UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 EAST LAMAR BLVD
ARLINGTON, TEXAS 76011-4511

May 14 ,2013

Donna Jacobs, Vice President, Operations
Entergy Operations, Inc.
Waterford Steam Electric Station, Unit 3
17265 River Road
Killona, LA 70057-0751

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NRC INTEGRATED INSPECTION REPORT 05000382/2013002

Dear Ms. Jacobs:

On March 31, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Waterford Steam Electric Station, Unit 3 facility. The enclosed inspection report documents the inspection results which were discussed on April 3, 2013, with you and other members of your staff.

The inspections 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.

Three NRC identified findings of very low safety significance (Green) were identified during this inspection.

All of these findings were determined to involve violations of NRC requirements. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest these non-cited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Waterford Steam Electric Station, Unit 3 facility.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC Resident Inspector at 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 enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management 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/

Donald B. Allen, Chief
Project Branch E
Division of Reactor Projects

Docket Nos.: 50-382
License Nos.: NPF-38

Enclosure: Inspection Report 05000382/2013002
w/ Attachment: Supplemental Information

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Publicly Avail.	☑Yes ☐ No	Sensitive	☐Yes ☑ No	Sens. Type Initials	DBA

SRI:DRP/E	SRI:DRP/E	SPE:DRP/E	C:DRS/EB1	C:DRS/EB2	C:DRS/OB
MDavis	MBaquera	RAzua	TFarnholtz	GMiller	VGaddy
/RA Via email/	/RA Via email/	/RA/	/GGeorge for/	/DLoveless for/	/RA/
5/10/13	5/10/13	5/7/13	5/9/13	5/9/13	5/8/13
C:DRS/PSB1	C:DRS/PSB2	C:DRS/TSB	BC:DRP/E		
MHaire	JDrake	RKellar	DAllen		
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000382

License: NPF-38

Report: 05000382/2013002

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: 17265 River Road
Killona, LA 70057

Dates: January 1 through March 31, 2013

Inspectors: M. Baquera, Acting Senior Resident Inspector
M. Davis, Senior Resident Inspector
J. Melfi, Project Engineer
J. Laughlin, Emergency Preparedness Inspector, NSIR

Approved By: Donald B. Allen, Chief
Project Branch E
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000382/2013002; 01/01/2013 – 03/31/2013; Waterford Steam Electric Station, Unit 3, Integrated Resident and Regional Report; Adverse Weather Protection, Operability Evaluations and Functionality Assessments, and Surveillance Testing

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection by a headquarter-based inspector. Three Green non-cited violations (NCV) of significance were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." The cross-cutting aspect is determined using Inspection Manual Chapter 0310, "Components Within the Cross-Cutting Areas." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green, NCV of Technical Specification 6.8.1.a for failure to follow Procedure OP-901-521, "Severe Weather and Flooding," Revision 307. Specifically, on February 25, 2013, the licensee entered the off-normal procedure due to a tornado watch and failed to identify and control potential missile hazards. The licensee has entered this issue into the corrective action program as Condition Report CR-WF3-2013-1590, and is planning corrective actions to determine criteria to identify missile hazards needing controls during severe weather events.

  The inspectors concluded that the failure to assess and control potential missile hazards was a performance deficiency. The inspectors concluded the performance deficiency is more than minor, therefore a finding, because it adversely affected the protection against external factors attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The inspectors determined that all questions in Exhibit 4. A. could be answered no, and as such the issue was of very low safety significance (Green). The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to include qualitative or quantitative criteria for identification and control of potential missile hazards [H.2(c)] (Section 1R01).

- Green. The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion V "Instructions, Procedures, and Drawings," for the failure of the licensee to accomplish activities affecting quality in accordance with written procedures. Specifically, operations personnel failed to follow Procedure EN-OP-104, "Operability Determinations," and declared main steam isolation valve 1 operable with a through-wall leak on an ASME Class 3 system, despite procedural guidance to the contrary. The licensee has entered this issue into the corrective action program as CR-WF3-2013-1284, and has implemented an ASME Code leak repair as corrective action to restore the degraded condition and reinforced expectations of procedural use and adherence with operations personnel.

  The inspectors concluded that the failure of operations personnel to follow procedures was a performance deficiency. The inspectors determined that the performance deficiency is more than minor, therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The inspectors determined that all questions in Exhibit 2, A. could be answered no, and as such the issue was of very low safety significance (Green). The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the component of decision making because the licensee failed to make conservative assumptions when assessing the source of the nitrogen leak and failed to validate underlying assumptions on subsequent operability reviews [H.1(b)] (Section 1R15).

- Green. The inspectors identified a NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," because the licensee failed to identify and perform testing on safety-related components to demonstrate that they would perform satisfactorily in service in accordance with requirements contained in applicable design documents. Specifically, the licensee did not identify and perform testing on several safety-related air-operated valves to demonstrate local manual operation in the event their safety-related nitrogen accumulators were exhausted. As a result, the licensee could not demonstrate that the safety-related valves would perform satisfactorily in service in accordance with requirements contained in the updated final safety analysis report (UFSAR) and design calculations. The licensee entered this issue into their corrective action program as CR-WF3-2012-6703. The immediate corrective actions taken to restore compliance included developing a test for the local manual operation for some valves and the installation of a backup air supply to recharge the accumulators for other valves.

