



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

February 1, 2008

EA-06-136

Kevin T. Walsh
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SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 - NRC INTEGRATED
INSPECTION REPORT 05000382/2007005

Dear Mr. Walsh:

On December 31, 2007, the NRC completed an inspection at your Waterford Steam Electric Station, Unit 3. The enclosed report documents the inspection findings, which were discussed on January 7, 2008, with you and other members of your staff.

This 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.

This report documents five findings of very low safety significance (Green). All of these findings were determined to involve a violation of NRC requirements. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these violations as noncited violations (NCV), consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest any of the NCVs, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Waterford Steam Electric Station, Unit 3, facility.

In accordance with 10 CFR 2.390 of the NRC's *Rules of Practice*, a copy of this letter, its enclosures, and your response, if any, will be made available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component

Entergy Operations, Inc.

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of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Jeffrey A. Clark, P.E.
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Docket: 50-382
License: NPF-38

Enclosure: NRC Inspection Report 050000382/2007005
w/Attachment: Supplemental Information

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SUNSI Review Completed: JAC ADAMS: Yes No Initials: JAC
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RIV:RI:DRP/E	RIV:SRI:DRP/E	SPE:DRP/E	C:DRS/OB
DHOverland	RVAzua	GDReplogle	RELantz
E-JAC	E-JAC	/RA/	/RA/ TMcKernon for
2/1/08	2/1/08	1/31/08	1/28/08
C:DRS/EB2	C:DRS/PSB	C:DRS/EB1	C:DRP/E
LJSmith	MPShannon	RLBywater	JAClark
/RA/ NO'Keefe for	/RA/ JRLarsen for	/RA/	/RA/
1/31/08	2/1/08	1/29/08	2/1/08

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**U.S. NUCLEAR REGULATORY COMMISSION
REGION IV**

Docket: 50-382

License: NPF-38

Report: 05000382/2007005

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: Hwy. 18
Killona, Louisiana

Dates: October 8 through December 31, 2007

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P. Elkmann, Emergency Preparedness Inspector, Operations Branch
B. Larson, Operations Engineer, Operations Branch

Approved By: Jeffrey Clark, Chief, Project Branch E

SUMMARY OF FINDINGS

IR 05000382/2007-005; 10/08/2007 - 12/31/2007; Waterford Steam Electric Station, Unit 3; Fire Protection, Postmaintenance Testing, Refueling and Other Outage Activities, Access Control to Radiological Significant Areas.

The report covered a 3-month period of inspection by resident inspectors, a reactor inspector, three operations engineers, an emergency preparedness inspector, and a health physicist. The inspectors identified five Green findings. 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 NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified for an inadequate maintenance procedure. Specifically, Procedure MM-006-054, "Check Valve Inspection (Tilting Disc)," Revision 5, lacked sufficient detail to prevent poor workmanship during maintenance on safety injection Tank 1A discharge check Valve SI-335A. This poor workmanship allowed Valve SI-335A to be reassembled with a cocked hinge pin cover, resulting in reactor coolant system leakage. The licensee entered this issue into their corrective action program for resolution.

The finding is more than minor because it is associated with the procedure quality attribute of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability. Using the Manual Chapter 0609, Appendix A Phase 1 screening worksheet, the issue screened as having very low safety significance because, assuming worst case degradation, the Valve SI-335A leak would not result in exceeding the Technical Specification limit for identified reactor coolant system leakage. This finding had a crosscutting aspect in the resources component of the human performance area. Specifically, the licensee failed to provide the maintenance technician with a complete and accurate maintenance procedure [H.2(c)] (Section 1R19).

- Green. A self-revealing Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified for the licensee's failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee did not identify a seal leak on reactor coolant Pump 1A in a timely fashion. This resulted in reactor coolant system leakage that caused degradation to the reactor coolant pump cover, main casing stud nuts, shroud wall, and carbon steel flanges. The licensee entered this issue into their corrective action program for resolution.

The finding is more than minor because it is associated with the equipment performance attribute of the initiating events cornerstone and affects the

cornerstone objective to limit the likelihood of those events that upset plant stability. Using the Manual Chapter 0609, Appendix A, Phase 1 screening worksheet, the issue screened as having very low safety significance because, although the finding contributes to the likelihood of a reactor trip, mitigation equipment is still available. This finding had a crosscutting aspect in area of human performance associated with decision-making in that the licensee did not use conservative assumptions in the reactor coolant system leakage investigation [H.1(b)] (Section 1R20).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green noncited violation of Waterford Steam Electric Station, Unit 3, Technical Specification 6.8.1.a for failure to correctly implement a procedure recommended in Appendix A of Regulatory Guide 1.33. The failure to follow Site Procedure W2.109, "Procedure Development, Review, and Approval," led to the unapproved deletion of a document which contained information required by Waterford 3 Steam Electric Station License Condition 2.C.9. The licensee entered this issue into their corrective action program as Condition Report CR-WF3-2007-3467.

The finding was more than minor because, if left uncorrected, it would become a more significant safety concern. Using Inspection Manual Chapter 0609, Appendix F, this finding can be assigned a low degradation rating and screen as Green, since current quality assurance audit standards contain a similar level of detail as the criteria contained in the deleted Special Scope document (Section 1RO5).

Cornerstone: Occupational Radiation Safety

- Green. The inspector reviewed a self-revealing, noncited violation of Technical Specification 6.12.1.b that resulted when workers did not obtain current radiological information before entering a high radiation area as required by the Technical Specifications. On December 12, 2006, two workers accessed a high radiation area near the Reactor Coolant Pump 1B cold leg through a pathway not discussed with radiation protection and received electronic dose rate alarms. Upon investigation, the licensee determined that the workers did not clearly communicate the work scope and the travel path for accessing the work areas; therefore, the workers were not briefed for the radiological conditions of the areas near the Reactor Coolant Pump 1B cold leg. The peak dose rates for the two workers were 210 millirem per hour and 361 millirem per hour, respectively. Corrective actions implemented by the licensee were that the workers completed an electronic alarming dosimeter dose/dose rate alarm questionnaire and received additional coaching from radiation protection personnel.

The failure to obtain current radiological information prior to entering a high radiation area is a performance deficiency. This finding is greater than minor because it is associated with one of the cornerstone attributes (exposure control) and affected the Occupational Radiation Safety cornerstone objective in that workers not obtaining high radiation area dose rates does not ensure adequate

protection of worker health and safety from additional personal exposure. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA (as low as is reasonably achievable) planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. Further, this finding had a human performance crosscutting aspect in the work practices component because the workers did not use human error prevention techniques, such as self- and peer- checking, when discussing the work scope and work areas with radiation protection staff [H.4.(a)] (Section 2OS1).

- Green. The inspector reviewed two examples of a self-revealing, noncited violation of Technical Specification 5.4.1 that resulted when workers failed to follow their radiation work permit instructions. The first example occurred on October 11, 2007, when an operator accessed Valves RC 109 and RC 110 by a travel path not discussed with radiation protection personnel and without obtaining current radiological conditions as specified in the radiation work permit. As the operator passed through the pipe-chase to access the valves, the worker received a dose rate alarm. The highest dose rate levels were 80 millirem per hour along the travel path. The second example occurred on October 12, 2007, when a maintenance mechanic entered safeguards Room B without a current radiological briefing as specified in the radiation work permit. Radiation protection personnel requested the worker wait to access safeguards Room A while the radiological conditions were changing (shutdown cooling in progress) and did not know the worker also needed to access Room B. The worker, who had previously entered Room B, but failed to realize this room also had changing radiological conditions, did not receive current radiological conditions for this room and received a dose rate alarm. The worker's peak dose rate was 61 millirem per hour. The licensee's corrective actions for the first example were that a radiation protection supervisor conducted an interview with the worker and the worker completed an electronic alarming dosimeter dose/dose rate alarm questionnaire and human performance error review. For the second example, the immediate corrective action was to exclude the individual from the radiologically controlled area, then perform a human performance error review.

The failure to follow a radiation work permit instruction is a performance deficiency. This finding is greater than minor because it is associated with one of the cornerstone attributes (exposure control) and affected the Occupational Radiation Safety cornerstone objective in that workers not following their radiation work permit does not ensure adequate protection of worker health and safety from additional personal exposure. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. Further, this finding had a human performance crosscutting aspect in the work practices component because the workers did not use human error prevention techniques, such as self- checking, to ensure the full work scope, locations, and radiological conditions were discussed with radiation protection personnel as required by the radiation work permit [H.4.(a)] (Section 2OS1).

B. Licensee-Identified Violations

None.

REPORT DETAILS

Summary of Plant Status: The plant began the inspection period at full rated thermal power. On October 9, 2007, the plant was shut down for a planned midcycle outage to inspect the steam generator tube batwings (in both steam generators) and to clean and repair a leak in Reactor Coolant Pump (RCP) 1A. On October 24, 2007, the plant returned to full rated thermal power and remained there for the rest of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Protection For Expected Weather Conditions

a. Inspection Scope

The inspectors completed a review of the licensee's readiness for seasonal susceptibilities involving low seasonal temperatures and high winds. The inspectors: (1) reviewed plant procedures, the Updated Final Safety Analysis Report (UFSAR), and Technical Specifications to ensure that operator actions defined in adverse weather procedures maintained the readiness of essential systems; (2) walked down portions of the three systems listed below to ensure that adverse weather protection features (heat tracing, space heaters, and weatherized enclosures) were sufficient to support operability, including the ability to perform safe shutdown functions; (3) evaluated operator staffing levels to ensure the licensee could maintain the readiness of essential systems required by plant procedures; and (4) reviewed the corrective action program to determine if the licensee identified and corrected problems related to adverse weather conditions.

