UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
1600 E. LAMAR BLVD.
ARLINGTON, TX 76011-4511

January 20, 2017

Mr. Michael R. Chisum
Site Vice President
Entergy Operations, Inc.
17265 River Road
Killona, LA 70057-0751

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NRC INTEGRATED INSPECTION REPORT 05000382/2016004 AND 07200075/2016001

Dear Mr. Chisum:

On December 31, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Waterford Steam Electric Station, Unit 3. On January 12, 2017, the NRC inspectors discussed the results of this inspection with you and other members of your staff. The results of this inspection are documented in the enclosed report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; the Director, Office of Enforcement; and the NRC resident inspector at the Waterford Steam Electric Station, Unit 3.

If you disagree with the 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 U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region IV; and the NRC resident inspector at the Waterford Steam Electric Station, Unit 3.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at http://www.nrc.gov/reading-rm/adams.html and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Geoffrey Miller, Branch Chief
Projects Branch D
Division of Reactor Projects

Docket Nos. 50-382, 72-075
License No. NPF-38

Enclosure:
Inspection Report 05000382/2016004
and 07200075/2016001
w/ Attachment: Supplemental Information

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ADAMS ACCESSION NUMBER: ML17020A035

☒ SUNSI Review By: GMiller		ADAMS ☒ Yes ☐ No	☒ Non-Sensitive ☐ Sensitive	☒ Publicly Available ☐ Non-Publicly Available		Keyword: NRC-002
OFFICE	SRI:DRP/D	RI:DRP/D	C:DRS/EB1	C:DRS/EB2	C:DRS/PSB2	C:DRS/OB
NAME	FRamirez	CSpeer	TFarnholtz	GWerner	HGepford	VGaddy
SIGNATURE	/RA/	/RA/	/RA/	/RA/	/RA/	/RA/
DATE	1/19/17	1/13/2017	01/18/2017	1/18/17	1/18/2017	1/17/17
OFFICE	TL:DRS/IPAT	BC:DNMS	SPE:DRP/D	BC:DRP/D		
NAME	THipschman	LBrookhart	/RA/	GMiller		
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DATE	1/17/17	1/13/17	1/18/17	1/19/17		

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Letter to Michael R. Chisum from Geoffrey Miller dated January 20, 2017

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NRC INTEGRATED INSPECTION REPORT 05000382/2016004 AND 07200075/2016001

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Project Manager, DSFM (William.Allen@nrc.gov)
ISFSI Vendor Inspector, DSFM (Marlone.Davis@nrc.gov)
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Resident Inspector (Chris.Speer@nrc.gov)
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Branch Chief, DRP/D (Geoffrey.Miller@nrc.gov)
Senior Project Engineer, DRP/D (John.Dixon@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Project Manager (April.Pulvirenti@nrc.gov)
Team Leader, DRS/IPAT (Thomas.Hipschman@nrc.gov)
Reactor Inspector, IPAT (Eduardo.Uribe@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
ACES (R4Enforcement.Resource@nrc.gov)
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RIV Congressional Affairs Officer (Angel.Moreno@nrc.gov)
RIV/ETA: OEDO (Jeremy.Bowen@nrc.gov)
RIV RSLO (Bill.Maier@nrc.gov)
ROPreports.Resource@nrc.gov
ROPassessment.Resource@nrc.gov

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000382 and 07200075
License:	NPF-38
Report:	05000382/2016004 and 07200075/2016001
Licensee:	Entergy Operations, Inc.
Facility:	Waterford Steam Electric Station, Unit 3
Location:	17265 River Road Killona, LA 70057
Dates:	October 1 through December 31, 2016
Inspectors:	F. Ramírez, Senior Resident Inspector C. Speer, Resident Inspector E. Simpson, Lead ISFSI Inspector, FCDB M. Davis, ISFSI Vendor Inspector, DSFM
Approved By:	Geoffrey Miller Chief, Projects Branch D Division of Reactor Projects

SUMMARY

IR 05000382/2016004, 07200075/2016001; 10/01/2016 – 12/31/2016, Waterford Steam Electric Station, Unit 3; Maintenance Effectiveness.

The inspection activities described in this report were performed between October 1 and December 31, 2016, by the resident inspectors at Waterford Steam Electric Station, Unit 3, and inspectors from the NRC's Region IV office and other NRC offices. One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. The significance of inspection findings is indicated by their color (i.e., Green, greater than Green, White, Yellow, or Red), determined using Inspection Manual Chapter 0609, "Significance Determination Process," dated April 29, 2015. Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas," dated December 4, 2014. Violations of NRC requirements are dispositioned in accordance with the NRC Enforcement Policy. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," dated July 2016.

Cornerstone: Mitigating Systems

- Green. A self-revealed, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," occurred because the licensee did not assure that the procedures for post-maintenance testing of activities affecting quality included appropriate quantitative or qualitative acceptance criteria for determining that maintenance activities were satisfactorily accomplished. Specifically, the licensee did not assure that post-maintenance testing of essential chiller B would identify inappropriately assembled guide vanes, following maintenance on April 11, 2016, resulting in the unexpected inoperability of essential chiller B on August 12, 2016. The licensee entered this condition into their corrective action program as Condition Report CR-WF3-2016-05155. The corrective action taken to restore compliance was to issue work instructions for post-maintenance testing of the essential chillers that ensures the guide vanes respond to load changes.

  The performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Specifically, the failure to perform maintenance with procedures appropriate to the circumstances resulted in the inoperability of essential chiller B. The inspectors determined the significance of the finding using NRC Inspection Manual Chapter 0609, "Significance Determination Process." Using Appendix A, "The Significance Determination Process for Findings At-Power," the inspectors determined that the finding was of very low safety significance (Green) because all the screening questions in Exhibit 2, "Mitigating Systems Screening Questions," were answered 'No.' The finding had a cross-cutting aspect in the area of human performance, teamwork, because the licensee did not ensure that individual and work groups communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety was maintained. Specifically, electrical and mechanical maintenance personnel did not communicate and coordinate work to ensure that the guide vane arm and actuator linkage were assembled appropriately [H.4]. (Section 1R12)

PLANT STATUS

The Waterford Steam Electric Station, Unit 3, began the inspection period at 100 percent power. On October 24, 2016, the licensee commenced a reactor shutdown to address elevated, unidentified reactor coolant system leakage. Following repairs to reactor coolant pump 1B, the licensee restarted the reactor on October 30, 2016, and achieved 100 percent power on November 2, 2016. The unit remained at 100 percent power for the remainder of the inspection period.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

Readiness to Cope with External Flooding

a. Inspection Scope

On December 22, 2016, the inspectors completed an inspection of the station's readiness to cope with external flooding. After reviewing the licensee's flooding analysis, the inspectors chose two plant areas that were susceptible to flooding:

- auxiliary component cooling water pump area
- spent fuel pool cask decontamination area

The inspectors reviewed plant design features and licensee procedures for coping with flooding. The inspectors walked down the selected areas to inspect the design features, including the material condition of seals, drains, and flood barriers. The inspectors evaluated whether credited operator actions could be successfully accomplished.