  The failure to identify and perform testing to demonstrate that safety-related air-operated valves would perform satisfactorily in service in accordance with requirements contained in applicable design documents was a performance deficiency. The performance deficiency was more than minor because it was

associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors used the NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," to evaluate this issue. The finding required a detailed analysis because it involved a potential loss of a system function of safety related equipment. Therefore, the senior reactor analyst performed a bounding detailed risk evaluation. The analyst determined that the finding was of very low safety significance (Green). The bounding change to the core damage frequency was less than 4E-8/year. The finding was not significant with respect to the large early release frequency. The dominant core damage sequences included losses of offsite power, which result in an early loss of the instrument air compressors. The fact the accumulators would allow continued air operated valve operation for ten or more hours helped to reduce the risk. The inspectors concluded that the finding reflected current licensee performance and involved a cross-cutting aspect in the corrective action program component of the problem identification and resolution area in that the licensee did not thoroughly evaluate problems such that the resolutions address causes and extent of conditions, as necessary [P.1(c)] (Section 1R22).

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

The Waterford Steam Electric Station, Unit 3, began the inspection period shutdown because of activities associated with refueling outage 18. On January 17, 2013, operators started to increase power to 100 percent. On January 21, the unit experienced an automatic trip from 91 percent power due to a secondary transient that cause a low level in the number one steam generator. On January 23, operators started to increase power to 100 percent. On January 30, the unit reached 100 percent power for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

Since thunderstorms with potential tornados and high winds were forecast in the vicinity of the facility for February 25, 2013, the inspectors reviewed the plant personnel's overall preparations/protection for the expected weather conditions. On February 25, 2013, the inspectors walked down the component cooling water system because their safety-related functions could be affected, or required, as a result of high winds or tornado-generated missiles or the loss of offsite power. The inspectors evaluated the plant staff's preparations against the site's procedures. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the UFSAR and performance requirements for the systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. The inspectors also reviewed a sample of corrective action program items to verify that the licensee-identified adverse weather issues at an appropriate threshold and dispositioned them through the corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one readiness for impending adverse weather condition sample as defined in Inspection Procedure 71111.01-05.

b. Findings

Introduction. The inspectors identified a Green NCV of Technical Specification 6.8.1.a for failure to follow Procedure OP-901-521, "Severe Weather and Flooding," Revision 307. Specifically, on February 25, 2013, the licensee entered the off-normal procedure due to a tornado watch and failed to assess and control potential missile hazards on site.

Description. On February 25, 2013, a tornado watch was issued for the area surrounding the reactor site. The inspectors toured the plant site to validate adherence to off-normal Procedure OP-901-521, "Severe Weather and Flooding," Revision 307, to assure all tornado doors were functional, and potential tornado born missile hazards were appropriately identified and controlled. The inspectors identified 15 issues with loose material which could become potential tornado born missile hazards. Items of particular concern were a large basin and 9 metal saw horses, which could have struck unprotected portions of the dry cooling towers. Inspectors notified operations personnel of these concerns. Operations personnel directed maintenance personnel to address any loose items in accordance with OP-901-521, "Severe Weather and Flooding," Revision 307. Maintenance personnel did not recognize the large basin and the 9 metal saw horses as potential tornado born missiles and did not take action to control these items. In reviewing the licensee procedure, inspectors identified that there were no criteria to define a loose item that could become a potential tornado born missile hazard.

Analysis. The inspectors concluded that the failure to assess and control potential missile hazards was a performance deficiency. The inspectors concluded the performance deficiency is more than minor, therefore a finding, because it adversely affected the protection against external factors attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The inspectors determined that all questions in Exhibit 4. A. could be answered no, and as such the issue screened as green. The inspectors determined this finding has a cross-cutting aspect in the area of human performance associated with the resources component because the licensee failed to include qualitative or quantitative criteria for identification and control of potential missile hazards [H.2(c)].

Enforcement. Technical Specification 6.8.1.a requires, in part, written procedures shall be established, implemented, and maintained covering the applicable procedures in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A.6, requires procedures for acts of nature, including tornados. Contrary to the above, on February 25, 2013, licensee personnel failed to implement procedures for acts of nature, including tornadoes. Specifically, maintenance personnel failed to implement Procedure OP-901-521, "Severe Weather and Flooding," Revision 307, to assess and control potential missile hazards during a tornado watch. Several missile hazards were identified by inspectors that were not recognized as being a potential hazard by the licensee and were not controlled in accordance with established

procedures. The licensee is planning corrective actions to determine criteria to identify missile hazards needing controls during severe weather events. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as CR-WF3-2013-1590, this violation is being treated as a NCV in accordance with Section 2.3.2.a of the Enforcement Policy: NCV 05000382/2013002-01, "Failure to Identify and Control Potential Tornado Borne Missile Hazards."