- December 18, 2007, Preparations for High Winds and Thunderstorms.

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

Partial Walkdown

a. Inspection Scope

The inspectors: (1) walked down portions of the two below listed risk important systems and reviewed plant procedures and documents to verify that critical portions of the

selected systems were correctly aligned; (2) reviewed outstanding work requests; and (3) verified that the licensee was identifying and correcting deficiencies through their corrective action program.

- October 29, 2007: Emergency Diesel Generating System Train B
- December 12, 2007: Controlled Ventilation Area System Train B

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples.

b. Findings

No Findings of significance were identified.

1R05 Fire Protection (71111.05)

Quarterly Inspection

a. Inspection Scope

The inspectors walked down the six below listed plant areas to assess the material condition of active and passive fire protection features and their operational lineup and readiness. The inspectors: (1) verified that transient combustibles and hot work activities were controlled in accordance with plant procedures; (2) observed the condition of fire detection devices to verify they remained functional; (3) observed fire suppression systems to verify they remained functional and that access to manual actuators was unobstructed; (4) verified that fire extinguishers and hose stations were provided at their designated locations and that they were in a satisfactory condition; (5) verified that passive fire protection features (electrical raceway barriers, fire doors, fire dampers, steel fire proofing, penetration seals, and oil collection systems) were in a satisfactory material condition; (6) verified that adequate compensatory measures were established for degraded or inoperable fire protection features and that the compensatory measures were commensurate with the significance of the deficiency; and (7) reviewed the UFSAR to determine if the licensee identified and corrected fire protection problems.

- November 1, 2007: Fire Zones RAB 19, 20, 21, and 23
- November 2, 2007: Fire Zones RAB 33, 35, and 36
- November 8, 2007: Fire Zones RAB 37, 38, and 39
- November 14, 2007: Fire Zones RAB 15, 16, 17, and 18
- November 20, 2007: Fire Zones RAB 8A, 8B, 8C, 11, 12, and 13
- November 26, 2007: Fire Zones RAB 2, 31, and 32

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

Introduction: The inspectors identified a Green noncited violation of Waterford Steam Electric Station, Unit 3, Technical Specification 6.8.1.a for failure to correctly implement a procedure recommended in Appendix A of Regulatory Guide 1.33. The failure to follow Site Procedure W2.109, "Procedure Development, Review, and Approval," led to the unapproved deletion of a document which contained information required by Waterford 3 Steam Electric Station License Condition 2.C.9.

Description. The Waterford 3 UFSAR Section 9.5.1.3.1 states that the quality assurance (QA) criteria, as they pertain to the Fire Protection Program, are documented in the Quality Assurance Program Manual (Special Scope) and Fire Protection Program. Procedure UNT-050-013, "Fire Protection Program," lists the fire protection QA program components, but contains no discussion of the requirements or criteria for the implementation of those components. The Special Scope document contains both the QA program components and discussion for the implementation of those components.

In December 2003, the Quality Assurance Program Manual (Special Scope) was deleted from the Quality Assurance Program Manual, utilizing Site Procedure W2.109, "Procedure Development, Review, and Approval," Revision 5. Site Procedure W2.109, step 5.2.8, required cross-discipline reviews to be performed and documented for a procedure to be deleted. The cross-discipline review stated that the justification for the deletion of the Special Scope document was that the requirements for the control of QA for fire protection were contained in Procedure UNT-005-013, "Fire Protection Program."

Since Procedure UNT-005-013 did not contain a discussion of the requirements or criteria for the implementation of the QA program components, the cross-discipline review required by Site Procedure W2.109, step 5.2.8, was inadequate. Contrary to Technical Specification 6.8.1.a, which requires that the licensee correctly implement procedures recommended in Appendix A of Regulatory Guide 1.33, the licensee failed to adequately follow Site Procedure W2.109, "Procedure Development, Review, and Approval." This failure led to the unapproved deletion of a document which contained information required by the Waterford 3 Steam Electric Station License Condition 2.C.9.

No examples were identified where the deleted requirements were violated, therefore no degradation of QA standards for the fire protection program had occurred yet. The licensee entered this finding in their corrective action program as Condition Report CR-WF3-2007-3467.

Analysis. The licensee's inappropriate removal of fire protection QA requirements from the approved fire protection program was a performance deficiency. The finding was more than minor because if left uncorrected, it would become a more significant safety concern in that fire protection program changes might be made that fail to meet the deleted requirements. Using Inspection Manual Chapter 0609, Appendix F, this finding met the definition of a low degradation rating and screens as Green, since no

degradation of QA standards for the fire protection program had occurred yet. This finding has no crosscutting aspects since the performance deficiency is not indicative of current plant performance.

Enforcement: Technical Specification 6.8.1.a requires that the licensee correctly implement procedures recommended in Appendix A of Regulatory Guide 1.33. Section 1.e of Appendix A recommends administrative procedures for procedure review and approval. Procedure W2.109, "Procedure Development, Review, and Approval," Revision 5, required cross-discipline reviews prior to the deletion of procedures to ensure that the procedure changes were both technically and administratively correct. Contrary to the above, on December 12, 2003, the cross-discipline review performed by the licensee was not adequate to prevent the inappropriate deletion of a document containing information required by Waterford 3 Steam Electric Station License Condition 2.C.9. Because this finding was of very low safety significance and has been entered into the licensee's corrective action program as Condition Report CR-WF3-2007-3467, this violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000382/2007005-01, Failure to Follow Procedure Review Process.

1R06 Flood Protection Measures (71111.06)

Internal Flooding

a. Inspection Scope

The inspectors: (1) reviewed the UFSAR, the flooding analysis, and plant procedures to assess seasonal susceptibilities involving external flooding; (2) reviewed the UFSAR and corrective action program to determine if the licensee identified and corrected flooding problems; (3) verified that operator actions for coping with flooding can reasonably achieve the desired outcomes; and (4) walked down the below listed area to verify the adequacy of: (a) equipment seals located below the floodline, (b) floor and wall penetration seals, (c) watertight door seals, (d) common drain lines and sumps, (e) sump pumps, level alarms, and control circuits, and (f) temporary or removable flood barriers.

- December 11, 2007: Trains A and B Switchgear Rooms and adjoining corridors

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

.1 Training Observation

a. Inspection Scope

On November 19, 2007, the inspectors observed training of senior reactor operators and reactor operators to identify deficiencies and discrepancies in the training, to assess operator performance, and to assess the evaluator's critique. The training scenario involved several instrument failures and a main turbine trip with a failure of reactor power cutback to drop the control rods. The steam bypass control system valves failed to open, causing the pressurizer code safety valve to open and fail to reseal. The result was a loss-of-coolant accident requiring a manual initiation of safety injection when the pump failed to auto-start.

Documents reviewed by the inspectors included:

- Simulator Scenario E-47, Revision 2
- Emergency Operating Procedure OP-902-000, "Standard Post Trip Actions," Revision 10
- Emergency Operating Procedure OP-901-008, "Functional Recovery Procedure," Revision 14
- Emergency Operating Procedure OP-902-002, "Loss of Coolant Accident Recovery," Revision 11
- Emergency Operating Procedure OP-901-201, "Steam Generator Level Control Malfunction," Revision 3

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

.2 Biennial Inspection

a. Inspection Scope

The inspectors: (1) evaluated examination security measures and procedures for compliance with 10 CFR 55.49; (2) evaluated the licensee's sample plan for the written examinations for compliance with 10 CFR 55.59 and NUREG-1021, "Operators Licensing Examination Standards for Power Reactor," Revision 9, as referenced in the facility requalification program procedures; and (3) evaluated maintenance of license conditions for compliance with 10 CFR 55.53 by review of facility records (medical and administration), procedures, and tracking systems for licensed operator training, qualification, and watchstanding. In addition, the inspectors reviewed remedial training and examinations for examination failures for compliance with facility procedures and responsiveness to address areas failed. The inspectors also verified that on-shift operators requiring prescription lenses for self-contained breathing apparatus maintained their lenses secured in the control room.

Furthermore, the inspectors: (1) interviewed five personnel (one operator, one senior

operators, two instructors/evaluators, and a training supervisor) regarding the policies and practices for administering examinations; (2) observed the administration of two dynamic simulator scenarios to one requalification shift crew by facility evaluators, including an operations department manager who participated in the crew and individual evaluations; and (3) observed three facility evaluators administer five job performance measures, including three in the control room simulator in a dynamic mode and two in the plant under simulated conditions. Each job performance measure was observed being performed by at least two requalification candidates.

The inspectors reviewed the biennial written examinations. The inspectors verified question level of difficulty, knowledge level, and overlap between successive examinations and remediation examinations. Additionally, quality audits, training self-assessments, and training management meeting minutes were reviewed to ascertain the health of their training feedback processes.