These activities constituted one sample of readiness to cope with external flooding, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

Partial Walk-Down

a. Inspection Scope

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

- On October 12, 2016, shield building ventilation train A with train B out of service for maintenance

- On December 3, 2016, chilled water system train AB with train A out of service for maintenance

The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the systems. They visually verified that critical portions of the trains were correctly aligned for the existing plant configuration.

These activities constituted two partial system walk-down samples, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

Quarterly Inspection

a. Inspection Scope

The inspectors evaluated the licensee's fire protection program for operational status and material condition. The inspectors focused their inspection on five plant areas important to safety:

- On October 17, 2016, fire area NS-TB-003, turbine building mezzanine +40 east
- On October 17, 2016, fire area NS-TB-004, turbine building mezzanine +40 west
- On November 17, 2016, fire area RAB 3, HVAC equipment room
- On November 18, 2016, fire area RAB 38, motor driven emergency feed pump room B
- On December 17, 2016, fire area RAB 21, component cooling water pump B

For each area, the inspectors evaluated the fire plan against defined hazards and defense-in-depth features in the licensee's fire protection program. The inspectors evaluated control of transient combustibles and ignition sources, fire detection and suppression systems, manual firefighting equipment and capability, passive fire protection features, and compensatory measures for degraded conditions.

These activities constituted five quarterly inspection samples, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On October 23, 2016, the inspectors completed an inspection of the station's ability to mitigate flooding due to internal causes. After reviewing the licensee's flooding analysis, the inspectors chose one plant area containing risk-significant structures, systems, and components (SSCs) that was susceptible to flooding:

- Flood Zone 5, -35 foot elevation open hallway and rooms

The inspectors reviewed plant design features and licensee procedures for coping with internal flooding. The inspectors walked down the selected areas to inspect the design features, including the material condition of seals, drains, and flood barriers. The inspectors evaluated whether operator actions credited for flood mitigation could be successfully accomplished.

These activities constituted completion of one flood protection measures sample, as defined in Inspection Procedure 71111.06.

b. Findings

No findings were identified.

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

.1 Review of Licensed Operator Requalification

a. Inspection Scope

On November 17, 2016, the inspectors observed simulator training for an operating crew. The inspectors assessed the performance of the operators and the evaluators' critique of their performance.

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

b. Findings

No findings were identified.

.2 Review of Licensed Operator Performance

a. Inspection Scope

On October 24, 2016, 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 because the control room operators were performing a reactor shutdown. The inspectors observed the operators' performance of the following activities:

- Pre-job brief
- Alarm response
- Command and control
- Procedure adherence

In addition, the inspectors assessed the operators' adherence to plant procedures, including the conduct of operations procedure and other operations department policies.

These activities constituted 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)

.1 Routine Maintenance Effectiveness

a. Inspection Scope

On December 1, 2016, the inspectors reviewed one instance of degraded performance or condition of safety-related SSCs on the site's essential chillers.

The inspectors reviewed the extent of condition of possible common cause SSC failures and evaluated the adequacy of the licensee's corrective actions. The inspectors reviewed the licensee's work practices to evaluate whether these may have played a role in the degradation of the SSCs. The inspectors assessed the licensee's characterization of the degradation in accordance with 10 CFR 50.65 (the Maintenance Rule), and verified that the licensee was appropriately tracking degraded performance and conditions in accordance with the Maintenance Rule.

These activities constituted completion of one maintenance effectiveness sample, as defined in Inspection Procedure 71111.12.

b. Findings

Introduction. A self-revealed, Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," occurred because the licensee did not assure that the procedures for post-maintenance testing of activities affecting quality included appropriate quantitative or qualitative acceptance criteria for determining that maintenance activities were satisfactorily accomplished. Specifically, the licensee did not assure that post-maintenance testing of essential chiller B would identify inappropriately assembled guide vanes, an activity affecting quality, following maintenance on April 11, 2016, resulting in the unexpected inoperability of essential chiller B on August 12, 2016.

Description. On August 12, 2016, operations personnel noted elevated chilled water outlet temperatures on essential chiller B. Specifically, chilled water outlet temperatures reached between 45 and 46 degrees Fahrenheit, compared to the 42 degrees Fahrenheit maximum allowed temperature. Due to the elevated temperatures, at

5:04 p.m., operations personnel declared essential chiller B inoperable. Because essential chiller A was already inoperable due to a previous component failure, and there was no applicable technical specification action statement, the licensee entered Technical Specification 3.0.3, which required the licensee to begin shutting down the reactor within 1 hour.

The licensee placed essential chiller AB into service in place of essential chiller B, and at 6:02 p.m., declared essential chiller AB operable, which provided the plant with one operable train of chilled water. This, in turn, allowed the licensee to exit Technical Specification 3.0.3. The licensee remained in Technical Specification 3.7.12 and the associated 72-hour shutdown action statement until maintenance was completed on essential chiller A and it was declared operable at 11:00 p.m., providing the plant with two independent, operable trains of chilled water.

Following inspector questions, the licensee performed a calculation showing that adequate cooling capacity could be provided by the essential chillers with an outlet temperature of 46 degrees Fahrenheit.

In troubleshooting the event, the licensee found that the guide vane arm and actuator linkage for essential chiller B was assembled inappropriately. The guide vane actuator was previously replaced during an essential chiller B outage on April 11, 2016; however, post-maintenance testing, an activity affecting quality to ensure that the safety-related chiller would perform satisfactorily in-service, did not discover the inappropriately assembled components.

