



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

November 10, 2016

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 05000382/2016003**

Dear Mr. Chisum:

On September 30, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Waterford Steam Electric Station, Unit 3. On October 13, 2016, the NRC inspectors discussed the results of this inspection with Mr. D. Brenton and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented one finding of very low safety significance (Green) in this report. This finding involved a violation of NRC requirements. Further, inspectors documented a licensee-identified violation which was determined to be of Severity Level IV in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the NRC Enforcement Policy.

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

M. Chisum

- 2 -

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents 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/

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

Docket No. 50-382
License No. NPF-38

Enclosure:
Inspection Report 05000382/2016003
w/ Attachment 1: Supplemental Information
Attachment 2: Occupational/Public
Radiation Safety Inspection Information
Request

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M. Chisum

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Letter to Michael R. Chisum from Geoffrey Miller dated November 10, 2016

SUBJECT: WATERFORD STEAM ELECTRIC STATION, UNIT 3 – NRC INTEGRATED
INSPECTION REPORT 05000382/2016003

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000382

License: NPF-38

Report: 05000382/2016003

Licensee: Entergy Operations, Inc.

Facility: Waterford Steam Electric Station, Unit 3

Location: 17265 River Road
Killona, LA 70057

Dates: July 1 through September 30, 2016

Inspectors: F. Ramírez, Senior Resident Inspector
C. Speer, Resident Inspector
A. Barret, Resident Inspector
B. Parks, Project Engineer
C. Steely, Operations Engineer
M. Phalen, Senior Health Physicist
G. Guerra, Health Physicist
S. Money, Health Physicist, Accompaniment

Approved By: Geoffrey Miller
Chief, Projects Branch D
Division of Reactor Projects

SUMMARY

IR 05000382/2016003; 07/01/2016 – 09/30/2016, Waterford Steam Electric Station, Unit 3; Maintenance Effectiveness.

The inspection activities described in this report were performed between July 1 and September 30, 2016, by the resident inspectors at Waterford Steam Electric Station, Unit 3, and inspectors from the NRC's Region IV office. One finding of very low safety significance (Green) is documented in this report. This finding involved a violation of NRC requirements. Additionally, NRC inspectors documented in this report one licensee-identified violation of Severity Level IV. The significance of inspection findings is indicated by their color (Green, White, Yellow, or Red), which is determined using Inspection Manual Chapter 0609, "Significance Determination Process." Their cross-cutting aspects are determined using Inspection Manual Chapter 0310, "Aspects within the Cross-Cutting Areas." 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."

Cornerstone: Mitigating Systems

- Green. The inspectors reviewed a self-revealing, Green, non-cited violation of Technical Specification 6.8, "Procedures and Programs," associated with the licensee's failure to perform maintenance that could affect the performance of safety-related equipment in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Specifically, on March 5, 2013, the licensee used a procedure that did not contain sufficient detail for reassembly of an actuator for a safety-related auxiliary component cooling water valve. As a result, on June 27, 2016, the lower clevis fastener bolt for ACC-126A, the safety-related valve, failed and it was consequently declared inoperable. The licensee entered this issue into their corrective action program as condition report CR-WF3-2016-04209. The corrective action taken to restore compliance was to reassemble the lower clevis fastener bolt of ACC-126A appropriately and restore the safety-related valve to service.

The inspectors concluded that the performance deficiency was more than minor 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 ensure proper installation of the lower clevis fastener bolt for the actuator associated with ACC-126A resulted in its subsequent inoperability. The inspectors used NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process for Findings At-Power," to determine the significance of the finding. The inspectors determined that the finding required a detailed risk evaluation because it represented the actual loss of a function for greater than its allowed technical specification outage time. This condition was assumed to not challenge the availability of sufficient inventory in the wet cooling tower for the mission time required for operators to attain safe and stable plant conditions. From this the senior reactor analyst determined that the finding was of very low safety significance (Green) when evaluating any increase in core damage frequency. The analyst used NRC Inspection Manual Chapter 0609, Appendix H, "Containment Integrity Significance Determination Process," dated May 6, 2004, to determine that since the finding did not contribute directly to a steam generator tube rupture or an intersystem loss of coolant accident, the condition did not represent a significant

increase in large early release frequency. Because the performance deficiency occurred in 2013, and a specific procedure for the work has since been created, the inspectors concluded that the finding does not reflect current licensee performance and therefore did not assign a cross-cutting aspect. (Section 1R12)

Licensee-Identified Violations

A Severity Level IV violation that was identified by the licensee has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and associated corrective action tracking numbers are listed in Section 4OA7 of this report.