Of the 37 licensed operators taking the biennial examinations, all shift crews and administrative crews passed the dynamic simulator scenario portion of the examination. Additionally, all operators taking the written examination passed. The inspectors also reviewed the results of the annual licensed operator requalification operating examinations for 2006. The results of the examinations were also reviewed to assess the licensee's appraisal of operator performance and the feedback of that performance analysis to the requalification training program. Inspectors also observed the examination security maintenance during the examination week.

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the three equipment performance issues listed below to: (1) verify the appropriate handling of structure, system, and component performance or condition problems; (2) verify the appropriate handling of degraded structure, system, and component functional performance; (3) evaluate the role of work practices and common cause problems; and (4) evaluate the handling of structure, system, and component issues reviewed under the requirements of the Maintenance Rule; 10 CFR Part 50, Appendix B; and the Technical Specifications.

- October 11, 2007: Low-Pressure Safety Injection Pump A Suction Isolation Valve
- October 14, 2007: Reactor Vessel Isolation Vent Valve
- October 22, 2007: High-Pressure Safety Injection Pump A, Outboard Seal

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

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

Risk Assessment and Management of Risk

a. Inspection Scope

The inspectors reviewed the three below listed assessment activities to verify: (1) performance of risk assessments when required by 10 CFR 50.65(a)(4) and licensee procedures prior to changes in plant configuration for maintenance activities and plant operations; (2) the accuracy, adequacy, and completeness of the information considered in the risk assessment; (3) that the licensee recognizes, and/or enters as applicable, the appropriate licensee-established risk category according to the risk assessment results and licensee procedures; (4) the licensee properly controlled emergent work; and (5) the licensee identified and corrected problems related to maintenance risk assessments.

- October 17, 2007: Scheduled plant operations at reduced inventory
- November 6, 2007: Planned maintenance outage of emergency feedwater Train AB
- November 15, 2007: Planned maintenance activities for reactor trip circuit Breaker 3

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors: (1) reviewed plants status documents, such as operator shift logs, emergent work documentation, deferred modifications, and standing orders, to determine if an operability evaluation was warranted for degraded components; (2) referred to the UFSAR and design-basis documents to review the technical adequacy of licensee operability evaluations; (3) evaluated compensatory measures associated with operability evaluations; (4) determined degraded component impact on any Technical Specifications; (5) used the significance determination process to evaluate the risk significance of degraded or inoperable equipment; and (6) verified that the licensee

has identified and implemented appropriate corrective actions associated with degraded components.

- October 3, 2007: Operability evaluation of wet cooling Towers A and B following the discovery of a leak in the cross-connect line
- October 18, 2007: Mid-Cycle PO-07-01 Steam Generator Condition Monitoring Report and Operational Assessment Review. ECR-0000002837, Revision 1
- October 20, 2007: RCP 1A Operability Review

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors selected the six below listed postmaintenance test activities of risk significant systems or components. For each item, the inspectors: (1) reviewed the applicable licensing basis and/or design-basis documents to determine the safety functions; (2) evaluated the safety functions that may have been affected by the maintenance activity; and (3) reviewed the test procedure to ensure it adequately tested the safety function that may have been affected. The inspectors either witnessed or reviewed test data to verify that acceptance criteria were met, plant impacts were evaluated, test equipment was calibrated, procedures were followed, jumpers were properly controlled, the test data results were complete and accurate, the test equipment was removed, the system was properly realigned, and deficiencies during testing were documented.

- October 23, 2007: Corrective maintenance to repair a leak on safety injection Valve SI-335A
- October 24, 2007: Corrective maintenance to repair a through-wall leak on the wet cooling Towers A and B cross-connect line
- October 31, 2007: Planned maintenance to replace charging Pump A packing and check for oil leaks
- December 12, 2007: Planned maintenance to replace seals and O-rings in Controlled Ventilation Area System return air Damper HVR-303A hydramotor and lubricate linkage
- December 13, 2007: Temporary modification to reverse the trip setting of the

reactor vessel leakoff alarm

- December 18, 2007: Control Room Envelope Door 73 seal replacement

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed six samples.

b. Findings

Introduction: A self-revealing Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, was identified for an inadequate maintenance procedure. Specifically, Procedure MM-006-054, "Check Valve Inspection (Tilting Disc)," Revision 5, lacked sufficient detail to prevent poor workmanship during maintenance on safety injection Tank 1A discharge check Valve SI-335A. This poor workmanship allowed Valve SI-335A to be reassembled with a cocked hinge pin cover, resulting in reactor coolant system (RCS) leakage.

Description: Safety injection Tank 1A discharge check Valve SI-335A is a 12-inch Anchor/Darling tilting disc check valve. Valve SI-335A is also the high and low pressure safety injection pumps' injection check valve to RCS Loop 1A.

On June 14, 2005, Valve SI-335A was disassembled and the valve internals were inspected per Work Order WO-045504. The valve was reassembled using Maintenance Procedure MM-006-054, "Check Valve Inspection (Tilting Disc)," Revision 5. Following the reactor plant startup at the conclusion of Refuel Cycle 14, Valve SI-335A began to leak RCS coolant at the valve body to hinge pin cover connection. Upon investigation, a 75-milliliter gap was noticed at the connection. The licensee determined that a cocked hinge pin cover caused the hinge pin metal seal (pressure boundary) to cock and permit the RCS leakage. The licensee's lower tier apparent cause evaluation identified the workmanship during the reassembly of Valve SI-335A as the cause of the unidentified RCS leakage. A lack of detailed instructions in the maintenance procedure contributing to the poor workmanship and resulting in the RCS leakage is listed as a contributing cause in the licensee's evaluation.

Analysis: The licensee's failure to provide an adequate maintenance procedure that resulted in unidentified RCS leakage is a performance deficiency. The finding is more than minor because it is associated with the procedure quality attribute of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability. Using the Manual Chapter 0609, Appendix A, Phase 1 screening worksheet, the issue screened as having very low safety significance because, assuming worst case degradation, the Valve SI-335A leak would not result in exceeding the Technical Specification limit for identified RCS leakage. This finding had a crosscutting aspect in the resources component of the human performance area. Specifically, the licensee failed to provide the maintenance technician with a complete and accurate maintenance procedure [H.2(c)].

Enforcement: 10 CFR Part 50, Appendix B, Criterion V, requires, in part, that activities affecting quality shall be prescribed by procedures appropriate to the circumstance and

that the procedures shall include appropriate quantitative or qualitative acceptance criteria to ensure that important activities are satisfactorily accomplished. Contrary to the above, the licensee failed to provide maintenance technicians with an adequate maintenance procedure appropriate to the circumstance, resulting in an inadequate reassembly of Valve SI-335A on June 14, 2005. Because this finding was of very low safety significance and has been entered into the licensee's corrective action program as Condition Report CR-WF3-2007-3558, it is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000382/2007005-02, Inadequate Maintenance Procedure.

1R20 Refueling and Other Outages

a. Inspection Scope

The inspectors evaluated the licensee's activities related to the midcycle outage, conducted from October 8-24, 2007. This was done to verify that: (1) the licensee had considered risk in developing outage schedules, adhered to administrative risk reduction methodologies developed to control plant configuration, developed mitigation strategies for losses of key safety functions, and adhered to operating license and Technical Specification requirements that ensured defense-in-depth; (2) ensured areas not accessible during at-power operations were inspected to verify that safety-related and risk significant safety system components were maintained in an operable condition; and (3) evaluated licensee activities during reduced inventory and midloop conditions to ensure that they appropriately managed risk using the commitments in their response to Generic Letter 88-17.

b. Findings

Introduction: A self-revealing Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified for the licensee's failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee did not identify a seal leak on RCP 1A in a timely fashion. This resulted in reactor coolant system leakage that caused degradation to the RCP cover, main casing stud nuts, shroud wall, and carbon steel flanges.

Description: On January 6, 2007, containment sump leak rate flow rose from 0.6 gallons per minute (gpm) to 1.25 gpm. A containment sump equivalent leak rate calculation performed on January 7 identified 0.205 gpm, which met Action Level 1 criteria (between 0.2 and 0.25 gpm) per Procedure OI-040-000, "Reactor Coolant System (RCS) Leakage Monitoring." This timeframe was slightly less than 2 weeks following startup from Refuel Outage 14.

In response, a cross-discipline team was formed to conduct a failure modes analysis. A leakage investigation plan was developed based on the results of the failure modes analysis and implemented. This plan consisted of 25 actions, including walkdowns inside and outside of containment and was implemented between January 10 and January 24. This plan was unsuccessful in identifying the primary source of RCS leakage. The team conducted a Kepner-Tregoe analysis between January 25 and January 28, which resulted in additional actions and walkdowns. Several more

walkdowns were conducted inside and outside containment between February and May 2007, but the source of the RCS leakage was not conclusively identified. The reactor vessel head and RCP areas were not walked down due to expected dose levels during power operation.