Following the April 11, 2016, outage, the chiller was found repeatedly tripping on low refrigerant pressure. However, the licensee mistakenly believed the failures were due to a faulty capacity control module. The licensee replaced the capacity control module and returned essential chiller B to service on April 22, 2016. Again, post-maintenance testing did not discover the inappropriate guide vane arm and actuator linkage. The inappropriate guide vane and actuator arm linkage assembly went undetected until a large load from switchgear ventilation was placed on the chiller on August 12, 2016, resulting in its inoperability.

During extensive troubleshooting following the August 12, 2016, failure, the licensee inspected the guide vanes and found them inappropriately aligned. The licensee corrected the guide vanes, restarted essential chiller, and declared it operable on September 3, 2016.

The guide vane and actuator arm assembly work is normally performed by a mechanical maintenance technician, but during the April 11, 2016, maintenance outage, the work was performed by an electrical technician. The work was not verified by anyone from mechanical maintenance.

Analysis. The failure to perform post-maintenance testing with procedures that included appropriate quantitative or qualitative acceptance criteria for determining that maintenance activities were satisfactorily accomplished was a performance deficiency. The inspectors concluded that the performance deficiency was more than minor, and therefore a finding, because it was associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating

events to prevent undesirable consequences. Specifically, the failure to perform post maintenance testing with procedures that included appropriate quantitative or qualitative acceptance criteria for determining that maintenance activities were satisfactorily accomplished resulted in the inoperability of essential chiller B.

The inspectors used NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated October 7, 2016, to evaluate the finding for its impact on the Mitigating Systems Cornerstone. The initial screening directed the inspectors to use Appendix A, "The Significance Determination Process for Findings At-Power," dated June 19, 2012, to determine the significance of the finding. Using Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined the finding as having very low safety significance (Green) because the finding did not affect the design or qualification of a mitigating SSC, it did not represent the loss of a function, it did not represent the loss of a single train or two separate safety systems for greater than the technical specification allowed outage time, and it did not represent an actual loss of function of one or more nontechnical specification trains of equipment designated as high safety-significant in accordance with the licensee's maintenance rule program for greater than 24 hours.

The inspectors concluded that the finding had a cross-cutting aspect in the area of human performance, teamwork, in that the licensee did not ensure that individual and work groups communicate and coordinate their activities within and across organizational boundaries to ensure nuclear safety was maintained. Specifically, the electrical and mechanical maintenance personnel did not communicate and coordinate work to ensure that the guide vane arm and actuator linkage were assembled appropriately [H.4].

Enforcement. Title 10 of the Code of Federal Regulations, Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that, "instructions, procedures, or drawings shall include appropriate quantitative or qualitative acceptance criteria for determining that important activities have been satisfactorily accomplished." Contrary to the above, prior to August 12, 2016, the licensee's procedures for post-maintenance testing did not contain appropriate quantitative or qualitative acceptance criteria for determining that important activities were satisfactorily accomplished. Specifically, post-maintenance testing procedures for the essential chillers, a safety-related SSC to which Appendix B applies, did not contain appropriate quantitative or qualitative acceptance criteria to determine that maintenance associated with the guide vane and actuator arm assembly was satisfactorily accomplished, which resulted in degrading performance of essential chiller B and its ultimate inoperability on August 12, 2016. The licensee entered this condition into their corrective action program as Condition Report CR-WF3-2016-05155. The corrective action taken to restore compliance was to issue work instructions for post-maintenance testing of the essential chillers that ensures the guide vanes respond to load changes. Because this violation was of very low safety significance (Green) and was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation (NCV) in accordance with Section 2.3.2.a of the NRC Enforcement Policy.
(NCV 05000382/2016004-01, "Failure to Ensure Appropriate Post-Maintenance Testing on Essential Chiller B")

.2 Quality Control

a. Inspection Scope

On November 9, 2016, the inspectors reviewed the licensee's quality control activities through a review of parts installed that were purchased as commercial-grade parts but were dedicated prior to installation related to maintenance performed on emergency diesel generator B, a quality-grade application.

These activities constituted completion of one quality control sample, as defined in Inspection Procedure 71111.12.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors observed portions of two emergent work activities that had the potential to cause an initiating event or to affect the functional capability of mitigating systems:

- On October 3, 2016, emergent work and changes to planned risk associated with conservative transmission operations
- On October 21, 2016, emergent maintenance on auxiliary component cooling water, train A

The inspectors verified that the licensee appropriately developed and followed a work plan for these activities. The inspectors verified that the licensee took precautions to minimize the impact of the work activities on unaffected SSCs.

These activities constituted completion of two emergent work control inspection samples, as defined in Inspection Procedure 71111.13.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed two operability determinations that the licensee performed for degraded or nonconforming SSCs:

- On October 6, 2016, operability determination of essential chiller B
- On November 17, 2016, operability determination of dry cooling tower B

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable, the

inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability of the degraded SSC.

These activities constituted completion of two operability review samples, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

a. Inspection Scope

On October 6, 2016, the inspectors reviewed a permanent plant modification to add emergency fuel oil storage capacity that affected risk-significant SSCs.

The inspectors reviewed the design and implementation of the modification. The inspectors verified that work activities involved in implementing the modification did not adversely impact operator actions that may be required in response to an emergency or other unplanned event. The inspectors verified that post-modification testing was adequate to establish the operability of the SSCs as modified.

These activities constituted completion of one sample of permanent modifications, as defined in Inspection Procedure 71111.18.

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed three post-maintenance testing activities that affected risk-significant SSCs:

- On November 11, 2016, emergency diesel generator B
- On November 29, 2016, emergency feedwater system, train A
- On December 20, 2016, auxiliary feedwater pump

The inspectors reviewed licensing- and design-basis documents for the SSCs and the maintenance and post-maintenance test procedures. The inspectors observed the performance of the post-maintenance tests to verify that the licensee performed the tests in accordance with approved procedures, satisfied the established acceptance criteria, and restored the operability of the affected SSCs.