1R04 Equipment Alignment (71111.04)

Partial Walkdown

a. Inspection Scope

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

- On February 27, 2013, emergency diesel generator B during maintenance on train A
- On February, 27, 2013, emergency feedwater train A
- On March 5, 2013, auxiliary component cooling water train B
- On March 6, 2013, train A switchgear and battery rooms during maintenance on train B

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system diagrams, updated final safety analysis report, technical specification requirements, administrative technical specifications, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four partial system walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

Quarterly Fire Inspection Tours

a. Inspection Scope

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

- On February 26, 2013, reactor auxiliary building + 46 elevation, fire area 1A, B, C, 2, emergency diesel generator train 3B
- On February 27, 2013, reactor auxiliary building + 21 elevation, fire area 15, 16, emergency diesel generator train A, B
- On March 5, 2013, reactor auxiliary building, fire area 2
- On March 5, 2013, reactor auxiliary building, fire area 18
- On March 5, 2013, reactor auxiliary building, fire area 33

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

These activities constitute completion of five quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance (71111.11)

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On January 23, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during a just-in-time plant startup training. The inspectors assessed the following areas

- Licensed operator performance
- The modeling and performance of the control room simulator
- The quality of post-scenario critiques
- Follow-up actions taken by the licensee for identified discrepancies

These activities constitute completion of one quarterly licensed operator requalification program sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On January 21, 2013, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to an automatic reactor trip of the unit. The inspectors assessed the operators' adherence to plant procedures, including the conduct of operations procedure and other reactivity management policies and procedures.

These activities constitute completion of one quarterly licensed-operator performance sample as defined in Inspection Procedure 71111.11.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- On January 14, 2013, condensate storage pool level control bypass valve CMU-141
- On January 29, 2013, condensate storage pool level control valve CMU-138

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

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were entered into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two quarterly maintenance effectiveness samples as defined in Inspection Procedure 71111.12-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- On January 28, 2013, emergent maintenance on the main feedwater regulation valve with the high pressure safety injection pump train A out of service
- On February, 25, 2013, startup transformer out of service for modification during a tornado watch
- On March 5, 2013, auxiliary component cooling water, train A, out of service for planned maintenance

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

No findings were identified.

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- On February, 22, 2013, failure of pressurizer level instrument channel X
- On February, 26, 2013, radial peaking factor degrading trend
- On March 4, 2013, main steam isolation valve 1 accumulator nitrogen leak

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

These activities constitute completion of three operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

Introduction. The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion V "Instructions, Procedures, and Drawings," for the failure of the licensee to accomplish activities affecting quality in accordance with written procedures. Specifically, operations personnel failed to follow Procedure EN-OP-104, "Operability Determinations," and declared main steam isolation valve 1 operable with a through-wall leak in an ASME Class 3 system, despite procedural guidance to the contrary.

Description. On January 21, 2013, the licensee identified in CR-WF3- 2013-427 that a nitrogen leak developed through a weld in the line that supplies the nitrogen pre-charge for fast closure of the main steam isolation valve. The operations personnel performed an operability determination and concluded that main steam isolation valve 1 was operable because the pressure required for fast closure of the valve was still being maintained. Operations personnel did not consider a leak in an ASME Class 3 system to be a degraded condition. Procedure EN-OP-104, "Operability Determinations," Revision 6, has distinct guidance to the contrary. Attachment 9.1, Box 27 describes, in part, equipment with through-wall leakage in ASME Class 3 piping as a degraded or non-conforming condition requiring an operability classification using engineering input. An ASME Code repair was required to correct the condition and was planned at that time. Inspectors determined this was another missed opportunity to identify the

inadequate operability determination. The condition continued to degrade and was evaluated for operability four more times. Operations personnel did not validate their assumptions in the previous evaluations and continued to declare the valve operable on the subsequent evaluations. The rapid loss of nitrogen degraded to the point that the valve was declared inoperable on March 4 and March 6, 2013. Bottles of high pressure nitrogen had been staged nearby, operator rounds were increased, and maintenance personnel were on call for this condition, yet none of these actions were considered compensatory measures to maintain operability and were not evaluated as such. On March 6, 2013, the licensee implemented an ASME Code leak repair to correct the degraded condition and restore the system to operable status.