In June 2007, the team issued a detailed report providing an overview of the unidentified leakage investigation. The report stated that the Kepner-Tregoe analysis, system trending, and walkdowns identified approximately 0.05192 gpm of leakage. The report also stated that a review of the containment sump in-leakage and sampling indicated the source(s) of the remaining unidentified leakage (approximately 0.075 gpm) was inside containment and was a cold leak (water versus steam). The report effectively ruled out leakage from the RCP seal areas based on assumptions that an active leak would result in boric acid accumulation on the -11 elevation floor and/or elevated stator temperatures due to boric acid accumulation on the RCP motor. Although walkdowns on the -11 elevation floor had identified boric acid deposits in this area, the deposits were attributed to leakage from safety injection loop check Valve SI-335A. Based on the information provided in the report, the recommendation was to continue to monitor the leakage and take no further actions until the midcycle outage, unless an increase in the leak rate was observed.

Contrary to these assumptions, the inspection of RCP 1A during the midcycle outage on October 9, 2007, identified a sizable quantity of boric acid crystals contained in the pump shroud. Following cleanup of the boric acid and associated corrosion, wetted boric acid and wastage was identified on the pump cover, main casing stud nuts, shroud wall, and component cooling water inlet and outlet flange connections. Without cleaning and resolution of the leakage source, continued degradation of these components would have occurred over the remaining 6 months of Cycle 15 operation. The carbon steel flange for the component cooling water supply to the RCP seal received the most significant damage during the 9 months of operation. If degradation continued to occur at the assumed average rate of wastage, it is possible that this flange would not have continued to produce a leak-free connection for the remainder of the cycle. It is postulated that the flange connection could have eventually begun leaking, which would have impacted the cooling water flow into the RCP seal heat exchanger. Any large change in cooling water flow could ultimately lead to a required plant shutdown.

Analysis: The licensee's failure to promptly identify and correct a condition adverse to quality is a performance deficiency. The finding is more than minor because it is associated with the equipment performance attribute of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability. Using the Manual Chapter 0609, Appendix A, Phase 1 screening worksheet, the issue screened as having very low safety significance because, although the finding contributes to the likelihood of a reactor trip, mitigation equipment is still available. This finding had a crosscutting aspect in area of human performance associated with decision-making in that the licensee did not use conservative assumptions in the RCS leakage investigation [H.1(b)].

Enforcement: 10 CFR Part 50, Appendix B, Criterion XVI, requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, the licensee failed to promptly identify

and correct a condition adverse to quality. Specifically, from January 6 to October 9, 2007, the licensee failed to identify an RCS leak on RCP 1A, which resulted in boric acid wastage of multiple RCP 1A components. Because this finding was of very low safety significance and has been entered into the licensee's corrective action program as Condition Report CR-WF3-2007-3659, it is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000382/2007005-03, Reactor Coolant Pump 1A Seal Leak.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the UFSAR, procedure requirements, and Technical Specifications to ensure that the three below listed surveillance activities demonstrated that the structures, systems, and components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the following significant surveillance test attributes were adequate: (1) preconditioning; (2) evaluation of testing impact on the plant; (3) acceptance criteria; (4) test equipment; (5) procedures; (6) jumper/lifted lead controls; (7) test data; (8) testing frequency and method demonstrated Technical Specification operability; (9) test equipment removal; (10) restoration of plant systems; (11) fulfillment of ASME Code requirements; (12) updating of performance indicator data; (13) engineering evaluations, root causes, and bases for returning tested structures, systems, and components not meeting the test acceptance criteria were correct; (14) reference setting data; and (15) annunciators and alarms setpoints. The inspectors also verified that the licensee identified and implemented any needed corrective actions associated with the surveillance testing.

- November 16, 2007: Operations Procedure OP-903-117, Revision 4, Change 6, "Emergency Diesel Generator Fuel Oil Transfer Pump Operability Check," is used to ensure that the emergency diesel generator fuel oil transfer Pump B discharge pressure, flow, and vibration characteristics are within design parameters
- November 26, 2007: Operations Procedure OP-903-030, Revision 15, "Low Pressure Safety Injection Pump Operability Check," is used to ensure that the low pressure safety injection Pump A discharge pressure, flow, and vibration characteristics are within design parameters
- December 3, 2007: Operations Procedure OP-903-068, Revision 14, "Emergency Diesel Generator and Subgroup Relay Operability Verification," is used to verify that on a safety injection actuation signal (without loss-of-offsite power) the diesel generator starts on an auto-start signal and operates on standby for greater than or equal to 5 minutes, in accordance with Technical Specification 4.8.1.1.2.e.4.

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed three samples.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the UFSAR, plant drawings, procedure requirements, and Technical Specifications to ensure that the below listed temporary modification was properly implemented. The inspectors: (1) verified that the modification did not have an affect on system operability/availability; (2) verified that the installation was consistent with modification documents; (3) ensured that the postinstallation test results were satisfactory and that the impact of the temporary modification on permanently installed structures, systems, and components were supported by the test; (4) verified that the modification was identified on control room drawings and that appropriate identification tags were placed on the affected drawings; and (5) verified that appropriate safety evaluations were completed. The inspectors verified that the licensee identified and implemented any needed corrective actions associated with temporary modification.

- December 13, 2007: Temporary modification to reverse the trip setting of the reactor vessel leakoff alarm

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the 2007 biennial emergency plan exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario simulated a limited tornado impact in the licensee's protected area, the failure of an RCP and charging pump, a large loss of coolant accident inside containment, fission product barrier failures, core damage, and a radiological release to the environment via a damaged, unsalable, high pressure safety injection pump valve to demonstrate the licensee's capabilities to implement their emergency plan.

The inspectors evaluated exercise performance by focusing on the risk-significant activities of event classification, offsite notification, recognition of offsite dose consequences, and development of protective action recommendations, in the simulator

control room and the following dedicated emergency response facilities:

- Technical Support Center
- Operations Support Center
- Emergency Operations Facility

The inspectors also assessed recognition of and response to abnormal and emergency plant conditions, the transfer of decision making authority and emergency function responsibilities between facilities, onsite and offsite communications, protection of emergency workers, emergency repair evaluation and capability, and the overall implementation of the emergency plan to protect public health and safety and the environment. The inspectors reviewed the current revision of the facility emergency plan and emergency plan implementing procedures associated with operation of the above facilities and performance of the associated emergency functions. These procedures are listed in the attachment to this report.

The inspectors compared the observed exercise performance with the requirements in the facility Emergency Plan; 10 CFR 50.47(b); 10 CFR Part 50, Appendix E; and the guidance in the emergency plan implementing procedures and other federal guidance.

The inspectors attended the postexercise critiques in each of the above facilities to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended a subsequent formal presentation of critique items to plant management.

The inspectors completed one sample during the inspection.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

For the two below listed drills and simulator-based training evolutions contributing to drill/exercise performance and emergency response organization performance indicators, the inspectors: (1) observed the training evolution to identify any weaknesses and deficiencies in classification, notification, and protective action requirements development activities; (2) compared the identified weaknesses and deficiencies against licensee-identified findings to determine whether the licensee is properly identifying failures; and (3) determined whether licensee performance is in accordance with the guidance of the Nuclear Energy institute (NEI) 99-02, "Voluntary Submission of Performance Indicator Data," acceptance criteria.

- On November 7, 2007, the inspectors monitored a training exercise in the Technical Support Center involving a loss-of-coolant accident inside containment resulting in fuel damage and a subsequent leak outside containment
- On November 19, 2007, the inspectors observed simulator-based training

involving a seismic event resulting in a steam generator tube rupture leading to fuel damage.

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed two samples.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety [OS]

2OS1 Access Control to Radiologically Significant Areas (71121.01)

a. Inspection Scope

This area was inspected to assess the licensee's performance in implementing physical and administrative controls for airborne radioactivity areas, radiation areas, high radiation areas, and worker adherence to these controls. The inspector used the requirements in 10 CFR Part 20, the Technical Specifications, and the licensee's procedures required by Technical Specifications as criteria for determining compliance. During the inspection, the inspector interviewed the radiation protection manager, radiation protection supervisors, and radiation workers. The inspector performed independent radiation dose rate measurements and reviewed the following items:

- Performance indicator events and associated documentation packages reported by the licensee in the Occupational Radiation Safety Cornerstone
- Controls (surveys, posting, and barricades) of radiation, high radiation, or airborne radioactivity areas in the Auxiliary, Radwaste, and Spent Fuel Buildings
- Radiation work permits, procedures, engineering controls, and air sampler locations
- Conformity of electronic personal dosimeter alarm setpoints with survey indications and plant policy; workers' knowledge of required actions when their electronic personnel dosimeter noticeably malfunctions or alarms
- Physical and programmatic controls for highly activated or contaminated materials (nonfuel) stored within spent fuel and other storage pools
- Self-assessments, audits, licensee event reports, and special reports related to the access control program since the last inspection
- Corrective action documents related to access controls

- Licensee actions in cases of repetitive deficiencies or significant individual deficiencies
- Posting and locking of entrances to all accessible high dose rate - high radiation areas and very high radiation areas

The inspector completed 12 of the required 21 samples.

b. Findings

- .1 Introduction: The inspector reviewed a self-revealing, noncited violation of Technical Specification 6.12.1.b that resulted when workers did not obtain current radiological information before entering a high radiation area as required by the Technical Specifications.