These activities constituted completion of three post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

During the station's forced outage that concluded on October 30, 2016, the inspectors evaluated the licensee's outage activities. The inspectors verified that the licensee considered risk in developing and implementing the outage plan, appropriately managed personnel fatigue, and developed mitigation strategies for losses of key safety functions. This verification included the following:

- Monitoring of shut-down and cool-down activities
- Verification that the licensee maintained defense-in-depth during outage activities
- Observation and review of fuel handling activities
- Monitoring of heat-up and startup activities

These activities constituted completion of one outage activities sample, as defined in Inspection Procedure 71111.20.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed two risk-significant surveillance tests and reviewed test results to verify that these tests adequately demonstrated that the SSCs were capable of performing their safety functions:

Containment isolation valve surveillance tests:

- On October 11, 2016, emergency feedwater to steam generator 1 backup isolation valve EFW-229A

Other surveillance tests:

- On December 12, 2016, emergency diesel generator B

The inspectors verified that these tests met technical specification requirements, that the licensee performed the tests in accordance with their procedures, and that the results of the test satisfied appropriate acceptance criteria. The inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constituted completion of two surveillance testing inspection samples, as defined in Inspection Procedure 71111.22.

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP6 Drill Evaluation (71114.06)

Training Evolution Observation

a. Inspection Scope

On November 16, 2016, the inspectors observed simulator-based licensed operator requalification training that included implementation of the licensee's emergency plan. The inspectors verified that the licensee's emergency classifications, off-site notifications, and protective action recommendations were appropriate and timely. The inspectors verified that any emergency preparedness weaknesses were appropriately identified by the evaluators and entered into the corrective action program for resolution.

These activities constituted completion of one training observation sample, as defined in Inspection Procedure 71114.06.

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

4OA1 Performance Indicator Verification (71151)

.1 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors reviewed the licensee's reactor coolant system chemistry sample analyses for the period of October 2015 through September 2016 to verify the accuracy and completeness of the reported data. The inspectors observed a chemistry technician obtain and analyze a reactor coolant system sample on December 14, 2016. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the reactor coolant system specific activity performance indicator for Waterford Steam Electric Station, Unit 3, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Reactor Coolant System Total Leakage (BI02)

a. Inspection Scope

The inspectors reviewed the licensee's records of reactor coolant system total leakage for the period of October 2015 through September 2016 to verify the accuracy and completeness of the reported data. The inspectors observed the performance of OP-903-024, "Reactor Coolant System Water Inventory Balance," Revision 22 on December 15, 2016. The inspectors used definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, to determine the accuracy of the reported data.

These activities constituted verification of the reactor coolant system leakage performance indicator for Waterford Steam Electric Station, Unit 3, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review

a. Inspection Scope

Throughout the inspection period, the inspectors performed daily reviews of items entered into the licensee's corrective action program and periodically attended the licensee's condition report screening meetings. The inspectors verified that licensee personnel were identifying problems at an appropriate threshold and entering these problems into the corrective action program for resolution. The inspectors verified that the licensee developed and implemented corrective actions commensurate with the significance of the problems identified. The inspectors also reviewed the licensee's problem identification and resolution activities during the performance of the other inspection activities documented in this report.

b. Findings

No findings were identified.

.2 Semiannual Trend Review

a. Inspection Scope

The inspectors observed plant activities and reviewed the licensee's corrective action program, performance indicators, and other documentation to identify trends that might indicate the existence of a more significant safety issue. The inspectors verified that the licensee was taking corrective actions to address identified adverse trends.

These activities constituted completion of one semiannual trend review sample, as defined in Inspection Procedure 71152.

b. Observations and Assessments

The inspectors identified a trend involving deficient shift turnovers. Specifically, the inspectors noted three examples of poor communications between different plant departments or different personnel shifts. These gaps in communication resulted in plant adverse conditions that cycled the organization and, at times, impacted plant operations. The examples are discussed below:

- CR-WF3-2016-06736 – On October 27, 2016, an inadequate turnover between the outage control center night shift and day shift led to night shift personnel performing unauthorized work on the AB static uninterruptible power supply. This work, in turn, resulted in the total loss of the charging and letdown systems and the unexpected entry into Technical Specification 3.0.3.

- CR-WF3-2016-06808 – On October 28, 2016, an inadequate turnover between maintenance and operations personnel (both night shift and day shift) led to a spill of water that was being transferred from a backwash storage tank in the condensate polisher system to a temporary storage tank located outside the turbine building. This error resulted in the spill of approximately 150 gallons of water containing tritium into a storm drain inside the protected area (EN 52336).

- CR-WF3-2016-06840 – On October 31, 2016, during movement of a loaded spent fuel transfer cask (Hi-Trac), the crane operator mis-operated the crane which resulted in a crane overload condition. The crane operator did not turnover this information to the incoming fuel handling crew, which resulted in a halt of fuel transfer activities until the incoming shift could troubleshoot the issue.

In each instance, the inspectors ensured that the licensee corrected the condition. The inspectors discussed this trend with the licensee. The licensee entered this issue into the corrective action program as Condition Report CR-WF3-2017-00232. At the time this inspection report was submitted, the licensee was in the process of evaluating the issue and developing appropriate corrective actions.

c. Findings

No findings were identified.

.3 Annual Follow-up of Selected Issues

a. Inspection Scope

On December 19, 2016, the inspectors completed a review of EC 18522, “Clarify FSAR 7.7.1.1.1 Reactor Regulation System,” for an in-depth follow-up. The licensee had initiated this evaluation to address the operation of the control element drive mechanism control system with respect to the reactor regulation system.

The inspectors assessed the licensee's problem identification threshold, cause analyses, extent of condition reviews and compensatory actions. The inspectors verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate to correct the condition.

These activities constituted completion of one annual follow-up sample, as defined in Inspection Procedure 71152.

b. Findings

No findings were identified.

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

.1 (Closed) Licensee Event Report (LER) 05000382/2014-001-01, "Room Cooler Breaker Inoperability Causes Past Inoperability of Containment Spray System Train"

a. Inspection Scope

This LER described additional, amplifying information to that contained in LER 2014-001-00, issued on February 14, 2014. The original LER described the inoperability of the train B containment spray system for 23 days due to the installation of an inappropriate breaker. This revision to the original LER provides additional information regarding the inoperability of containment spray train A for 6.65 hours of maintenance during the time that train B was also inoperable. The original LER was reviewed by the resident inspectors in NRC Inspection Report 05000382/2014002 (ML14128A528). The results of the review are documented in Section 4OA3 of that report and an associated finding is documented in Section 4OA2 of that report. The residents confirmed that the additional information did not represent additional performance deficiencies or a change in the significance of the previously documented finding. This LER is closed.

b. Findings

No findings were identified.