Analysis. The inspectors concluded that the failure of operations personnel to follow procedures was a performance deficiency. The inspectors determined that the performance deficiency is more than minor, and therefore a finding, because it adversely affected the equipment performance attribute of the Mitigating Systems Cornerstone and its objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors evaluated the significance of the issue under the Significance Determination Process, as defined in Inspection Manual Chapter 0609.04, "Initial Characterization of Findings," and IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The inspectors determined that all questions in Exhibit 2, A. could be answered no, and as such the issue was of very low safety significance (Green). The inspectors determined this finding had a cross-cutting aspect in the area of human performance associated with the decision making component because the licensee failed to make conservative assumptions when assessing the source of the nitrogen leak and failed to validate underlying assumptions on subsequent operability reviews [H.1(b)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V "Instructions, Procedures, and Drawings," requires, in part, activities affecting quality shall be prescribed by procedures, of a type appropriate to the circumstances, and shall be accomplished in accordance with these procedures. Procedure EN-OP-104, "Operability Determinations," Revision 6, Attachment 9.1, Box 27 stated, in part, equipment with through-wall leakage in ASME Class 3 piping is a degraded non-conforming condition requiring an operability classification using engineering input. Contrary to the above, from January 21, 2013 to March 6, 2013, the licencee failed to identify a degraded non-conforming condition requiring an operability classification using engineering input. Specifically, operations personnel failed to follow Procedure EN-OP-104, "Operability Determinations," Revision 6, when performing operability determinations for the main steam isolation valve 1. Operations personnel failed to identify and evaluate, on multiple occasions, a leak which had developed through a weld in the line that supplies the nitrogen pre-charge for fast closure of the main steam isolation valve 1, and determined the component was operable. As a result, a nitrogen leak in an ASME Class 3 system degraded to the point where nitrogen pressure was insufficient for fast closure and rendered the valve inoperable. The licensee implemented an ASME Code leak repair as corrective action to restore the degraded condition and reinforced expectations of procedural use and adherence with operations personnel. Because this finding is of very low safety significance and has been entered into the licensee's corrective action program as CR-WF3-2013-1284, this violation is being treated as a NCV in accordance

with Section 2.3.2.a of the Enforcement Policy: NCV 05000382/2013002-02, “Failure to Perform an Adequate Operability Determination for Nitrogen Leak in MSIV.”

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- On January 23, 2013, testing following corrective maintenance on the emergency feedwater backup control flow control valve EFW-223A
- On February, 28, 2013, testing following replacement and calibration of 4kV under voltage relays
- On March 6, 2013, testing following corrective maintenance to repair auxiliary cooling water valve 126A
- On March 12, 2013, testing following corrective maintenance for essential chiller, train B

The inspectors selected these activities based upon the structure, system, or component's ability to affect risk. The inspectors evaluated these activities for the following (as applicable):

- The effect of testing on the plant had been adequately addressed; testing was adequate for the maintenance performed
- Acceptance criteria were clear and demonstrated operational readiness; test instrumentation was appropriate

The inspectors evaluated the activities against the technical specifications, the updated final safety analysis report, 10 CFR Part 50 requirements, licensee procedures, and various NRC generic communications to ensure that the test results adequately ensured that the equipment met the licensing basis and design requirements. In addition, the inspectors reviewed corrective action documents associated with post-maintenance tests to determine whether the licensee was identifying problems and entering them in the corrective action program and that the problems were being corrected commensurate with their importance to safety. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of four post-maintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

1 Refueling Outage Activities

a. Inspection Scope

The inspectors completed the review of the Waterford Steam Electric Station, Unit 3, refueling outage 18, conducted from January 1, 2013 to January 17, 2013, to confirm that licensee personnel continued to appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured outage activities met applicable design and licensing requirements. During this period of the refueling outage, the inspectors observed portions of the startup and heat up processes and monitored licensee controls over the outage activities listed below.

- Configuration management, including maintenance of defense in depth, is commensurate with the outage safety plan for key safety functions and compliance with the applicable technical specifications when taking equipment out of service.
- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work or testing.
- Status and configuration of electrical systems to ensure that technical specifications and outage safety-plan requirements were met, and controls over switchyard activities.
- Monitoring of decay heat removal processes, systems, and components.
- Verification that outage work was not impacting the ability of the operators to operate the spent fuel pool cooling system.
- Reactor water inventory controls, including flow paths, configurations, and alternative means for inventory addition, and controls to prevent inventory loss.
- Controls over activities that could affect reactivity.
- Startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing.
- Licensee identification and resolution of problems related to refueling outage activities.

Specific documents reviewed during this inspection are listed in the attachment.

b. Findings

No findings were identified.

.2 Forced Outage Activities

a. Inspection Scope

On January 21, 2013, Waterford Steam Electric Station, Unit 3, experienced a forced outage due to an automatic reactor trip caused by induced vibrations on the feedwater piping system. During this forced outage, the inspectors observed portions of the startup and heat up processes and monitored licensee controls over the outage activities listed below.

- Clearance activities, including confirmation that tags were properly hung and equipment appropriately configured to safely support the work
- Controls over activities that could affect reactivity.
- Startup and ascension to full power operation, tracking of startup prerequisites, walkdown of the drywell (primary containment) to verify that debris had not been left which could block emergency core cooling system suction strainers, and reactor physics testing.
- Licensee identification and resolution of problems related to force outage activities.

Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of two outage inspection sample as defined in Inspection Procedure 71111.20-05.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the updated final safety analysis report, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or

reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Acceptance criteria
- Test equipment
- Procedures
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Reference setting data
- Annunciators and alarms setpoints

The inspectors also verified that licensee personnel identified and implemented any needed corrective actions associated with the surveillance testing.