Description: On December 12, 2006, two workers accessed a high radiation area of the RCP 1B cold leg through a pathway not previously discussed with radiation protection personnel. The workers did not clearly communicate to radiation protection the full scope of their work activity and the pathway they planned to use while accessing these areas. The pathway used to access the work area had dose rates of 250 millirem per hour on contact with the RCP and 180 millirem per hour at 30 centimeters. In addition, Valve RC-1043 had dose rates of 715 millirem per hour on contact and 260 millirem per hour at 30 centimeters. As the workers proceeded toward the RCP 1B cold leg, both workers received an electronic dose rate alarm. The peak dose rates for the two workers were 210 millirem per hour and 361 millirem per hour, respectively. The workers did not hear the dose rate alarms and were not aware of the alarms until they exited the radiologically controlled area. In addition, one worker alarmed the personnel contamination monitors and was determined to have low levels of contamination. Upon investigation, the licensee determined the workers did not clearly communicate their full work scope and did not receive current radiological information for the pathway taken to access the RCP 1B cold leg. Corrective actions taken by the licensee were to have the workers complete an electronic alarming dosimeter dose/dose rate alarm questionnaire form and received coaching from a radiation protection supervisor.

Analysis: The failure to obtain current radiological information prior to entering a high radiation area is a performance deficiency. This finding is greater than minor because it is associated with one of the cornerstone attributes (exposure control) and affected the Occupational Radiation Safety cornerstone objective, in that workers not obtaining high radiation area dose rates does not ensure adequate protection of worker health and safety from additional personal exposure. Since this finding led to workers' unplanned, unintended, or potential for an exposure which could have been greater as a result of a single minor, reasonable alteration of circumstances, this finding is processed with the Occupational Radiation Safety Significance Determination Process. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose.

Further, this finding had a human performance crosscutting aspect in the work practices component because the workers did not use human error prevention techniques, such

as self- and peer-checking, when discussing the work scope and work areas with radiation protection staff (H.4.(a)).

Enforcement: Technical Specification 6.12.1.b states, in part, that any individual or group permitted to enter a high radiation area shall be provided with a monitoring device which continuously integrates the radiation dose in the area and alarms when a preset integrated dose is received into such areas may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them. Contrary to high radiation area Technical Specification 6.12.1.b, on December 12, 2006, workers did not obtain current radiological information and, therefore, were not knowledgeable of the dose rate levels for the specific high radiation area they entered. Because this finding is of very low safety significance and was entered into the licensee's corrective action program as Condition Reports 2006-4135 and 2006-4136, this violation is being treated as a noncited violation in accordance with Section VI.A.1 of the Enforcement Policy: NCV 05000382/2007005-04, Failure to obtain current radiological information prior to entering a high radiation area.

- .2 Introduction: The inspector reviewed two examples of a self-revealing, noncited violation of Technical Specification 5.4.1 that resulted when workers failed to follow their radiation work permit instructions.

Description: The first example occurred on October 11, 2007, when an operator accessed Valves RC 109 and RC 110 by a travel path not discussed with radiation protection personnel and without obtaining current radiological conditions as specified in the radiation work permit. As the operator passed through the pipe-chase to access the valves, the worker received a dose rate alarm with a peak dose rate of 171 millirem per hour. The highest dose rate levels were 80 millirem per hour along the travel path with the pressurizer surge line having dose rates of 180 millirem per hour on contact and 80 millirem per hour at 30 centimeters in the area near the RC 109 and RC 110 valves. The second example occurred on October 12, 2007, when a maintenance mechanic entered safeguards Room B without a current radiological briefing as specified in the radiation work permit. Radiation protection personnel requested the worker wait to access safeguards Room A while the radiological conditions were changing (shutdown cooling in progress). However, radiation protection did not know the worker also needed to access Room B. The worker, who had previously entered Room B failed to realize this room also had changing radiological conditions, did not receive current radiological conditions for this room, and received a dose rate alarm. The worker's peak dose rate was 61 millirem per hour. The licensee's corrective actions for the first example were that a radiation protection supervisor conducted an interview with the worker, and the worker completed an electronic alarming dosimeter dose/dose rate alarm questionnaire and human performance error review. For the second example, the immediate corrective action was to exclude the individual from the radiologically controlled area then perform a human performance error review.

Analysis: The failure to follow radiation work permit instructions is a performance deficiency. This finding is greater than minor because it is associated with one of the cornerstone attributes (exposure control) and affected the Occupational Radiation Safety cornerstone objective in that workers not obtaining current dose rate does not ensure adequate protection of worker health and safety from additional personal exposure.

Since this finding led to workers' unplanned, unintended, or potential for an exposure which could have been greater as a result of a single minor, reasonable alteration of circumstances, this finding is processed with the Occupational Radiation Safety Significance Determination Process. The finding was determined to be of very low safety significance because it did not involve: (1) ALARA planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose.

Further, this finding has a work practices human performance crosscutting aspect in human error prevention techniques because the workers did not use peer- and self-checking to ensure they discussed their full work scope with radiation protection and were knowledgeable of the radiological conditions of the work location as required in their radiation work permit instructions [(H.4.(a))].

Enforcement: Technical Specification 5.4.1.a requires procedures be established, implemented, and maintained which cover activities specified in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Section 7.e. of the Appendix requires procedures for access control to radiation areas, including a radiation work permit system. Procedure EN-RP-100, "Radworker Expectations," Revision 0, step 4.0 states, in part, that individuals are responsible to know and follow their radiation work permit instructions. Radiation Work Permits 2007-0014 and 2007-0606 state, in part, workers are to notify Health Physics prior to the start of any work activities and ensure awareness of radiological conditions in the work area. Contrary to Procedure EN-RP-100, on October 11-12, 2007, workers did not follow their radiation work permit instructions when they entered radiation areas unaware of the current radiological conditions. The failure of workers to follow their radiation work permit instructions is a performance deficiency. Because this finding is of very low safety significance and was entered into the licensee's corrective action program as Condition Reports 2006-4441, 2007-3598, and 2007-3624, this violation is being treated as a noncited violation in accordance with Section VI.A.1 of the Enforcement Policy: NCV 05000382/2007005-05, Failure to follow radiation work permit instructions.

2OS2 ALARA Planning and Controls (71121.02)

a. Inspection Scope

The inspector assessed licensee performance with respect to maintaining individual and collective radiation exposures ALARA. The inspector used the requirements in 10 CFR Part 20 and the licensee's procedures required by Technical Specifications as criteria for determining compliance. The inspector interviewed licensee personnel and reviewed:

- Ten work activities from previous work history data which resulted in the highest personnel collective exposures
- Site-specific ALARA procedures
- ALARA work activity evaluations, exposure estimates, and exposure mitigation requirements

- Intended versus actual work activity doses and the reasons for any inconsistencies
- Integration of ALARA requirements into work procedure and radiation work permit (or radiation exposure permit) documents
- Person-hour estimates provided by maintenance planning and other groups to the radiation protection group with the actual work activity time requirements
- Dose rate reduction activities in work planning
- Postjob (work activity) reviews
- Assumptions and basis for the current annual collective exposure estimate, the methodology for estimating work activity exposures, the intended dose outcome, and the accuracy of dose rate and man-hour estimates
- Method for adjusting exposure estimates, or replanning work, when unexpected changes in scope or emergent work were encountered
- Exposure tracking system
- Use of engineering controls to achieve dose reductions and dose reduction benefits afforded by shielding
- Records detailing the historical trends and current status of tracked plant source terms and contingency plans for expected changes in the source term due to changes in plant fuel performance issues or changes in plant primary chemistry
- Declared pregnant workers during the current assessment period, monitoring controls, and the exposure results
- Self-assessments, audits, and special reports related to the ALARA program since the last inspection
- Resolution through the corrective action process of problems identified through postjob reviews and postoutage ALARA report critiques
- Corrective action documents related to the ALARA program and follow-up activities, such as initial problem identification, characterization, and tracking
- Effectiveness of self-assessment activities with respect to identifying and addressing repetitive deficiencies or significant individual deficiencies

The inspector completed 12 of the required 15 samples and 7 of the optional samples.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification (71151)

.1 Cornerstone: Barrier Integrity

a. Inspection Scope

The inspectors sampled licensee submittals for the two barrier integrity indicators listed below for the period of July 2006 through October 2007. The definitions and guidance of NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 4, were used to verify the licensee's basis for reporting each data element in order to verify the accuracy of performance indicator data reported during the assessment period. The inspectors reviewed licensee event reports, out-of-service logs, operating logs, and the Maintenance Rule database as part of the assessment. Licensee performance indicator data were also reviewed against the requirements of Procedure EN-LI-114, "Performance Indicator Process," Revision 2.

- RCS specific activity
- RCS leak rate

b. Findings

No findings of significance were identified.

.2 Cornerstone: Emergency Preparedness

a. Inspection Scope

The inspector reviewed licensee evaluations for the three emergency preparedness cornerstone performance indicators of Drill and Exercise Performance, Emergency Response Organization Participation, and Alert and Notification System Reliability for the period of October 2006 through September 2007. The definitions and guidance of NEI Report 99-02, "Regulatory Assessment Indicator Guideline," Revisions 3 through 5, and the licensee Performance Indicator Procedures EN-EP-201 "Performance Indicators," Revision 6, and EN-LI-114, "Performance Indicator Process," Revision 3, were used to verify the accuracy of the licensee's evaluations for each performance indicator reported during the assessment period.