PLANT STATUS

The Waterford Steam Electric Station, Unit 3, began the inspection period at 100 percent power. On July 2, 2016, an unexpected closure of valves associated with feedwater heaters resulted in operators reducing plant power to 73 percent. Following repairs to the valves, the operators increased power the following day and achieved 100 percent power on July 4, 2016. The unit remained at full 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 for Impending Adverse Weather Conditions

a. Inspection Scope

On August 26, 2016, the inspectors completed an inspection of the station's readiness for impending adverse weather conditions. The inspectors reviewed plant design features, the licensee's procedures to respond to pending hurricane landfall, and the licensee's implementation of these procedures. The inspectors evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant.

These activities constituted one sample of readiness for impending adverse weather conditions, as defined in Inspection Procedure 71111.01.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walk-Down

a. Inspection Scope

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

- On July 26, 2016, ultimate heat sink train A following maintenance
- On August 26, 2016, essential chilled water train A with trains B and AB out of service for emergent maintenance
- On September 22, 2016, fuel pool cooling following 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 systems were correctly aligned for the existing plant configuration.

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

b. Findings

No findings were identified.

.2 Complete Walk-Down

a. Inspection Scope

On August 18, 2016, the inspectors performed a complete system walk-down inspection of the high pressure safety injection system. The inspectors reviewed the licensee's procedures and system design information to determine the correct high pressure safety injection system lineup for the existing plant configuration. The inspectors also reviewed outstanding work orders, open condition reports, and other open items tracked by the licensee's operations and engineering departments. The inspectors then visually verified that the system was correctly aligned for the existing plant configuration.

These activities constituted one complete system walk-down sample, as defined in Inspection Procedure 71111.04.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 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 July 30, 2016, fire area RAB 36, safety injection pump room A
- On July 30, 2016, fire area NS-TB-001, turbine building +15' east
- On August 19, 2016, fire area RAB 8C, switchgear room A/B
- On August 19, 2016, fire area RAB 12, battery room AB
- On August 26, 2016, fire area RAB 2, heating and ventilation mechanical room

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.

.2 Annual Inspection

a. Inspection Scope

On September 26, 2016, the inspectors completed their annual evaluation of the licensee's fire brigade performance. This evaluation included observation of an unannounced fire drill in fire area 24, decon area, on September 24, 2016.

During this drill, the inspectors evaluated the capability of the fire brigade members, the leadership ability of the brigade leader, the brigade's use of turnout gear and fire-fighting equipment, and the effectiveness of the fire brigade's team operation. The inspectors also reviewed whether the licensee's fire brigade met NRC requirements for training, dedicated size and membership, and equipment.

These activities constituted one annual inspection sample, as defined in Inspection Procedure 71111.05.

b. Findings

No findings were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

On August 15, 2016, the inspectors completed an inspection of the readiness and availability of risk-significant heat exchangers. The inspectors verified the licensee used the industry standard periodic maintenance method outlined in EPRI NP-7552 for the essential chillers. Additionally, the inspectors walked down the essential chillers to observe its performance and material condition and verified that the essential chillers were correctly categorized under the Maintenance Rule and were receiving the required maintenance.

These activities constituted completion of one heat sink performance annual review sample, as defined in Inspection Procedure 71111.07.

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 August 2, 2016, the inspectors observed an evaluated simulator scenario performed by 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

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 or risk. The inspectors observed the operators' performance of the following activities:

- On September 15, 2016, heightened activity due to main feed regulating valve A maintenance
- On September 29 and September 30, 2016, heightened activity due to maintenance on the core protection calculator C, and system testing

In addition, the inspectors assessed shift communications, response to expected alarms, switch manipulations, and the operators' adherence to plant procedures, including 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.

.3 Annual Review of Requalification Examination Results

The licensed operator requalification program involves two training cycles that are conducted over a two-year period. In the first cycle, the annual cycle, the operators are administered an operating test consisting of job performance measures and simulator scenarios. In the second part of the training cycle, the biennial cycle, operators are administered an operating test and a comprehensive written examination. For this annual inspection requirement the licensee was in the first part of the training cycle.

a. Inspection Scope

The inspectors reviewed the results of the operating tests to satisfy the annual requirements.