- On January 14, 2013, cold shutdown inservice valve test

- On January 28, 2013, high pressure safety injection pump, train A, operability test

- On March 6, 2013, auxiliary component cooling water pump, train, A operability test (inservice test)

These activities constitute completion of three surveillance testing inspection samples as defined in Inspection Procedure 71111.22-05.

b. Findings

Introduction. The inspectors identified a Green NCV of 10 CFR Part 50, Appendix B, Criterion XI, "Test Control," because the licensee failed to identify and perform testing on safety-related components to demonstrate that they would perform satisfactorily in service, in accordance with requirements contained in applicable design documents. Specifically, the licensee did not identify and perform testing on several safety-related air-operated valves to demonstrate local manual operation in the event their safety-related nitrogen accumulators were exhausted. This is contrary to the requirements contained in the UFSAR and design calculations.

Description. On November 12, 2012, while the plant was shutdown during a refueling outage, the licensee discovered that the manual hand-wheel override on the header B auxiliary component cooling essential chiller isolation valve (ACC-112B) did not function as designed. The initial troubleshooting assessment determined that the most likely cause was the local M4 manual hydraulic control system. Operations personnel use this system to perform local manual operation once the valve's safety-related nitrogen

accumulators had exhausted following design basis accidents. The licensee initiated a condition report and a work order to resolve the problem. The inspectors reviewed the condition report, associated work orders, and design documents related to this issue.

During the review, the inspectors noted that the licensee did not perform testing on the local M4 manual hydraulic control system for the ACC-112B valve. The inspectors determined that design documents required operators to conduct manual realignment of the essential chillers from the auxiliary component cooling water (ACCW) system to the component cooling water (CCW) system depending upon CCW system temperature using ACC-112B and other essential chiller isolation valves in post accident conditions. This manual operator action could take place from one to seven days after a tornado or large break loss of coolant accident, respectively. The inspectors noted that the one to seven day period exceeded the safety-related accumulator time of ten hours. The inspectors questioned how the licensee demonstrated operability of the local manual operation of the valve since the licensee must manually re-align this valve to maintain valve alignment for cooling water supply to the essential chillers that cool a number of safety related equipment following a design basis accident. The inspectors concluded that the licensee did not identify and perform testing of ACC-112B to demonstrate that the local manual operation would perform satisfactorily in accordance with requirements contained in the UFSAR and design calculation.

As a part of this issue, the licensee performed an extent of condition review and identified several other safety-related air-operated valves having mission times greater than the installed accumulator capacity that took credit for manual operator action following depletion of their safety-related accumulator. These air-operated valves included: (1) essential chiller coolant select valves – ACC-112A, ACC-139A(B), CC-301A(B), and CC-322A(B); (2) emergency feed water (EFW) flow control and isolation valves – EFW-223A(B), EFW-224A(B), EFW-228A(B), and EFW-229A(B); and (3) CCW cross-connect valves – CC-114A(B), CC-115A(B), CC-126A(B), and CC-127A(B). The inspectors concluded that manual operator action of these valves would be required after ten hours for particular design basis accidents unless operators could recharge the accumulators in a timely manner. The inspectors reviewed the licensee's off normal procedure OP-901-511, "Instrument Air Malfunction," to determine if the procedure provided adequate guidance for operators to recharge the accumulators or perform manual operator actions. The inspectors discovered that the procedure contained vague instructions and that the licensee did not train operators to perform these actions. These actions could be required as soon as 14 to 16 hours after an equipment failure with a natural circulation cool down or small break loss of coolant accident, respectively.

In addition, the inspectors noted that the licensee missed opportunities to identify these additional valves in 1988 and 2010. The licensee identified that the nitrogen accumulators for the atmospheric dump valves and ACC header CCW heat exchanger temperature control valves could require manual valve operation after their installed backup air supply was exhausted. The licensee did not perform an extent of condition review for these condition reports. The inspectors concluded that the finding reflected current licensee performance and involved a cross-cutting aspect in the corrective action

program component of the problem identification and resolution area in that the licensee did not thoroughly evaluate problems such that the resolutions addressed causes and extent of conditions, as necessary. This included properly classifying, prioritizing, and evaluating conditions adverse to quality. The licensee entered this issue into their corrective action program as CR-WF3-2012-6703. The immediate corrective actions taken to restore compliance included developing a test for the local manual operation for some valves and the installation of a backup air supply to recharge the accumulators for other valves.

Analysis. The failure to identify and perform testing to demonstrate that safety-related components would perform satisfactorily in service in accordance with requirements contained in applicable design documents was a performance deficiency. The inspectors determined that it was reasonable for the licensee to be able to foresee and prevent the performance deficiency. The performance deficiency was more than minor because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors used the NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," to evaluate this issue. The finding required a detailed analysis because it involved a potential loss of a system function of safety related equipment. Therefore, the senior reactor analyst performed a bounding detailed risk evaluation.

The analysts performed simplified calculations to determine the change to the core damage frequency (Delta-CDF) for the multiple valve issues. The analyst evaluated all of the valve issues together in one detailed risk evaluation because all of the value issues were related to the same proximate performance deficiency.

It is important to note that the performance deficiency involves the failure to have and be able to implement a successful strategy to recharge valve accumulators prior to accumulator depletion.