The inspector reviewed a 100 percent sample of drill and exercise scenarios and licensed operator simulator training sessions, notification forms, and attendance and critique records associated with training sessions, drills, and exercises conducted during the verification period. The inspector reviewed alert and notification system testing procedures, maintenance records, and a 100 percent sample of siren test records.

The inspector completed three samples during the inspection.

b. Findings

No findings of significance were identified.

.3 Cornerstone: Occupational Radiation Safety

a. Inspection Scope

Occupational Exposure Control Effectiveness

The inspector reviewed licensee documents from July 1 through September 30, 2007. The review included corrective action documentation that identified occurrences in locked high radiation areas (as defined in the licensee's Technical Specifications), very high radiation areas (as defined in 10 CFR 20.1003), and unplanned personnel exposures (as defined in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision 5). Additional records reviewed included ALARA records and whole-body counts of selected individual exposures. The inspector interviewed licensee personnel that were accountable for collecting and evaluating the performance indicator data. In addition, the inspector toured plant areas to verify that high radiation, locked high radiation, and very high radiation areas were properly controlled. Performance indicator definitions and guidance contained in NEI 99-02, Revision 5, were used to verify the basis in reporting for each data element.

The inspector completed the required sample (one) in this cornerstone.

b. Findings

No findings of significance were identified.

.4 Cornerstone: Public Radiation Safety

a. Inspection Scope

Radiological Effluent Technical Specification/Offsite Dose Calculation Manual
Radiological Effluent Occurrences

The inspector reviewed licensee documents from July 1 through September 30, 2007. Licensee records reviewed included corrective action documentation that identified occurrences for liquid or gaseous effluent releases that exceeded performance indicator thresholds and those reported to the NRC. The inspector interviewed licensee personnel that were accountable for collecting and evaluating the performance indicator data. Performance indicator definitions and guidance contained in NEI 99-02, Revision 5, were used to verify the basis in reporting for each data element.

The inspector completed the required sample (one) in this cornerstone.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Selected Issue Followup Inspection

a. Inspection Scope

In addition to the routine review, the inspectors selected the issue listed below for a more in-depth review. The inspectors considered the following during the review of the licensee's actions: (1) complete and accurate identification of the problem in a timely manner; (2) evaluation and disposition of operability/reportability issues; (3) consideration of extent of condition, generic implications, common cause, and previous occurrences; (4) classification and prioritization of the resolution of the problem; (5) identification of root and contributing causes of the problem; (6) identification of corrective actions; and (7) completion of corrective actions in a timely manner.

- December 20, 2007: Operator Workarounds - Inoperability of the Channel D Ex-Core Nuclear Instrumentation transmitter

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

.2 Emergency Preparedness Annual Sample Review

a. Inspection Scope

The inspectors reviewed the licensee's summary of condition reports and drill and exercise evaluation reports for the period of January 2006 through November 2007 to identify emergency response organization performance deficiencies. In addition, the inspectors observed licensee performance during the plume phase biennial emergency plan exercise to determine the effectiveness of the licensee corrective actions.

b. Findings

No findings of significance were identified.

.3 Radiation Safety

The inspector evaluated the effectiveness of the licensee's problem identification and resolution process with respect to the following inspection areas:

- Access Control to Radiologically Significant Areas (Section 2OS1)
- ALARA Planning and Controls (Section 2OS2)

No findings of significance were identified.

40A3 Followup of Events and Notices of Enforcement Discretion (71153)

a. Inspection Scope

The inspectors: (1) reviewed operator logs, plant computer data, and/or strip charts for the below listed evolutions to evaluate operator performance in coping with planned nonroutine events; (2) verified that operator actions were in accordance with the response required by plant procedures and training; and (3) verified that the licensee has identified and implemented appropriate corrective actions associated with personnel performance problems that occurred during the nonroutine evolutions sampled.

- October 22-24, 2008, Plant Heat-up and Startup Following Midcycle Outage

Documents reviewed by the inspectors are listed in the attachment.

The inspectors completed one sample.

b. Findings

No findings of significance were identified.

40A5 Other Activities

.1 (Closed) Unresolved Item 05000382/2006008-01: Failure to Maintain Design Control of the Pressurizer Surge Line

The licensee's response to the unresolved item stated that procedural monitoring of the pressurizer surge line temperature is not required to ensure the design limits are maintained. These design limits were revised in 1993 when the Waterford 3 stress and fatigue analyses and design specifications were revised per the guidance provided in NRC Bulletin 88-11 to reflect the results of Procedure CEN-387-P, "Pressurizer Surge Line Flow Stratification Evaluation," Revision 1.

The licensee's position is based on the fact that the pressurizer surge line temperatures, during heatup and cooldown, are maintained by ensuring the heatup and cooldown limits in the RCS and pressurizer are maintained. The RCS limits are located in the plant Technical Specifications and the pressurizer limits are located in the plant Technical Requirements Manual. The licensee evaluated that the temperature changes in the surge line can be greater than 200°F due to thermal stratification and thermal stripping. Specifically, the analyses in Procedure CEN-387-P has indicated that temperature differences of up to 340°F have been evaluated. In addition, Procedure CEN-387-P documented that the pressurizer surge line meets ASME Code stress and fatigue requirements for the 40-year design life of the facility.

The inspectors reviewed the licensee's documentation, including the associated procedure, and concurred with the licensee's position. In addition, the inspectors reviewed Condition Report WF3-CR-2006-0839 and associated corrective actions. No concerns were identified. Based on this review, this unresolved item is closed.

.2 (Closed) Violation 05000382/2006009-01: Failure to Provide Accurate Information to the NRC Associated with the High Pressure Safety Injection System Unavailability and Residual Heat Removal System Unavailability Performance Indicators

In response to the violation (EA-06-136), the licensee provided the following list of Regulatory Commitments:

- The Nuclear Safety Assurance Director will develop and administer a case study on this issue with the objective to reinforce to cognizant personnel lessons learned to ensure performance indicator issues are promptly resolved with bounding conservatism and are accurately and completely reported to the NRC.
- The Engineering Director will develop and administer a case study on this issue with the objective to reinforce to engineering site supervision lessons learned to ensure robustness, conservatism, and diversity in the methods employed to determine component status for safety system readiness.
- The Licensing Manager will conduct training for selected Waterford 3 personnel on the Reactor Oversight Process per RIS 2006-13.
- The Manager, Corrective Actions and Assessments, will conduct a review of industry operating experience, including NRC violations and Entergy Condition Reports in the last 2 years applicable to performance indicators and 10 CFR 50.9, and appropriate lessons learned will be communicated to personnel.
- Quality Assurance will perform an independent review of the reporting of Waterford 3 performance indicators for two consecutive quarters.

The inspectors reviewed the licensee's commitments and found them to be adequate. The inspectors also verified that the licensee had completed all actions related to the above commitments. No problems were noted. Based on this review, this violation is closed.

4OA6 Meetings, Including Exit

- .1 The inspectors presented the inspection results of the licensed operator requalification inspection to Mr. D. Vincent, Operations Manager, and other members of the licensee's management staff at a debrief on August 16, 2007. The licensee acknowledged the findings presented. The inspectors also asked the licensee whether any materials examined during the inspections should be considered proprietary. No proprietary information was identified. The lead inspector obtained the final biennial examination results and telephonically exited with Mr. J. Hall, Licensed Operator Requalification Training Supervisor, on September 18, 2007.
- .2 On December 14, 2007, the inspector presented the occupational radiation safety inspection results to Mr. K. T. Walsh and other members of his staff who acknowledged the findings. The inspector confirmed that proprietary information was not provided or examined during the inspection.

- .3 On December 19, 2007, the inspectors conducted a telephonic exit meeting to present the emergency preparedness inspection results to Mr. K. T. Walsh, Vice President, Operations, and other members of his staff, who acknowledged the findings. The inspectors confirmed that sensitive and proprietary information examined during the inspection had been returned to licensee custody.
- .4 On January 8, 2008, the resident inspectors presented the quarterly inspection results to Mr. K. T. Walsh and other members of licensee management at the conclusion of the inspection. 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.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Anders, Superintendent, Plant Security
J. Bacerra, Licensed Operator Requalification Training Supervisor
J. Brawley, ALARA Supervisor, Radiation Protection
J. Briggs, Manager, Training
H. Brodt, Risk Analyst
D. Burns, Operations Training Supervisor
K. Cook, Director, Nuclear Safety Assurance
L. Dauzat, Supervisor, Radiation Protection
A. Dodds, Manager, Operations
G. Fey, Planning and Scheduling
C. Fugate, Assistant Manager, Operations
T. Gaudet, Site Transition Team
R. Gilmore, Manager, Corrective Action and Assessments
K. Gordon, Assistant Manager, Operations
J. Haines, Training Manager
J. Hunsaker, Manager, Site Support
S. Kettleison, Regulatory Affairs
J. Kowalewski, General Manager, Entergy
B. Lauka, Manager, Design Engineering
J. Lewis, Manager, Emergency Preparedness
B. Lindsey, Manager, Outage
D. Marpe, Project Manager
M. Mason, Technical Specialist, Licensing
W. McKinney, Superintendent, I&C
C. Miller, Assistant Manager, Radiation Protection
R. Murillo, Manager, Licensing
D. Newman, Supervisor, Radiation Protection
K. Nichols, Director, Engineering
B. Pilutti, Manager, Radiation Protection
B. Proctor, Manager, System Engineering
R. Putnam, Manager, Programs and Components
S. Ramzy, Engineer, Radiation Protection
J. Ridgel, Manager, Quality Assurance
P. Rodrigue, Plant Operator
G. Scott, Engineer, Licensing
K. Walsh, General Manager, Plant Operations