On August 30, 2016, the licensee informed the inspectors of the following results:

- 8 of 8 crews passed the simulator portion of the operating test
- 51 of 51 licensed operators passed the simulator portion of the operating test
- 51 of 51 licensed operators passed the job performance measure portion of the operating test

There were no crew failures or individual failures on the simulator or job performance measure portion of the operating test.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed two instances of degraded performance or condition of safety-related structures, systems, and components (SSCs):

- On July 27, 2016, auxiliary component cooling water system
- On August 16, 2016, wet cooling tower chemical addition and filtration skids

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 two maintenance effectiveness samples, as defined in Inspection Procedure 71111.12.

b. Findings

Introduction. The inspectors reviewed a self-revealing, Green, non-cited violation of Technical Specification 6.8, "Procedures and Programs," associated with the licensee's failure to perform maintenance that could affect the performance of safety-related equipment in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Specifically, on March 5, 2013, the licensee used a procedure that did not contain sufficient detail for reassembly of an actuator for a safety-

related auxiliary component cooling water valve that resulted in the valve's inoperability on June 27, 2016.

Description. On June 27, 2016, the licensee performed a quarterly test of the auxiliary component cooling water header A component cooling water heat exchanger outlet temperature control valve (ACC-126A). During the test, ACC-126A failed in the as-is position when operators attempted to stroke the valve. The valve was declared inoperable and, during troubleshooting, the licensee discovered the lower clevis bolt had dislodged from the assembly connecting the actuator to the valve. Due to the dislodged bolt, the actuator could not change the position of the valve. The licensee connected the actuator to the valve in accordance with design drawings and returned ACC-126A to an operable status on June 28, 2016. The licensee previously performed successful quarterly testing of ACC-126A on March 28, 2016. Prior to the failure, the valve was in service as of May 24, 2016, with no notable degradation in performance until its failure during the June 27, 2016, surveillance test.

In reviewing the issue, the licensee found that maintenance affecting the lower clevis bolt was last performed on March 5, 2013. At that time, specific procedures for the assembly of the ACC-126A valve actuator did not exist. Due to obstructions near the valve, personnel performing the work could not see if the lower clevis connection between the actuator and valve was reassembled appropriately. Additionally, work order instructions did not include guidance to ensure that personnel were aware of the appropriate reassembly of the connection. Due to the inappropriate reassembly of the lower clevis bolt connection, over time the actuator and valve connection for ACC-126A loosened and ultimately failed, leading to the June 27, 2016, failure of the valve.

In their review of the event, the inspectors noted that in condition report CR-WF3-2013-1261, the licensee identified that specific procedures did not exist for working on air operated valves, such as ACC-126A. One of the corrective actions of that condition report included the creation of procedure MM-006-132, "ACCMVAA126-A and ACC Header CCW HX OUTL TEMP CNTR Valve and CC MCAA620, Fuel Pool Heat EXCH's Temperature Control Disassembly, Inspection and Reassembly," in order to provide specific instructions for the disassembly and reassembly of the valve and actuator for ACC-126A. However, that procedure was not approved until November 11, 2014. Since its implementation, MM-006-132 had not been used to work on the lower actuator clevis connection of the ACC-126A valve actuator.

Analysis. The failure to perform maintenance that could affect the performance of safety-related equipment in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances consistent with Regulatory Guide 1.33, "Quality Assurance Program Requirements," as required by Technical Specification 6.8, "Procedures and Programs," was a performance deficiency. The performance deficiency was more than minor, and therefore is 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 ensure proper installation of the lower clevis fastener bolt for the actuator associated with ACC-126A resulted in its subsequent inoperability.

The inspectors used NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," 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," to determine the significance of the finding. Using Exhibit 2, "Mitigating Systems Screening Questions," the inspectors determined that the finding required a detailed risk evaluation because it represented the actual loss of a function for greater than its allowed technical specification outage time.