From a risk perspective, problematic scenarios include only those that result in a loss of instrument air (including losses of offsite power and loss of instrument air events). Most design basis accidents that include combinations of a loss of offsite power as well other initiating events are so improbable in risk space that they are not considered further. However, the design basis requirements must still be met. The analyst broke the valve issues up into related groups.

Valves CC-114A, CC-114B, CC-115A, CC-115B, CC-126A, CC-126B, CC-127A, CC-127B:

These CCW train separation valves are normally open and fail open upon a loss of instrument air. Their safety function is to close in response to a safety injection actuation signal to ensure train separation (a design basis requirement). However, the failure to provide train separation should not affect the ability of each train to perform its probabilistic risk assessment function, unless one train suffered a simultaneous rupture such that both trains would be drained and rendered nonfunctional. The frequency of a

design basis event coincident with a CCW train piping rupture is so low that it need not be considered further. Therefore there was no quantifiable change to the core damage frequency associated with these valves.

Valves CC-301A, CC-301B, CC-322A, CC-322B, ACC-112A, ACC-112B, ACC-139A, and ACC-139B:

ACCW may be needed during the initial days of a design basis accident to ensure adequate cooling of the safety related chillers. Once major heat loads are reduced, the CCW system, alone, can provide adequate cooling to the chillers. The noted valves are associated with changing the cooling alignment between the ACCW and CCW systems. The normal valve alignment has the chillers aligned to the higher capacity ACCW system. All of the valves fail as-is upon a loss of instrument air.

Since in most instances, in the first 24 hours of the accident, the cooling water to the chillers will be aligned to the higher capacity ACCW system (and the valves fail as-is) there would be no quantifiable change to the core damage frequency because of this performance deficiency. In addition, since heat loads tend to reduce over time, if the swap over to the CCW system had already occurred, there would be little risk to the chillers upon a loss of instrument air. In the very unlikely event that this swap over had occurred, and heat loads increased, the cooling water to the chillers would still be adequate to maintain the chillers in a functional state. Therefore, while there could be some unquantifiable increase to the core damage frequency, the analyst qualitatively determined that that increase would be very small and much less than E-7/yr.

Valves EFW-223A, EFW223-B, EFW-224A, EFW-224B, EFW-228A, EFW-228B, EFW-229A, and EFW-229B:

These valves are normally open and fail open upon a loss of instrument air. Operators use these valves to control EFW flow to the two steam generators. Since the valve's fail open, this could lead to a steam generator overfilling event. However, over-filling and over-cooling events are not risk significant. Operators could, nonetheless, control steam generator level using alternate means, such as turning on and off the motor driven pumps or adjusting the speed of the turbine driven EFW pump. Therefore, for most of these events (including tornado) the analyst determined that the change to the core damage frequency was not quantifiable, but was very small.

Two scenarios of concern remained for further consideration. They involved the steam generator tube rupture and faulted steam generator sequences.

Steam Generator Tube Rupture:

For the steam generator tube rupture event, operators may have difficulty balancing the steam generator flow to implement the emergency operating procedures. If a loss of instrument air were to immediately occur, more of the flow would go to the intact steam generator because it would be at a lower relative pressure. However, the accumulator should last at least 10 hours. Operators are trained to complete the needed emergency operating procedure steps well within this time frame. By the time that the accumulator

ran out of air, the plant should be on shutdown cooling and the steam generator should be depressurized and isolated from the atmosphere by the closed atmospheric dump valves.

The Delta-CDF for a steam generator tube rupture event, coincident with a loss of instrument air and the failure of operators to achieve shutdown cooling within 10 hours was not readily quantifiable but would be very small.

Faulted Steam Generator:

For the faulted steam generator accident, the loss of instrument air would result in the inability to isolate the faulted steam generator and divert water to the intact steam generator. The intact steam generator could become starved for water and run dry. The frequency for a steam line break upstream of the main steam isolation valves (3.7E-4/yr) coincident with an immediate loss of instrument air (1.1E-4) was:

$$\lambda = 3.7E\text{-}4/yr * 1.1E\text{-}4 = 4E\text{-}8/yr$$

This frequency does not credit the accumulators. The Delta-CDF was bounded by this value.

Overall Delta-CDF: Each of the Delta-CDF contributors was very small. The analyst qualitatively determined that the Delta-CDF was still bounded by the largest contributor:

$$\text{Delta-CDF} < 4E\text{-}8/yr.$$

The dominant core damage sequences included losses of offsite power, which result in an early loss of the instrument air compressors. The fact the accumulators would allow continued air operated valve operation for ten or more hours helped to reduce the risk.

Large Early Release Frequency (LERF):

To address the contribution to conditional large early release frequency, the analyst used NRC Inspection Manual Chapter 0609, Appendix H, “Containment Integrity Significance Determination Process,” dated May 6, 2004. The finding could potentially affect the plant response to a steam generator tube rupture event, so this event was evaluated with respect to LERF.

As noted above, the Delta-CDF for this finding for the steam generator tube rupture initiating events was less than 1E-7 per year. This would bound the change in LERF. Since the change in LERF was less than 1E-7 per year, the finding was not significant with respect to LERF.