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000382/2007005-01	NCV	Failure to Follow Procedure Review Process (Section 1R05)
05000382/2007005-02	NCV	Inadequate Maintenance Procedure (Section 1R19)
05000382/2007005-03	NCV	Reactor Coolant Pump 1A Seal Leak (Section 1R20)
05000382/2007005-04	NCV	Failure to Obtain Current Radiological Information Prior to Entering a High Radiation Area (Section 2OS1.1)
05000382/2007005-05	NCV	Failure to Follow Radiation Work Permit Instructions (Section 2OS1.2)

Closed

05000382/2006008-01	URI	Failure to Maintain Design Control of the Pressurizer Surge Line (Section 4OA5.1)
05000382/2006009-01	VIO	Failure to Provide Accurate Information to the NRC Associated with the High Pressure Safety Injection System Unavailability and Residual Heat Removal System Unavailability Performance Indicators (EA-06-136) (Section 4OA5.2)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures/Documents

NUMBER	TITLE	REVISION
OP-002-007	Freeze Protection and Temperature Maintenance	14

Section 1R04: Equipment Alignment

Procedures/Documents

NUMBER	TITLE	REVISION
OP-009-002	Emergency Diesel Generator	302
OP-903-124	CVAS Pressure Boundary Testing	0
OP-002-010	Reactor Aux Building HVAC and Containment Purge	301

Section 1R05: Fire Protection

Procedures/Documents

NUMBER	TITLE	REVISION
UNT-005-013	Fire Protection Program	9
OP-009-004	Fire Protection	11-8
UNT-005-013	Fire Protection Program	9
FP-001-015	Fire Protection System Impairments	17
FP-001-017	Transient Combustibles	19
NTP-202	Fire Protection Training	11-4
W2.109	Procedure Development, Review, and Approval	5
QAPM	QAPM Special Scope (Fire Protection)	2

Section 1R06: Flood Protection Measures

Procedures/Documents

NUMBER	TITLE	REVISION
EN-LI-113	Licensing Basis Document Change Process	1
OP-100-014	Technical Specification and Technical Requirements Compliance	301
OP-901-521	Severe Weather and Flooding	4

Section 1R11: Licensed Operator Requalification

Procedures/Documents

NUMBER	TITLE	REVISION
TQ2.DC3	Licensed Operator, NLO, and Shift Technical Advisor continuing Training Programs	15
TQ2.ID4	Training Program Implementation	10

Other Items Reviewed

Scenario, FRC12-A, *ICC/Degraded Core Cooling*

Scenario, E3ECA33-A, *Steam Generator Tube Rupture*

LORT Simulator Annual Operating Examination (JPMs)

LORT Biennial SRO Written Exam Material

LORT Biennial RO Written Exam Material

Training Program Curriculum Licensed Operator and STA Requalification

Medical Records (10 percent of all licensed operators and a 100 percent sampling of SCBA corrective lenses in the control room)

Curriculum Review Committee Meeting Minutes

Remediation Training Records

Section 1R12: Maintenance Effectiveness

Procedures/Documents

NUMBER	TITLE	REVISION
DC-121	Maintenance Rule	1
NUMARC 93-01	Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants	3
Engineering Report W-SE-2005-001	Waterford 3 Maintenance Rule Periodic (a)(3) Assessment	0

Condition Reports

CR-WF3-2005-02538	CR-WF3-2007-03534	CR-WF3-2007-03601
CR-WF3-2006-00575	CR-WF3-2007-03536	CR-WF3-2007-03629
CR-WF3-2007-00003	CR-WF3-2007-03539	CR-WF3-2007-03642
CR-WF3-2007-00486	CR-WF3-2007-03552	CR-WF3-2007-03650
CR-WF3-2007-01444	CR-WF3-2007-03654	CR-WF3-2007-03659
CR-WF3-2007-02074	CR-WF3-2007-03558	CR-WF3-2007-03669
CR-WF3-2007-02087	CR-WF3-2007-03583	CR-WF3-2007-03674
CR-WF3-2007-02298	CR-WF3-2007-03588	CR-WF3-2007-03675
CR-WF3-2007-02704	CR-WF3-2007-03589	CR-WF3-2007-03706
CR-WF3-2007-02866	CR-WF3-2007-03597	CR-WF3-2007-03756
CR-WF3-2007-02944	CR-WF3-2007-03600	CR-WF3-2007-03795
CR-WF3-2007-03502		

Miscellaneous Documents

NUMBER	TITLE	REVISION
SD-SI	Safety Injection System Description	6
SD-RCS	Reactor Coolant System	6

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures/Documents

NUMBER	TITLE	REVISION
OP-009-003	Emergency Feedwater	13
OP-903-127	Reactor Trip Circuit Breaker Post Maintenance Test	3
OI-037-000	Operations Risk Assessment Guideline	2
EN-WM-101	On-Line Work Management Process	1
OP-001-003	Reactor Coolant System Drain Down	301

Drawings

NUMBER	TITLE	REVISION
B-289, Sheet 90	Power Distribution and Motor Data 480V MCC 3A315-S One Line Diagram	8
B-289, Sheet 91	Power Distribution and Motor Data 480V MCC 3A315-S One Line Diagram	10
B-289, Sheet 93	Power Distribution and Motor Data 480V MCC 3B315-S One Line Diagram	8
B-289, Sheet 94	Power Distribution and Motor Data 480V MCC 3B315-S One Line Diagram	9

Section 1R15: Operability Evaluations

Procedures/Documents

NUMBER	TITLE	REVISION
EN-OP-104	Operability Evaluation	2
Specification 1564.100	Ebasco Piping System Categories	3
OP-035-000	Notification Matrix	6
W3-DBD-04	Component Cooling Water and Auxiliary Component Cooling Water	3.9

Calculations

NUMBER	TITLE	REVISION /DATE
1806166-C-001	Assessment of Degraded Nuts on Reactor Coolant Pump Flange	Rev. 0 10/19/07

Condition Reports

CR-WF3-2006-0145	CR-WF3-2007-1039	CR-WF3-2007-3659
CR-WF3-2007-0905	CR-WF3-2007-3455	CR-WF3-2007-3712
CR-WF3-2007-0766	CR-WF3-2007-3536	CR-WF3-2007-3733

Drawings

NUMBER	TITLE	REVISION
1564-4276	Reactor Coolant Pump, Materials for Construction	11
1564-1550	Reactor Coolant Pump, Sectional O/L	13
5817-10929	Reactor Coolant Pump, Case to Cover Stud	0
5817-10921	Reactor Coolant Pump, Case to Cover Stud	0
1F-7530-2	Reactor Coolant Pump	
RCA Attachment 1	CR-WF3-2007-03659, RCA 1A Inspection Mapping and Rework	

Engineering Change Request

NUMBER	TITLE	REVISION DATE
ECR-02903	Degradation of 1A Reactor Coolant Pump Bolting due to Boric Acid	Rev. 0
SG-31	Inspection Results Summary and Conclusions, Fall 2007 Mid-Cycle Outage (WO 102364)	Oct. 2007
SG-32	Inspection Results Summary and Conclusions, Fall 2007 Mid-Cycle Outage (WO 102365)	Oct. 2007

Work Orders

WO-102217	WO-102365
WO-102364	WO-126089

Section 1R19: Postmaintenance Testing

Procedures/Documents

NUMBER	TITLE	REVISION
MM-006-054	Check Valve Inspection (Tilting Disc)	5
OP-903-124	CVAS Pressure Boundary Testing	0
OP-903-123	Control Room Envelope Pressure Test	3

Procedures/Documents

NUMBER	TITLE	REVISION
EN-DC-136	Temporary Modifications	2

Work Orders

WO-93060	WO-124838	WO-97577-01
WO-103932	WO-108652	WO-127318
WO-51086451	WO-045504	WO-103232
WO-51049787		

Section 1R20: Refueling and Other Outages

Procedures/Documents

NUMBER	TITLE	REVISION
UNT-005-027	Infrequently Performed Tests or Evolutions	5
PLG-009-014	Conduct of Planned Outages	301
OP-001-003	Reactor Coolant System Drain Down	301
UNT-005-032	Steam Generator Primary to Secondary Leakage	5
OP-901-131	Shutdown Cooling Malfunction	2
OI-037-000	Operations' Risk Assessment Guidelines	2
DAR-CI-03-25	Calculation: Addendum to Waterford 3 Analysis Report for RCP case, Closure, Heat Exchanger, Motor and Motor Flywheel for Power Uprate to 2716 MWt	0
SQ-MN-13	Calculation: Valve Anchor Darling 12"	0
EC-3426	Markup to Calculation SQ-MN-13	0
SR-1010-02	Pump Closure Analysis for Waterford Unit 3	0
1806166-C-001	Calculation: ABB Assessment of Degraded Nuts on Reactor Coolant Pump Flange	Date: 10/19/07
BOP-VT-07-016	Visual Examination for Boric Acid Detection - Document Wastage of the RCP 1A Driver Mount Nuts	10/17/07
ISI-UT-91-019	UT Examination Data for Studs and Bolts - RCP 1A	04/24/91
BOP-UT-07-006	UT Thickness Examination of RCP 1A Driver Mount Studs	10/18/07
BOP-UT-07-007	UT Bolting/Stud Examination - RCP 1A #11 Driver Mount Stud	10/19/07