.2 (Closed) Licensee Event Report (LER) 05000382/2015-004-02, "Inoperability of the Emergency Feedwater Actuation System, Emergency Feedwater (EFW) System, and Atmospheric Dump Valves due to Improper Configuration of the EFW System Flow Control System"

a. Inspection Scope

This LER described additional, amplifying information to that contained in LER 2015-004-00, issued on July 31, 2015, and LER 2015-004-01, issued on August 21, 2015. The original LER described flow oscillations in the emergency feedwater system following a reactor trip on June 3, 2015. The revisions to the LER provide additional information regarding the extent of condition, past operability, and corrective actions taken by the licensee. The original LER was reviewed by the resident inspectors in NRC Inspection Report 05000382/2015003 (ML15316A476). The results of the review and an associated finding are documented in Section 4OA3 of that report. The residents confirmed that the additional information provided in the LER revisions did

not represent additional performance deficiencies or change the significance of the previously documented finding. This LER is closed.

b. Findings

No findings were identified.

.3 (Closed) Licensee Event Report (LER) 05000382/2016-001-00, "Incorrect Core Protection Calculator Addressable Constant Entered Because of Inadequate Procedure Resulting in a Condition Prohibited by Technical Specifications"

a. Inspection Scope

On July 3, 2016, the control room received the core protection calculator (CPC) 'tilt exceeded' alarm. While adjusting the CPC addressable constants, control room operators discovered an incorrect assumed azimuthal power tilt value for CPC C. The CPC C value was adjusted previously on July 1, 2016. The input values were not verified against the addressable constant change log, and therefore, the values did not account for changes made by reactor engineering on May 17, 2016. The procedure for entering the addressable constants did not explicitly require that operators check the change log in order to verify that they were entering the most recent values. The inappropriate value for azimuthal power tilt input to CPC C resulted in its inoperability and required entries into Technical Specifications 3.3.1 and 3.2.3. Technical Specification 3.3.1 required that CPC C be placed into trip or bypass within 1 hour. Technical Specification 3.2.3 required the azimuthal power used by CPC C to be corrected within 2 hours. The inappropriate azimuthal power tilt value for CPC C entered on July 1, 2016, was not addressed by the control room until it was discovered on July 3, 2016, exceeding the technical specification allowed outage time by 29 hours. During the time that the incorrect assumed azimuthal power tilt value for CPC C was entered, no condition existed for which an alarm should have been received that was not. The inspectors reviewed the event and determined that the inappropriate procedure for entering addressable constants into the CPCs constituted a violation of Technical Specification 6.8.1.a and the licensee's commitment to Regulatory Guide 1.33, which, in part, requires appropriate procedures for the startup, operation, and shutdown of reactor control and protection systems. However, the inspectors determined the violation to be minor because it did not meet any of the more than minor requirements in NRC Inspection Manual Chapter 0612, Appendix B, "Issue Screening." The licensee entered this issue into their corrective action program as CR-WF3-2016-04290. This LER is closed.

b. Findings

No findings were identified.

.4 (Closed) Licensee Event Report (LER) 05000382/2016-002-01, "Both Trains of Essential Services Chilled Water Inoperable due to Failing to Maintain Exiting Chilled Water Temperature in Specification Resulting in Event or Condition that Could Have Prevented Fulfillment of a Safety Function"

a. Inspection Scope

On August 11, 2016, the licensee declared essential chiller A inoperable when operations personnel noted elevated chilled water outlet temperatures which occurred due to a failed capacity control module. Operations personnel entered Technical Specification 3.7.12, and its associated 72-hour shutdown action statement, due to not having two independent trains of essential chilled water operable. On August 12, 2016, at 5:04 p.m., operations personnel declared essential chiller B inoperable due to elevated chilled water outlet temperatures. Due to essential chiller A also being inoperable and there being no other applicable technical specification action statement, the licensee entered Technical Specification 3.0.3., which required the licensee to begin shutting down the plant within 1 hour. The licensee took action to place essential chiller AB into service in place of essential chiller B. At 6:02 p.m., the licensee declared essential chiller AB operable, which provided the licensee with one operable, independent train of chilled water and allowed the licensee to exit Technical Specification 3.0.3. The licensee remained in Technical Specification 3.7.12, and the associated 72-hour shutdown action statement, until essential chiller A was placed back into service at 11:00 p.m. The inspectors reviewed the LER associated with this event and documented an associated finding in Section 1R12 of this report. The previous revision of this LER was included as part of this review. In addition, the inspectors previously documented a licensee identified violation associated with the licensee's failure to make a timely notification to the NRC in Section 4OA7 of NRC Inspection Report 05000382/2016003 (ML16315A149). This LER is closed.

b. Findings

No findings were identified.

These activities constituted completion of four event follow-up samples, as defined in Inspection Procedure 71153.

4OA5 Other Activities

Operation of an Independent Spent Fuel Storage Facility at Operating Plants (60855.1)

a. Inspection Scope

A routine independent spent fuel storage installation (ISFSI) facility inspection was conducted of the Waterford, Unit 3, ISFSI on October 31, 2016, through November 3, 2016, by a Region IV Division of Nuclear Material Safety inspector and accompanying Division of Spent Fuel Management inspector from NRC Headquarters. The inspectors observed loading operations and reviewed selected licensee loading, processing, and heavy load procedures associated with the licensee's current dry fuel storage loading campaign. The inspectors performed a review of the fuel assemblies selected for placement into dry fuel storage for the current ISFSI campaign and those fuel assemblies loaded since the last inspection to verify that the licensee was loading fuel in accordance with the Holtec Certificate of Compliance (CoC) 1014 technical

specification (TS) approved contents. The inspectors reviewed documents including: (1) the multi-purpose canister (MPC) loading maps; and (2) the fuel assembly qualification information from the approved TS contents consisting of the assembly decay heat (kW), cooling time (years), average U-235 enrichment (%), and cumulative burnup (MWd/MTU). The canister contents reviewed during the inspection were found to meet all fuel requirements specified in the Holtec CoC.