The inspectors concluded that the finding reflected current licensee performance and involved a cross-cutting aspect in the corrective action program component of the problem identification and resolution area in that the licensee did not thoroughly evaluate problems such that the resolutions address causes and extent of conditions, as necessary [P.1(c)].

Enforcement. Title 10 of CFR Part 50, Appendix B, Criterion XI, "Test Control," requires in part, that a test program shall be established to assure that all testing required to demonstrate that structures, systems, and components will perform satisfactorily in service is identified and performed in accordance with written test procedures which incorporate the requirements and acceptance limits contained in applicable design documents. Contrary to the above, as of November 12, 2012, the licensee did not identify and perform testing on safety-related components to demonstrate that they would perform satisfactorily in service in accordance with requirements contained in applicable design documents. Specifically, the licensee did not establish a test program to identify and perform testing on several safety-related air-operated valves to demonstrate local manual operation after their safety-related nitrogen accumulators were exhausted. As a result, the licensee could not demonstrate that the safety-related valves would perform satisfactorily in service in accordance with requirements contained in the UFSAR and design calculations. The licensee entered this condition into their corrective action program as CR-WF3-2012-6703. The immediate corrective actions taken to restore compliance included developing a test program for the local manual operation for some valves and the installation of a backup air supply to recharge the accumulators for other valves. Because this violation of Appendix B, Criterion XI was of very low safety significance and entered into the licensee's corrective action program, this violation is being treated as a NCV, consistent with Section 2.3.2.a of the Enforcement Policy:
NCV 05000382/2013002-03, "Failure to Identify and Perform Testing to Demonstrate Local Manual Operation Action on Safety-Related Air-Operated Valves."

Cornerstone: Emergency Preparedness

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under ADAMS accession numbers ML13023A366 and ML130230023 as listed in the Attachment.

The licensee determined that in accordance with 10 CFR 50.54(q), the changes made in the revisions resulted in no reduction in the effectiveness of the Plan, and that the revised Plan continued to meet the requirements of 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. The NRC review was not documented in a safety evaluation report and did not constitute approval of licensee-generated changes; therefore, this revision is subject to future inspection. The specific documents reviewed during this inspection are listed in the Attachment.

These activities constitute completion of two samples as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the fourth Quarter 2012 performance indicators for any obvious inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

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

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7,000 critical hours performance indicator for the period from the first Quarter 2012 through the fourth Quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period first Quarter 2012 through the fourth Quarter 2012 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned scrams per 7,000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Unplanned Power Changes per 7000 Critical Hours (IE03)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7,000 critical hours performance indicator for the period from the first Quarter 2012 through the fourth Quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period of first Quarter 2012 through the fourth Quarter 2012 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned transients per 7,000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams with complications performance indicator for the period from the first Quarter 2012 through the fourth Quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of first Quarter 2012 through the fourth Quarter 2012 to validate the accuracy of the submittals. The inspectors also reviewed the licensee's issue report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned scrams with complications sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's 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. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications, common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

In order to assist with the identification of repetitive equipment failures and specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. The inspectors accomplished this through review of the station's daily corrective action documents.

The inspectors performed these daily reviews as part of their daily plant status monitoring activities and, as such, did not constitute any separate inspection samples.

b. Findings

No findings were identified.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

Reactor Trip Due to Secondary Transient

On January 21, the unit experienced an automatic trip from 91 percent power due to a secondary transient that cause a low level in the number one steam generator. No personnel injuries or equipment damage occurred. The inspectors responded to the control room and reviewed the licensee actions. The inspector's review is documented in Section 1R20 of this report. On January 23, operators started to increase power and achieved 100 percent power on January 30.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On April 3, 2013, the inspectors presented the inspection results to Ms. D. Jacobs, Vice President, Operations, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

D. Jacobs, Vice President, Operations
K. Cook, General Manager, Plant Operations
S. Adams, Planning & Scheduling Operations Manager
L. Blocker, Nuclear Oversight Manager
D. Boan, Supervisor, Radiation Protection
J. Briggs, Electrical Maintenance Superintendent
K. Crissman, Manager, Maintenance
D. Frey, Manager Radiation Protection
J. Frick, Off Site Review Committee Chairman
C. Fugate, Manager, Licensing
R. Gilmore, Manager, Programs & Components Engineering
W. Hardin, Senior Licensing Specialist, Licensing
B. Heath, Manager, Chemistry
B. Lanka, Manager, System Engineering
B. Lindsey, Manager, Operations
W. McKinney, Director, Corrective Action Programs
S.W. Meiklejohn, I & C Maintenance Superintendent
K. Nichols, Director, Engineering
B. Pellegrin, Manager, Emergency Planning
R. Perry, Manager, Emergency Planning
G. Pierce, Manager, Training
R. Porter, Manager, Design Engineering
C. Rich, Jr., Director Nuclear Safety Assurance

NRC Personnel

M. Davis, Senior Resident Inspector
M. Baquera, Acting Senior Resident Inspector
J. Laughlin, Emergency Preparedness Inspector, NSIR