A senior reactor analyst performed a qualitative detailed risk evaluation for this issue. Valve ACC-126A failed in an intermediate position, which would provide more cooling flow than assumed in plant analyses. Increased flow through Valve ACC-126A above that of its designed accident condition flow would challenge the valve's ability to maintain the seven-day, post-accident wet cooling tower inventory for use during events. This condition was assumed to not challenge the availability of sufficient inventory in the wet cooling tower for the mission time required for operators to attain safe and stable plant conditions. From this the analyst determined that the finding was of very low safety significance (Green) when evaluating any increase in core damage frequency. The analyst used NRC Inspection Manual Chapter 0609, Appendix H, "Containment Integrity Significance Determination Process," dated May 6, 2004, to determine that since the finding did not contribute directly to a steam generator tube rupture or an intersystem loss of coolant accident, the condition did not represent a significant increase in large early release frequency.

The inspectors determined that the finding did not have a cross-cutting aspect because the most significant contributor to the performance deficiency occurred more than two years ago and did not reflect current licensee performance. Specifically, because the performance deficiency occurred in 2013, and a specific procedure for the work has since been created, the inspectors concluded that the finding does not reflect current licensee performance and therefore did not assign a cross-cutting aspect.

Enforcement. Technical Specification 6.8, "Procedures and Programs," Section 1.a, requires, in part, that procedures shall be established, implemented and maintained covering "the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2." Section 9.a of Regulatory Guide 1.33, Revision 2, Appendix A, requires, in part, that maintenance that can affect the performance of safety-related equipment should be properly pre-planned and performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances.

Contrary to the above, on March 5, 2013, the licensee did not ensure that maintenance that can affect the performance of safety-related equipment was performed in accordance with written procedures, documented instructions, or drawings appropriate to the circumstances. Specifically, the licensee used a procedure that did not contain sufficient detail for reassembly of the valve air actuator lower clevis fastener bolt for ACC-12A, a safety-related valve. As a result, on June 27, 2016, the lower clevis fastener bolt for ACC-126A failed and the valve was consequently declared inoperable. The licensee entered this condition into their corrective action program as Condition Report CR-WF3-2016-04209. The corrective action taken to restore compliance was to reassemble the lower clevis fastener bolt of ACC-126A appropriately and restore ACC-126A to service. A long-term corrective action was to add additional detail to ME-006-

132 to ensure proper assembly and disassembly of the actuator associated with ACC-126A in the future.

Because this violation was of very low safety significance and the licensee entered the issue into their corrective action program, this violation is treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy: NCV 05000382/2016003-01, "Inadequate Procedure for Assembling a Safety-Related Valve Actuator."

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

a. Inspection Scope

The inspectors reviewed one risk assessment performed by the licensee prior to changes in plant configuration and the risk management actions taken by the licensee in response to elevated risk:

- On August 26, 2016, planned yellow risk due to switchgear ventilation air handling unit AH-30 maintenance, and essential chiller B restoration

The inspectors verified that this risk assessment was performed timely and in accordance with the requirements of 10 CFR 50.65 (the Maintenance Rule) and plant procedures. The inspectors reviewed the accuracy and completeness of the licensee's risk assessment and verified that the licensee implemented appropriate risk management actions based on the result of the assessment.

The inspectors also observed portions of four emergent work activities that had the potential to cause an initiating event, or to affect the functional capability of mitigating systems, or to impact barrier integrity:

- On August 3, 2016, emergent yellow risk due to a tornado warning in the plant area
- On August 12, 2016, emergent yellow risk due to the failure of essential chiller train A
- On August 27, 2016, emergent orange risk due to securing power to Emergency Feedwater Pump AB
- On September 21, 2016, emergent work on charging pump B

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 five maintenance risk assessments and 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 four operability determinations that the licensee performed for degraded or nonconforming SSCs:

- On July 18, 2016, operability determination associated with the containment sump
- On August 4, 2016, operability determination of auxiliary component cooling water pump A
- On August 19, 2016, operability determination of emergency diesel generator fuel oil system
- On August 23, 2016, operability determination of feedwater snubbers FWSR-34 and FWSR-36

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.

- From August 23 to September 9, 2016, the inspectors also reviewed operator actions taken or planned to compensate for degraded or nonconforming conditions. The inspectors verified that the licensee effectively managed these operator workarounds to prevent adverse effects on the function of mitigating systems and to minimize their impact on the operators' ability to implement abnormal and emergency operating procedures.