During the time of the NRC ISFSI inspection, dry fuel storage operations at Waterford were in a stand-down due to problems associated with the fuel handling building (FHB) crane. The crane operator had inadvertently initiated upward motion on the crane hook while the loaded HI-TRAC transfer cask was being secured to the mating device and HI-STORM storage cask. The attempt to raise the load caused the protection circuitry of the FHB crane to actuate a fault because of an overload condition experienced by the main hook.

The overload condition of the FHB crane was complicated by a spurious trip of a seismic switch located in the FHB a short time later. The seismic switch was installed such that power to the crane would be lost in the event of a safe shutdown or operational basis earthquake. A loss of power to the crane would cause the bridge and trolley brakes to apply, halting any movement of the load and securing the crane to its runway. This additional occurrence served to complicate recovery of the dry fuel loading operations from the crane overload fault. As such, dry fuel loading operations did not progress beyond downloading of the MPC into the HI-STORM cask before NRC exited the inspection. NRC inspectors observed final downloading operations of the MPC from the transfer cask into the storage overpack before exiting the site. Waterford was in the process of loading the first canister of the current loading campaign (#18 overall) at the time of the inspection.

The NRC inspector verified the radiological conditions at the Waterford ISFSI through a review of the most recent radiological survey and a walk-down of the ISFSI pad with radiation survey instrumentation. The NRC inspectors were accompanied by a radiation protection (RP) technician during the inspection of the ISFSI pad. The ISFSI pad was clear of vegetative overgrowth and there were no unexpected combustible or flammable items present on the storage pad. The ISFSI pad contained 17 HI-STORM-100 casks which were in good physical condition. ISFSI boundary radiological measurements were taken by the RP technician with an ion-chamber detector to record gamma exposure rates. The NRC inspector carried a Ludlum Model 19 sodium-iodide survey meter (NRC 033906, calibration due July 13, 2017) and recorded measurements at the ISFSI boundary. The measurements taken by the NRC inspector and RP technician confirmed the measurements recorded on the most recent ISFSI site survey. The radiological conditions in and around the ISFSI were as expected for the age and heat-load of the 17 loaded spent fuel storage casks.

The licensee provided the NRC inspectors with annual Area Monitoring Reports for optically stimulated luminescent dosimeter data from accessible areas near the ISFSI pad. Those monitoring results showed that for 2014 and 2015 an individual situated near accessible portions of the ISFSI pad would experience a maximum occupational dose of just under 200 mrem per year. This was below the 10 CFR 20.1502(a)(1) regulatory limit of 500 mrem per year for unmonitored workers. Therefore, workers need not be monitored for occupational dose for activities near to, but outside of, the ISFSI posted radioactive materials area.

The Waterford Radiological Environmental Monitoring Program (REMP) performs on-site and off-site monitoring of radioactive effluents, airborne particulates, and direct radiation impacts to the environment due to operations at the reactor site. Waterford's REMP had 30 fixed measurement locations for direct radiation using thermoluminescent dosimeters (TLDs). Three of the TLD monitoring locations were near the site boundary in closest proximity to the ISFSI, located in the southwest sector of the reactor site. NRC inspectors reviewed the annual REMP reports for 2014 and 2015. The results for those three monitoring locations ranged from slightly below to slightly above the historical pre-ISFSI monitoring results for those same locations (1990 to 2010). The most elevated site boundary TLD reading was 5 mrem per year above the established background for that location. These monitoring results show that the maximum possible direct radiation influence the ISFSI may have on site boundary locations, 5 mrem per year, is below the 10 CFR 72.104(a)(2) regulatory requirement of less than 25 mrem per year.

The NRC inspectors reviewed three randomly selected weeks of HI-STORM 100 daily vent surveillance records to ensure that the Holtec CoC 1014 technical specification (TS) requirements were being met for fuel stored on the ISFSI pad. All documentation reviewed demonstrated the licensee performed the required surveillances, during the period reviewed, with no abnormalities reported.

The inspectors requested documentation related to maintenance, modifications, and safety evaluations performed for the fuel building cask handling crane. Documents were provided that demonstrated the fuel building cask handling crane was inspected on an annual basis in accordance with the safety standards of the American Society of Mechanical Engineers B30.2, “Overhead and Gantry Cranes,” prior to the 2016 loading campaign.

The licensee provided the inspectors with a list of ISFSI and fuel handling building (FHB) crane related condition reports (CRs) that were initiated since the last NRC inspection in June 2014. Identified problems were documented by the licensee as a CR for placement in the licensee’s corrective action program. Of the list of CRs provided relating to the ISFSI and the cask handling cranes, 20 were selected by the NRC inspectors for further review. The CRs were well documented and properly categorized based on the safety significance of the problems identified. The corrective actions taken were appropriate to the situations. Based on the types of conditions identified, the licensee demonstrated good attention to detail in regard to the maintenance and operation of their ISFSI program and the cask handling crane. No NRC safety concerns were identified related to the CRs selected during this inspection.

The licensee’s 10 CFR 72.48 screenings and evaluations for ISFSI program changes since the last NRC routine ISFSI inspection were reviewed to determine compliance with regulatory requirements. Waterford had performed two 10 CFR 72.48 screens as part of Entergy’s Process Applicability Determinations process. No full 10 CFR 72.48 evaluations were required for licensee changes since the last NRC inspection. The licensee had not performed any 10 CFR 50.59 screenings or evaluations for the fuel building cask handling crane since the last inspection. The 10 CFR 72.48 screenings that were reviewed were determined to have been adequately evaluated by the licensee.

An on-site review of the quality assurance (QA) audit and QA surveillance reports related to dry cask storage activities at the Waterford ISFSI was performed by the NRC inspectors. The 2014 and 2016 QA audit reports resulted in several condition reports. The NRC inspectors reviewed the corrective actions resulting from the condition reports to ensure that the identified deficiencies were properly categorized based on their safety significance and properly resolved. All audit identified deficiencies had been properly categorized and resolved by the licensee. The licensee had not performed any QA surveillances since the last inspection.