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000382-2013002-01	NCV	Failure to Identify and Control Potential Tornado Borne Missile Hazards (Section 1R01)
05000382-2013002-02	NCV	Failure to Perform an Adequate Operability Determination for Nitrogen Leak in MSIV (Section 1R15)
05000382-2013002-03	NCV	Failure to Identify and Perform Testing to Demonstrate Local Manual Operation Action on Safety-Related Air-Operated Valves (Section 1R22)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
OP-901-521	Severe Weather and Flooding	307
EN-EP-303	Severe Weather Recovery	0
OP-002-003	Component Cooling Water	308

Section 1R04: Equipment Alignment

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
OP-002-001	Auxiliary Component Cooling Water	304
OP-009-003	Emergency Feedwater	305

DRAWINGS

NUMBER	TITLE	REVISION
G134	General Arrangement Reactor Auxiliary Bldg. Plan. El +21.00	30
G135	General Arrangement Reactor Auxiliary Bldg. Plan. El +46.00	35

WORK ORDERS

52446049

Section 1R05: Fire Protection

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
OP-009-004	Fire Protection	307
UNT-005-013	Fire Protection Program	11
Prefire Strategy 1A, B, C, D-001	Control Room Proper, H&V Room, Emergency Living Quarters and Computer Room	7
Prefire Strategy 2-001	H&V Mechanical Room	12
RAB 18-001	Component Cooling Water Heat Exchanger “A”	8
RAB 2-001	H&V Mechanical Room	12
RAB 33-001	Shutdown Cooling Heat Exchanger Rooms “A” and “B”	9
OP-009-004	Fire Protection	314
UNT-005-013	Fire Protection Program	12
PS-015-111	Fire Door Surveillance	301

Section 1R11: Licensed Operator Requalification Program

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
EN-OP-115	Conduct of Operations	12
OP-010-003	Plant Startup	327

Section 1R12: Maintenance Effectiveness

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
EN-DC-203	Maintenance Rule Program	2
EN-DC-204	Maintenance Rule Scope and Basis	2
EN-DC-153	Preventive Maintenance Component Classification	6
OP-902-006	Loss of Main Feedwater Recovery	13

Section 1R12: Maintenance Effectiveness

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
OP-003-004	Condensate Makeup	306
SD-CMU	Condensate Makeup Water	7

CONDITION REPORTS

CR-WF3-2013-1159

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
OI-037-000	Operations' Risk Assessment Guideline	304
EN-WM-104	Online Risk Assessment	7

Section 1R15: Operability Evaluations

NUMBER	TITLE	REVISION
EN-OP-104	Operability Determination Process	6
OP-100-014	Technical Specifications and Technical Requirement Compliance	313

CONDITION REPORTS

CR-WF3-2013-427	CR-WF3-2013-988	CR-WF3-2013-932	CR-WF3-2013-1069
CR-WF3-2013-1077	CR-WF3-2013-612	CR-WF3-2013-638	

Section 1R19: Post-Maintenance Testing

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
EN-MA-123	Identification and Trending of Rework	5
EN-WM-102	Work Implementation and Closeout	7
EN-WM-105	Planning	10

Section 1R19: Post-Maintenance Testing

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
EN-WM-107	Post Maintenance Testing	4

WORK ORDERS

52360827 52361701 343772 52350127 270925
339598

Section 1R20: Refueling and Other Outage Activities

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
PLG-009-014	Conduct of Planned Outages	308
OP-010-003	Plant Startup	327
OP-010-004	Power Operations	319
OP-010-006	Outage Operations	320
OP-004-019	Estimated Critical Configuration	12

Section 1R22: Surveillance Testing

PROCEDURES/DOCUMENTS

NUMBER	TITLE	REVISION
OP-903-030	Safety Injection Pump Operability	19
OP-901-511	Instrument Air Malfunction	9
OP-902-002	Loss of Coolant Accident Recovery	16
ECS09-005	Air-Operated Valves – Design Basis Accident Times	1
MN(Q)9-3	Heat Removal Capabilities of DCT and WCT after LOCA	7
EC-41355	Evaluate Manual Operator Actions Outside Control Room for AOVs	0
EC-41095	Backup Air supply for N2 Accumulators I and II	0
W3-DBD-014	Safety Related, Air Operated Valves	301

CONDITION REPORTS

CR-WF3-2012-6545	CR-WF3-2012-6703	CR-WF3-2012-7566	CR-WF3-2012-7570
CR-WF3-2010-0227	CR-WF3-2010-3602		

WORK ORDERS

333680	333679	234008	52360832

Section 1EP4: Emergency Action Level and Emergency Plan Changes

PROCEDURES/DOCUMENTS

TITLE	REVISION
Emergency Plan	44
Evacuation Time Estimate Study Update	

Section 4OA1: Performance Indicator Verification

PROCEDURES

NUMBER	TITLE	REVISION
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	6
EN-LI-114	Performance Indicator Process	4

Section 4OA3: Event Follow-Up

PROCEDURES

NUMBER	TITLE	REVISION
OP-010-003	Plant Startup	327
OP-010-004	Power Operations	319