These activities constituted completion of five operability and functionality review samples, which included one operator work-around sample, as defined in Inspection Procedure 71111.15.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

Permanent Modifications

a. Inspection Scope

On July 12, 2016, the inspectors reviewed a permanent modification to the plant ultimate heat sink. 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 SSC 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 seven post-maintenance testing activities that affected risk-significant SSCs:

- On July 5, 2016, dry cooling tower fan 3A
- On July 6, 2016, dry cooling tower train A sump pump
- On July 19, 2016, component cooling water pump AB
- On August 26, 2016, essential chiller train B
- On August 27, 2016, shield building ventilation train A
- On August 29, 2016, emergency feedwater pump AB steam supply inlet valve
- On September 21, 2016, fuel pool heat exchanger temperature control valve

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 seven post-maintenance testing inspection samples, as defined in Inspection Procedure 71111.19.

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed five 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:

In-service tests:

- On August 4, 2016, high pressure safety injection pump train A testing

Other surveillance tests:

- On July 17, 2016, reactor trip breaker testing

- On July 20, 2016, safety injection signal actuation testing
- On August 2, 2016, undervoltage relay testing on safety train A
- On August 29, 2016, emergency diesel generator A

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 five 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)

Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors observed an emergency preparedness drill on August 31, 2016, to verify the adequacy and capability of the licensee's assessment of drill performance. The inspectors reviewed the drill scenario, observed the drill from the control room simulator, and Technical Support Center, and attended the post-drill critique. 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 licensee in the post-drill critique and entered into the corrective action program for resolution.

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

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Public Radiation Safety and Occupational Radiation Safety

2RS2 Occupational ALARA Planning and Controls (71124.02)

a. Inspection Scope

The inspectors assessed licensee performance with respect to maintaining individual and collective radiation exposures as low as is reasonably achievable (ALARA). The inspectors performed this portion of the attachment as a post-outage review. During the

inspection the inspectors interviewed licensee personnel, reviewed licensee documents, and evaluated licensee performance in the following areas:

- Radiological work planning, including work activities of exposure significance, and radiological work planning ALARA evaluations, initial and revised exposure estimates, and exposure mitigation requirements. The inspectors also verified that the licensee's planning identified appropriate dose reduction techniques, reviewed any inconsistencies between intended and actual work activity doses, and determined if post-job (work activity) reviews were conducted to identify lessons learned.
- Verification of dose estimates and exposure tracking systems, including the basis for exposure estimates, and measures to track, trend, and if necessary reduce occupational doses for ongoing work activities. The inspectors evaluated the licensee's method for adjusting exposure estimates and reviewed the licensee's evaluations of inconsistent or incongruent results from the licensee's intended radiological outcomes.
- Problem identification and resolution for ALARA planning. The inspectors reviewed audits, self-assessments, and corrective action program documents to verify problems were being identified and properly addressed for resolution.

These activities constitute completion of two of the five required samples of occupational ALARA planning and controls program, as defined in Inspection Procedure 71124.02.

b. Findings

No findings were identified.

2RS4 Occupational Dose Assessment (71124.04)

a. Inspection Scope

The inspectors evaluated the accuracy and operability of the licensee's personnel monitoring equipment, verified the accuracy and effectiveness of the licensee's methods for determining total effective dose equivalent, and verified that the licensee was appropriately monitoring occupational dose. The inspectors interviewed licensee personnel and reviewed licensee performance in the following areas:

- Source term characterization, including characterization of radiation types and energies, hard-to-detect isotopes, and scaling factors.
- External dosimetry including National Voluntary Laboratory Accreditation Program (NVLAP) accreditation, storage, issue, use, and processing of active and passive dosimeters.
- Internal dosimetry, including the licensee's use of whole body counting, use of in vitro bioassay methods, dose assessments based on airborne monitoring, and the adequacy of internal dose assessments.

- Special dosimetric situations, including declared pregnant workers, dosimeter placement and assessment of effective dose equivalent for external exposures (EDEX), shallow dose equivalent, and neutron dose assessment.
- Problem identification and resolution for occupational dose assessment. The inspectors reviewed audits, self-assessments, and corrective action program documents to verify problems were being identified and properly addressed for resolution.

These activities constitute completion of the five required samples of occupational dose assessment program, as defined in Inspection Procedure 71124.04.