The inspectors observed that the licensee had met the licensing and regulatory requirements for the documents and activities reviewed associated with the dry cask storage activities at Waterford.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On November 3, 2016, the ISFSI inspectors presented the inspection results to Mr. M. Chisum, Site Vice President, and other members of the licensee staff. The licensee personnel acknowledged the information presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On January 12, 2017, the resident inspectors presented the inspection results to Mr. M. Chisum, Site Vice President, and other members of the licensee staff. The licensee personnel acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

S. Anders, Dry Fuel Storage Project Manager
D. Brenton, General Manager, Plant Operations
D. Burnett, Corporate Director, Emergency Preparedness, Entergy South
M. Chisum, Site Vice President
J. Clavelle, Manager, Systems and Components
S. Fontenot, Manager, Performance Improvement
R. Gilmore, Director, Regulatory and Performance Improvement
A. Hall, Operations Instructor
A. James, Manager, Security
J. Jarrell, Manager, Regulatory Assurance
B. Lanka, Director, Engineering
R. Ledet, Manager, Operations Support
B. Lindsey, Operations Manager
W. McKinney, Manager, Training
S. Meiklejohn, Senior Licensing Specialist
S. Nelson, Fire Marshall
B. Pellegrin, Manager, Production
P. Rodrigue, Manager Operations
D. Selig, Senior Manager, Maintenance
J. Signorelli, Manager, Emergency Preparedness
R. Simpson, Operations Training Superintendent
M. Zamber, Regulatory Assurance

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000382/2016004-01	NCV	Failure to Ensure Appropriate Post-Maintenance Testing on Essential Chiller B (Section 1R12)

Closed

05000382/2014-001-01	LER	Room Cooler Breaker Inoperability Causes Past Inoperability of Containment Spray System Train (Section 4OA3.1)
05000382/2015-004-02	LER	Inoperability of the Emergency Feedwater Actuation System, Emergency Feedwater (EFW) System, and Atmospheric Dump Valves due to Improper Configuration of the EFW System Flow Control System (Section 4OA3.2)
05000382/2016-001-00	LER	Incorrect Core Protection Calculator Addressable constant Entered Because of Inadequate Procedure Resulting in Condition Prohibited by Technical Specifications (Section 4OA3.3)

Closed

05000382/2016-002-01	LER	Both Trains of Essential Services Chilled Water Inoperable due to Failing to Maintain Exiting Chilled Water Temperature in Specification Resulting in Event or Condition that Could Have Prevented Fulfillment of a Safety Function (Section 4OA3.4)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

Number	Title	Revision/Date
G-492	Plant Area Grading and Draining	May 1972
OP-901-521	Severe Weather and Flooding	322

Condition Reports (CRs)

CR-WF3-2013-01581 CR-WF3-2012-05796 CR-WF3-2014-01290

Section 1R04: Equipment Alignment

Procedures

Number	Title	Revision
OP-008-008	Shield Building Ventilation	10
OP-002-004	Chilled Water System	314

Section 1R05: Fire Protection

Procedures

Number	Title	Revision
EN-OP-139	Fire Watch Program	0
NS-TB-003	Waterford-3 S.E.S Prefire Strategy Turbine Building Mezzanine +40.00 East Including H2 Seal Oil Unit, H2 Dryers, Neutral Grounding Transformer, Chemical Reagents Storage Room, Isophase Cooling High Voltage Area, and Excitation Switchgear Cubicle	1
NS-TB-004	Waterford-3 S.E.S Prefire Strategy Turbine Building Mezzanine +40.00 West Including EHC Unit, Accumulator for EHC Unit and Instrument Cabinets	1

Procedures

Number	Title	Revision
RAB 3-001	Waterford-3 S.E.S Prefire Strategy Elevation +46.00' RAB HVAC Equipment Room	8
RAB 38-001	Waterford-3 S.E.S Prefire Strategy Elevation -35.00 RAB (RCA) Motor Driven Emergency Feed Pump Room "B"	7
RAB 38-001	Waterford-3 S.E.S Prefire Strategy Elevation +21.00 RAB (RCA) Component Cooling Water Pump "B"	7

Condition Reports (CRs)

CR-WF3-2016-07576

Section 1R06: Flood Protection Measures

Procedures

Number	Title	Revision
MNQ3-5	Flooding Analysis Outside Containment	5

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

Procedures

Number	Title	Revision
EN-OP-200	Plant Transient Response Rules	3
OP-902-000	Standard Post Trip Actions	15
OP-902-003	Loss of Off-site Power/Loss of Forced Circulation Recovery	9
OP-902-009	Standard Appendices	314
WSIM-LOR-166SM3	2016 Cycle 6 Simulator Practice, P-183	0
OP-010-003	Plant Startup	342

Section 1R12: Maintenance Effectiveness

Procedures

Number	Title	Revision
CGE01081	Commercial Grade Item Evaluation	5

Procedures

Number	Title	Revision
EN-DC-324	Preventive Maintenance Program	17
TD-C150.0015	Carrier Correspondence	3
TD-C150.0035	Carrier Service Training Manual for 19D, DA, DG, DH Series Hermetic Centrifugal Liquid Chillers, SM-24, 020-334	2

Condition Reports (CRs)

CR-WF3-2016-07008	CR-WF3-2016-07010	CR-WF3-2016-07022	CR-WF3-2016-07033
CR-WF3-2016-05155	CR-WF3-2016-05143	CR-WF3-2016-06242	CR-WF3-2016-04907
CR-WF3-2016-02325	CR-WF3-2016-06328	CR-WF3-2016-06275	CR-WF3-2016-06282
CR-WF3-2016-06238			

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

Number	Title	Revision
EN-WM-104	On Line Risk Assessment	14
OI-037-000	Operations Risk Assessment Guideline	308

Condition Reports (CRs)

CR-WF3-2016-06609

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

Number	Title	Revision
EN-OP-104	Operability Determination Process	11

Condition Reports (CRs)

CR-WF3-2016-06328	CR-WF3-2016-6275	CR-WF3-2016-06282	CR-WF3-2016-07213

Section 1R18: Plant Modifications

Procedures

Number	Title	Revision
EC 61244	FOST A1 & B1 Vaults	0

Procedures

Number	Title	Revision
EC 61245	FOST A1 Vault	0

Condition Reports (CRs)

CR-WF3-2016-06491 CR-WF3-2016-07183

Section 1R19: Post-Maintenance Testing

Procedures

Number	Title	Revision
EN-DC-161	Control of Combustibles	15
ME-005-021	Vibraswitch, Model 366 and 376A	7
MI-003-400	Emergency Feedwater Discharge Header Flow Loop Check and Calibration EFWIF833O A or B	304
OP-003-035	Auxiliary Feedwater	305
OP-009-002	Emergency Diesel Generator	336
OP-903-068	Emergency Diesel Generator and Subgroup Relay Operability Verification	315