CR-WF3-2005-1277	Root Cause Analysis Report - S/G #2 Batwing Failure	06/03/05
CR-WF3-2006-3969	Root Cause Analysis Report - RF-14 S/G #2 Batwing Failures	12/04/06
ECR-2837	Mid Cycle PO 07-01 Steam Generator Condition Monitoring Report and Operational Assessment Review	0
ECR-2069	Steam Generator Pre-Outage Degradation Assessment and Repair Criteria for PO 07-01	0
ECR-904	Cycle 15 Operational Assessment	0
PO-07-01	Steam Generator Augmented Inspection - Secondary Side Inspection Project Script	3

Drawings

1564-1795	Anchor Darling - 12"-1500# Tilting Disc Check Valve	6
1564-1550	Byron Jackson - Reactor Coolant Pump	13
5817-10920	Reactor Coolant Pump Case to Cover Stud	0
74270-271-013	CE Dwg: Tube Bundle Assembly	2
74270-289-002	CE Dwg: Tube Support Details	2
74270-271-015	CE Dwg: Assembly of tube Support Beams	2
74270-271-014	CE Dwg: Tube Bundle Assembly	3
74270-289-003	CE Dwg: Tube Support Details	3

Work Orders

WO-102364
WO-102365
WO-126089

Condition Reports

CR-WF3-1995-0965	CR-WF3-2007-3648	CR-WF3-2007-3663
CR-WF3-2004-2680	CR-WF3-2007-3659	CR-WF3-2007-3667
CR-WF3-2005-1371	CR-WF3-2007-3661	CR-WF3-2007-3733
CR-WF3-2007-3536	CR-WF3-2007-3662	
CR-WF3-2007-3583		

Section 1R22: Surveillance Testing

Procedures:

NUMBER	TITLE	REVISION
OP-903-117	Emergency Diesel Generator Fuel Oil Transfer Pump Operability Check	4
OP-903-030	Low Pressure Safety Injection Pump Operability Check	15
OP-902-002	Emergency Diesel Generator	302
OP-903-002	Emergency Diesel Generator and Subgroup Relay Operability Verification	14

Work Orders

WO-51210706
WO-51510836

Section 1R23: Temporary Plant Modifications

Procedures/Documents

NUMBER	TITLE	REVISION
EN-DC-136	Temporary Modifications	2
EC-4407	Reactor Vessel Gasket Leakage Detection	0

Work Order

WO-103232

Section 1EP1: Exercise Evaluation

Procedures/Documents

NUMBER	TITLE	REVISION
EP-001-001	Recognition and Classification of Emergency	22
EP-001-010	Unusual Event	24
EP-001-020	Alert	26
EP-001-030	Site Area Emergency	25
EP-001-040	General Emergency	26
EP-002-010	Notifications and Communications	301

EP-002-015	Emergency Responder Activation	8
EP-002-052	Protective Action Guidelines	20
EP-002-100	Technical Support Center Activation, Operation, and Deactivation	33
EP-002-101	Operations Support Center Activation, Operation, and Deactivation	302
EP-002-102	Emergency Operations Facility Activation, Operation, and Deactivation	301
EP-002-130	Emergency Team Assignments	22
EP-003-020	Emergency Preparedness Drills and Exercises	12-2

Miscellaneous Documents

Waterford Steam Electric Station Emergency Plan, Unit 3, Emergency Plan, Revision 35

Section 1EP6: Drill Evaluation

Procedures/Documents

NUMBER	TITLE	REVISION
OP-902-000	Standard Post Trip Actions	10
EP-001-001	Recognition and Classification of Emergency Conditions	21

Section 2OS1: Access Controls to Radiologically Significant Areas

Procedures/Documents

NUMBER	TITLE	REVISION
EN-RP-100	Radworker Expectations	0
EN-RP-101	Access Control for Radiologically Controlled Areas	2
EN-RP-102	Radiological Control	0
EN-RP-108	Radiation Protection Posting	5
EN-RP-203	Dose Assessment	1
HP-002-201	Radiological Survey Techniques and Frequencies	301
UNT-001-016	Radiation Protection	1

Radiation Work Permits

2006-0518	2006-0606	2007-0606
2006-0600	2007-0014	
2006-0603	2007-0605	

Health Physics Surveys

2006-0225	2006-0387	2006-0562
2006-0059	2006-0414	WF3-0710-0138

Condition Reports

CR-WF3-2006-03735	CR-WF3-2007-00893	CR-WF3-2007-03166
CR-WF3-2006-04135	CR-WF3-2007-00894	CR-WF3-2007-03598
CR-WF3-2006-04136	CR-WF3-2007-01037	CR-WF3-2007-03624
CR-WF3-2006-04441	CR-WF3-2007-01639	CR-WF3-2007-03717
CR-WF3-2006-04454	CR-WF3-2007-03033	CR-WF3-2007-03753
CR-WF3-2006-04586	CR-WF3-2007-03036	CR-WF3-2007-03779
CR-WF3-2007-00194		

Section 20S2: ALARA Planning and Controls

Procedures/Documents

NUMBER	TITLE	REVISION
EN-RP-101	Access Control for Radiologically Controlled Areas	2
EN-RP-102	Radiological Control	0
EN-RP-105	Radiation Work Permits	2
EN-RP-110	ALARA Program	3
EN-RP-203	Dose Assessment	1
EN-RP-205	Prenatal Monitoring	0
HP-001-114	Control of Temporary Shielding	10
UNT-001-016	Radiation Protection	1
	ALARA Manager's Meeting Minutes from 08/09 - 10/20/07	
	Five Year ALARA Plan 2007-2011	
	October 2007 Monthly Radiation Protection Report	

Radiation Work Permits

2006-0518	2006-0605	2007-0600
2006-0511	2006-0610	2007-0605
2006-0514	2006-0630	2007-0606
2006-0517	2006-0702	2007-0610
2006-0600	2006-0705	2007-0617
2006-0603	2007-0512	2007-0625

Condition Reports

CR-WF3-2006-03801	CR-WF3-2006-04511	CR-WF3-2007-03695
CR-WF3-2006-04180	CR-WF3-2007-01037	CR-WF3-2007-04110
CR-WF3-2006-04350	CR-WF3-2007-03488	

Section 40A1: Performance Indicator Verification

Procedures/Documents

NUMBER	TITLE	REVISION
EN-RP-112	Radiation Protection Performance Indicator Program	0
	Quarterly Radiation Doses at the Site Boundary (Effluent Releases) for 2006 and 2007	
	Second and Third Quarter 2007 NRC Performance Indicator Technique Sheets for Occupational Exposure Control Effectiveness and Radiological Effluent Occurrences	
	Worker exposure records for radiological controlled area entries greater than 100 millirem	
	Performance Indicator Review Package 3rd Quarter 2006	
	Performance Indicator Review Package 4th Quarter 2006	
	Performance Indicator Review Package 1st Quarter 2007	
	Performance Indicator Review Package 2nd Quarter 2007	
	Performance Indicator Review Package 3rd Quarter 2007	

Section 40A2: Identification and Resolution of Problems

Procedures/Documents

NUMBER	TITLE	REVISION
EN-LI-113	Licensing Basis Document Change Process	1
OP-100-014	Technical Specification and Technical Requirements Compliance	301
EN-LI-110	Commitment Management Program	0
EN-LI-102	Corrective Action Process	10
EN-LI-118	Root Cause Analysis Process	7

Condition Reports

CR-WF3-2005-02538
CR-WF3-2006-00575
CR-WF3-2007-00003

CR-WF3-1995-0965
CR-WF3-2004-2680

CR-WF3-2005-1371
CR-WF3-2007-4475

Section 40A5: Other Activities

Procedures/Documents

NUMBER	TITLE	REVISION
CEN-387-P	Pressurizer Surge Line Flow Stratification Evaluation	1
ER-W3-2006-0245	Impacts of Revised Pressurizer Insurge/Outsurge Transient Analysis and Limits	0
W3F1-2006-0053	Reply to Notice of Violation: EA-06-136	09/29/06

Condition Reports

CR-WF3-2005-1392
CRWF3-2006-0839

LIST OF ACRONYMS

ALARA	as-low-as-is-reasonably-achievable
ASME	American Society of Mechanical Engineers
CFR	<i>Code of Federal Regulations</i>
gpm	gallons per minute
NCV	noncited violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PDR	Public Document Room
QA	quality assurance
RCP	reactor coolant pump
RCS	reactor coolant system
UFSAR	Updated Final Safety Analysis Report