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 Mitigating Systems Performance Index: Heat Removal Systems (MS08)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 1, 2015, through June 30, 2016, to verify the accuracy and completeness of the reported data. 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 mitigating system performance index for heat removal systems for Waterford Steam Electric Station, Unit 3, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index: Residual Heat Removal Systems (MS09)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 1, 2015, through June 30, 2016, to verify the accuracy and completeness of the reported data. 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 mitigating system performance index for residual heat removal systems for Waterford Steam Electric Station, Unit 3, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index: Cooling Water Support Systems (MS10)

a. Inspection Scope

The inspectors reviewed the licensee's mitigating system performance index data for the period of July 1, 2015, through June 30, 2016, to verify the accuracy and completeness of the reported data. 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 mitigating system performance index for cooling water support systems for Waterford Steam Electric Station, Unit 3, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

40A2 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 Annual Follow-up of Selected Issues

a. Inspection Scope

On September 27, 2016, the inspectors reviewed the licensee's retraction of Licensee Event Report (LER) 2015-006-00, regarding voids discovered in low pressure safety

injection system piping. On June 20, 2015, the licensee discovered voiding in train B of the low pressure safety injection system piping that exceeded the allowable volume. Prior to the discovery of the void, a filling and venting of the low pressure safety injection system train B occurred on June 9, 2015. Assuming that the void was introduced at the time, the licensee submitted the LER due to exceeding the system technical specification allowed outage time of seven days.

In May of 2016, the licensee completed an evaluation demonstrating that the allowable value used to determine system inoperability was overly conservative. Per the evaluation, the licensee determined that the void discovered on June 20, 2015, was not sufficient to render train B of the low pressure safety injection system inoperable and retracted LER 2015-006-00. The inspectors determined the licensee's retraction of LER 2015-006-00 was appropriate.

The inspectors reviewed the licensee's cause analyses, and verified that the licensee appropriately prioritized the planned corrective actions and that these actions were adequate to ensure the resolution of the issue.

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

b. Findings

No findings were identified.

40A6 Meetings, Including Exit

Exit Meeting Summary

On September 7, 2016, the inspectors presented the licensed operator requalification inspection results to Mr. R. Simpson, Operations Training Superintendent. The inspector did not review any proprietary information during this inspection.

On October 7, 2016, the inspectors presented the radiation safety inspection results by teleconference to Mr. B. Lanka, Director, Engineering, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

On October 13, 2016, the resident inspectors presented the inspection results to Mr. D. Brenton, General Manager, Plant Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The licensee confirmed that any proprietary information reviewed by the inspectors had been returned or destroyed.

40A7 Licensee-Identified Violations

The following licensee-identified violation of NRC requirements was determined to be of very low safety significance or Severity Level IV and meets the NRC Enforcement Policy criteria for being dispositioned as a Non-Cited Violation.

- Title 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," section (b)(3)(v), requires, in part, that the licensee shall notify the NRC as soon

as practical and in all cases within eight hours of the occurrence of any event or condition that at the time of discovery could have prevented the fulfillment of the safety function of structures or systems that are needed to: (A) shut down the reactor and maintain it in a safe condition; (B) remove residual heat; (C) control the release of radioactive material; or (D) mitigate the consequences of an accident.” Contrary to the above, on August 12, 2016, the licensee experienced a loss of the essential chilled services water safety function, which is needed to mitigate the consequences of an accident, and did not notify the NRC within 8 hours. The licensee identified this issue and entered it into their corrective action program as CR-WF3-2016-05188 and made the required notification on August 15, 2016. This violation was assessed using Section 2.2.4 of the NRC’s Enforcement Policy, revised February 4, 2015. Using the example listed in Section 6.9.d.9, “A licensee fails to make a report required by 10 CFR 50.72,” the issue was determined to be a Severity Level IV violation.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

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
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

NRC Personnel

R. Deese, Senior Reactor Analyst

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000382/2016003-01 NCV Inadequate Procedure for Assembling a Safety-Related Valve Actuator (Section 1R12)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OP-901-521	Severe Weather and Flooding	319

Section 1R04: Equipment Alignment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OP-002-001	Auxiliary Component Cooling Water	309
OP-002-003	Component Cooling Water	317
OP-002-004	Chilled Water System	314
OP-002-006	Fuel Pool Cooling and Purification	316
OP-009-008	Safety Injection System	39

Condition Reports (CRs)

CR-WF3-2016-05143	CR-WF3-2016-05155	CR-WF3-2016-05188	CR-WF3-2016-05195
CR-WF3-2016-05237	CR-WF3-2016-05398	CR-WF3-2016-05444	CR-WF3-2016-05048