Condition Reports (CRs)

CR-WF3-2016-07052	CR-WF3-2016-07131	CR-WF3-2016-07134	CR-WF3-2016-07143
CR-WF3-2016-07591	CR-WF3-2016-07819	CR-WF3-2016-07641	

Work Orders (WOs)

52631310	00450523	00432370

Section 1R20: Refueling and Other Outage Activities

Procedures

Number	Title	Revision
G-179	Flow Diagram Reactor Coolant Pump Seals	February 1983
OP-010-005	Plant Shutdown	328
OP-010-003	Plant Startup	342
OP-901-502	Evacuation of Control Room and Subsequent Plant Shutdown	32

Condition Reports (CRs)

CR-WF3-2016-06639 CR-WF3-2016-06646

Section 1R22: Surveillance Testing

Procedures

Number	Title	Revision
NOECP-253	ASME Section XI Pressure Testing	27
OP-903-068	Emergency Diesel Generator and Subgroup Relay Operability Verification	316
OP-903-121	Safety Systems Quarterly IST Valve Tests	22

Work Orders (WOs)

52680163 00454074

Section 4OA1: Performance Indicator Verification

Procedures

Number	Title	Revision/Date
CE-002-006	Maintaining Reactor Coolant System Chemistry	316
CE-003-327	Operation of the Primary Sample Panel	314
NEI 99-02	Regulatory Assessment Performance Indicator Guideline	7
OP-903-024	Reactor Coolant System Water Inventory Balance	22
W3F1-2016-0005	NRC Performance Indicator (PI) Data – 4th Quarter 2015	January 14, 2016
W3F1-2016-0035	NRC Performance Indicator (PI) Data – 1st Quarter 2016 January - March	April 20, 2016
W3F1-2016-0050	NRC Performance Indicator (PI) Data – 2nd Quarter 2016	July 18, 2016
W3F1-2016-0068	NRC Performance Indicator (PI) Data – 3rd Quarter 2016	October 12, 2016
UNT-006-033	Technical Specifications Surveillance Frequency List	0

Section 4OA2: Problem Identification and Resolution

Procedures

Number	Title	Revision
EN-RP-113	Response to Contaminated Leaks	9
EC 18522	Clarify FASR 7.7.1.1.1 Reactor Regulation System	0
EN-LI-100	Process Applicability Determination	8

Condition Reports (CRs)

CR-WF3-2016-06840	CR-WF3-2016-06808	CR-WF3-2016-06821	CR-WF3-2016-06856
CR-WF3-2016-06958	LR-LAR-2008-00265	CR-WF3-2009-00158	CR-WF3-2016-06736

Section 4OA3: Follow-up of Events and Notices of Enforcement Discretion

Procedures

Number	Title	Revision
MI-003-126	Core Protection Calculator Functional Test	18
MI-003-126	Core Protection Calculator Functional Test	19
OP-004-006	Core Protection Calculator System	305
OP-901-111	Reactor Coolant System Leak	303

Condition Reports (CRs)

CR-WF3-2016-06639	CR-WF3-2016-06646	CR-WF3-2016-04290	CR-WF3-2013-02316
CR-WF3-2013-06113			

Section 4OA5: Other Activities

Miscellaneous Documents

Number	Title	Revision/Date
	Biennial 50.59/72.48 Summary Report	April 28, 2016
	Cask Load Composite Report (multiple)	
	M&TE Laboratory Calibration Report (multiple)	
	10 CFR 72.212 Evaluation Report	4
	10 CFR 72.212 Evaluation Report	5
	2015 Waterford 3 Area Monitoring Report	
OP-903-001	Technical Specification Addendum (multiple)	60

Miscellaneous Documents

Number	Title	Revision/Date
QA-20-2016-W3-1	Quality Assurance Audit Report	September 13, 2016
WF3-1608-0191	Dry Fuel Storage Pad	October 21, 2016

Procedures

Number	Title	Revision
DFS-003-001	Preparation and Lay-Up of Dry Storage Components	5
DFS-003-002	Transport of Loaded and Unloaded HI-STORM	7
DFS-003-003	MPC Preparation for Loading	2
DFS-003-004	Handling and Loading of MPC	8
DFS-003-005	MPC Backfill and Sealing Operations	21
DFS-003-006	Stack-Up and Transfer of Loaded MPC	11
DFS-003-007	Transport and Unloading of a Loaded MPC	1
DFS-003-008	Heavy Haul Path Preparation for Cask Transporter	1
DFS-003-009	Responding to Abnormal Conditions	7
DFS-007-001	Exams/Test of Loaded HI-STORM During Storage Operations	2
DFS-007-002	Inspection and Test of Special Lifting Devices Utilized for Dry Fuel Storage Activities	4
DFS-007-003	Radiation Monitoring Requirements for Loading and Storage	4
EN-LI-112	10 CFR 72.48 Evaluations	11
EN-LI-102	Corrective Action Program	27
EN-LI-100	Process Applicability Determination Form (multiple)	18

10 CFR 72.48 Screens/Evaluations

(See Procedures: Process Applicability Determination Form)

Condition Reports (CRs)

CR-WF3-2014-3327	CR-WF3-2014-3527	CR-WF3-2014-3571	CR-WF3-0214-3978
CR-WF3-2014-4478	CR-WF3-2014-4663	CR-WF3-2014-4827	CR-WF3-2014-5692
CR-WF3-2015-0453	CR-WF3-2015-2465	CR-WF3-2015-3412	CR-WF3-2015-4259
CR-WF3-2015-4273	CR-WF3-2015-5369	CR-WF3-2015-5400	CR-WF3-2015-8146

Condition Reports (CRs)

CR-WF3-2016-2536	CR-WF3-2016-3302	CR-WF3-2016-3546	CR-WF3-2016-5319
CR-WF3-2016-5354	CR-WF3-2016-5420	CR-WF3-2016-5496	CR-WF3-2016-5639

Work Orders (WOs)

52567841-01	52475858-01	52615859-01	52632990-01
52546663-01	52659920-01		