal was determined not to have a registered fit, September 1, 2004
CAP 33242, Extension of 'A' Control Building Chiller Planned LCO, October 17, 2004
ACP 1502.1, Welding Inspection and Documentation Program Revision 20
ACE 01428, Potential trend in welding issues, February 7, 2005
CAP 34671, Improper information specified on weld data sheet, January 27, 2005
CAP 34600, Incorrect weld checklists being used, January 20, 2005
CAP 34720, Unsatisfactory weld workmanship, January 31, 2005
CAP 34461, Welding in hogger room affects demin water tank level indicator, January 7, 2005
CAP 34450, Qualification near miss: Welder qualifications expired, January 7, 2005
CAP 34778, Weld planning and implementation errors, February 3, 2005
CAP 35231, Weld checklists identifies non-destructive examination inspections not in accordance with procedures, March 11, 2005
CAP 35238, Welding program assessment results in program determined below expectations, March 11, 2005
ACP 117.5, Operating Experience Program (Fleet Procedure FP-PA-OE-01), Revision 2
September 2004 DAEC Operating Experience Program Health Report, October 22, 2004
October 2004 DAEC Operating Experience Program Health Report, November 24, 2004
November 2004 DAEC Operating Experience Program Health Report, December 20, 2004
December 2004 DAEC Operating Experience Program Health Report, January 24, 2005
January 2005 DAEC Operating Experience Program Health Report, February 24, 2005
NRC IN 2005-04, Single-Failure and Fire Vulnerability of Redundant Electrical Safety Busses, February 14, 2005
CAP 34938, SBLC Accumulator (1T219A/B) PPT and Storage Discrepancies based on OE, February 17, 2005
OTH 39824, SBLC Accumulator (1T219A/B) PPT and Storage Discrepancies based on OE, February 21, 2005
CA 39825, SBLC Accumulator (1T219A/B) PPT and Storage Discrepancies based on OE, February 21, 2005

4OA7 Licensee-Identified Violations

CAP 35112, Unauthorized Temporary Ducting and Structure, March 3, 2005
CAP 35242, Diesel testing methodology may not meet surveillance requirement,
March 12, 2005

LIST OF ACRONYMS USED

ACE	Apparent Cause Evaluation
ACP	Administrative Control Procedure
AFP	Area Fire Plan
ALARA	As-Low-As-Is-Reasonably-Achievable
ALC	Alternate Level Control
AOP	Abnormal Operating Procedure
ASME	American Society of Mechanical Engineers
ATWS	Anticipated Transient Without Scram
B&PV	Boiler and Pressure Vessel
CAP	Corrective Action Program
CE	Condition Evaluation
CFR	Code of Federal Regulations
CWO	Corrective Work Order
EAL	Emergency Action Level
ED	Emergency Depressurization
EL	Elevation
EP	Emergency Preparedness
EOP	Emergency Operating Procedure
EPIP	Emergency Plan Implementing Procedure
ES	Engineered Safeguards
GMP	General Maintenance Procedure
HPCI	High Pressure Coolant Injection
HVAC	Heating, Ventilation, Air-Conditioning
IMC	Inspection Manual Chapter
IPEEE	Individual Plant Examination of External Events
IPOI	Integrated Plant Operating Instruction
kV	Kilo Volts
LCO	Limiting Condition for Operation
LOCA	Loss of Coolant Accident
LPCI	Low Pressure Coolant Injection
MO	Motor Operated
NCV	Non-Cited Violation
NRC	Nuclear Regulatory Commission
OE	Operating Experience
OERG	Operating Experience Review Group
OI	Operating Instruction
OMG	Outage Management Guidelines
OOS	Out-of-service
OPR	Operability Recommendation
OWA	Operator Workaround
PARS	Publicly Available Records
PI	Performance Indicator
PMT	Post-Maintenance Testing
PWO	Preventative Work Order
RCIC	Reactor Core Isolation Cooling
RFP	Refueling Procedure

LIST OF ACRONYMS USED

RHR	Residual Heat Removal
RHRSW	Residual Heat Removal Service Water
RWP	Radiation Work Permit
SBDG	Standby Diesel Generator
SBGT	Standby Gas Treatment
SBLC	Standby Liquid Control
SDP	Significance Determination Process
SEG	Simulator Exercise Guide
SGTS	Standby Gas Treatment System
SME	Subject Matter Experts
SSC	Structures, Systems and Components
STP	Surveillance Test Procedure
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
URI	Unresolved Item
WPG	Work Procedure Guidelines