Section 1R05: Fire Protection

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-DC-161	Control of Combustibles	14
EN-TQ-125	Fire Brigade Drills	4
FP-001-018	Pre-fire Strategies, Development and Revision	303
FP-001-019	Fire Brigade Equipment	309
FP-001-020	Fire Emergency / Fire Report	309
NS-TB-001	Waterford-3 S.E.S. Prefire Strategy Turbine Building +15.00' East Including Turbine Building Switchgear, Feedwater Pump "B", Instrument And Station Air Compressors	4
RAB 2-001	Waterford-3 S.E.S. Prefire Strategy Elev. +46.00 RAB (RCA) H&V Mechanical Room	13
RAB 24-001	Waterford-3 S.E.S. Prefire Strategy Elev. +21.00 RAB (RCA) Decon Area	2
RAB 36-001	Waterford-3 S.E.S. Prefire Strategy Elev. -35.00 RAB (RCA) Safety Injection Pump Room	9

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
RAB 36-001	Waterford-3 S.E.S. Prefire Strategy Elev. +21.00 RAB Battery Room "AB"	9
RAB 8C-001	Waterford-3 S.E.S. Prefire Strategy Switchgear Room "A/C"	11
WDRL-FBFD- 3QTRU	Third Quarter Unannounced Fire Drill	0

Condition Reports (CRs)

CR-WF3-2016-04873 CR-WF3-2014-06375

Section 1R07: Heat Sink Performance

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
EPRI NP-7552	Heat Exchanger Performance Monitoring Guidelines	December 1991
SEP-HX-WF3- 001	Generic Letter 89-13 Heat Exchanger Test Basis	0
EN-WM-104	On Line Risk Assessment	14

Condition Reports (CRs)

CR-WF3-2016-05159 CR-WF3-2016-05155 CR-WF3-2016-05195 CR-WF3-2016-05143

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

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-OP-115	Conduct of Operations	17
EP-001-001	Recognition & Classification of Emergency Conditions	32
OP-901-202	Steam Generator Tube Leakage or High Activity	15
OP-901-212	Plant Power Reduction	7
OP-901-513	Spent Fuel Pool Cooling Malfunction	20
OP-902-000	Standard Post Trip Actions	15
OP-902-007	Steam Generator Tube Rupture Recovery Procedure	16

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
WSXM-LOR-164ANNUAL	LOR Simulator Crew Performance Evaluation Report	0
WSXM-LOR-164EXM	2016 Cycle 4 Annual Simulator Exam	E-159

Section 1R12: Maintenance EffectivenessDocuments/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-DC-164	Environmental Qualification (EQ) Program	4
EN-DC-203	Maintenance Rule Program	3
EN-DC-204	Maintenance Rule Scope and Basis	3
EN-DC-205	Maintenance Rule Monitoring	5
EN-DC-206	Maintenance Rule (A)(1) Process	3
MM-006-132	ACCMVAAA126-A and B ACC Header CCW HX OUTL TEMP CONTR Valve and CCMVAAA620, Fuel Pool Heat EXCH's Temperature Control Valve, Disassembly, Inspection and Reassembly	2
MN(Q)9-9	Wet Cooling Tower Losses During LOCA	5
EN-WM-105	Planning	16
EN-DC-150	Condition Monitoring of Maintenance Rule Structures	10
ACC	Maintenance Rule Table for ACC	

Condition Reports (CRs)

CR-WF3-2016-03447 CR-WF3-2016-04201 CR-WF3-2016-04209 CR-WF3-2016-04945

Section 1R13: Maintenance Risk Assessments and Emergent Work ControlProcedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-DC-153	Preventive Maintenance Component Classification	14
EN-LI-102	Corrective Action Program	27
EN-OP-102	Protective and Caution Tagging	18
EN-WM-104	On Line Risk Assessment	14

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OP-901-521	Severe Weather and Flooding	319
EN-OP-119	Protected Equipment Postings	8

Condition Reports (CRs)

CR-WF3-2016-04940 CR-WF3-2016-05469 CR-WF3-2016-05753 CR-WF3-2016-05758
CR-WF3-2016-05818 CR-WF3-2016-5820

Section 1R15: Operability Determinations and Functionality Assessments

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
EN-DC-164	Environmental Qualification (EQ) Program	4
EN-OP-104	Operability Determination Process	10
QC-131364	QC Inspection	March 3, 2014
UNT-001-015	Environmental Qualification Program	8
	Operator Aggregate Index	August 17, 2016
OWA PI	Cycle Operator Workarounds	August, 2016
EN-FAP-OP-006	Operator Aggregate Impact Index Performance Indicator	2
EN-OP-102	Protective and Caution Tagging	18
OI-002-000	Annunciator and Control Room Instrumentation Status Control	308
EN-OP-117	Operations Assessment Resources	9
OP-009-002	Emergency Diesel Generator	335
OP-903-068	Emergency Diesel Generator And Subgroup Relay Operability Verification	315

Condition Reports (CRs)

CR-WF3-2016-04568 CR-WF3-2016-04945 CR-WF3-2016-04636 CR-WF3-2016-05295
CR-WF3-2016-05330 CR-WF3-2008-00129 CR-WF3-2016-00728 CR-WF3-2015-01615

Section 1R18: Plant Modifications

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EC 52043	Ultimate Heat Sink Margin Restoration	0
EC 54158	DCT Missile Shield Panel Closure Plate – Train A	0
EC 54159	DCT B Train Covering UHS Margin Restoration Project	0
EN-LI-100	Process Applicability Determination	18

Condition Reports (CRs)

CR-WF3-2016-04321

Section 1R19: Post-Maintenance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OP-903-043	Shield Building Ventilation System Operability Check	309
OP-903-046	Emergency Feed Pump Operability Check	3
OP-903-050	Component Cooling Water and Auxiliary Component Cooling Water Pump and Valve Operability Test	33
OP-903-118	Primary Auxiliaries Quarterly IST Valve Tests	38

Condition Reports (CRs)

CR-WF3-2016-04621 CR- WF3-2016-05444 CR-WF3-2016-05341 CR-WF3-2016-05390
CR-WF3-2016-05447 CR-WF3-2016-05473 CR-WF3-2016-05478 CR-WF3-2016-05490

Work Orders (WOs)

WO 00450513 WO 00453423 WO 52709433 WO 52636705 WO 52458843
WO 00454579 WO 00353891

Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
OP-903-029	Safety Injection Actuation Signal Test	20
OP-903-068	Emergency Diesel Generator and Subgroup Relay Operability Verification	315

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
SEP-WF3-IST-1	WF3 Inservice Testing Basis Document	3
WF3-DBD-01	Safety Injection System	304
OP-903-030	Safety Injection Pump Operability Verification	030
OP-903-107	Plant Protection System Channel A, B, C, and D	308
OP-006-005	Inverters and Distributions	318

Condition Reports (CRs)

CR-WF3-2016-05471 CR-WF3-2016-03476

Work Orders (WOs)

WO 52704431

Section 1EP6: Drill Evaluation

Procedures

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Blue Site ERO Team Drill Scenario for August 31, 2016	August, 2016

Condition Reports (CRs)

CR-WF3-2016-05519 CR-WF3-2016-05530 CR-WF3-2016-05532

Section 2RS2: Occupational ALARA Planning and Controls

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RP-105	Radiological Work Permits	15
EN-RP-109	Hot Spot Program	4
EN-RP-110	ALARA Program	13
EN-RP-110-01	ALARA Initiative Deferrals	1
EN-RP-110-02	Elemental Cobalt Sampling	0
EN-RP-110-03	Collective Radiation Exposure (CRE) Reduction Guidelines	4
EN-RP-110-04	Radiation Protection Risk Assessment Process	5
EN-RP-110-05	ALARA Planning And Controls	2

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RP-110-06	Outage Dose Estimating And Tracking	1
HP-001-114 0	Control Of Temporary Shielding	15
N-RP-105	Radiological Work Permits	14
UNT-001-016 0	Radiation Protection	303

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
	2015 Waterford 3 Radiation Protection Annual Report	
LO-WLO-2016-00020	Radiation Safety IP 71124.02 and 04 Pre NRC Inspection	March 2016
QA-14/15-2015-W3-1	Radiation Protection / Rad Waste	October 2015

Condition Reports

CR-JAF-2015-02978 LO-WLO-2015-00029 LO-WLO-2015-00051 CR-WF3-2015-07151

Radiation Work Permits

<u>Number</u>	<u>Title</u>	<u>Revision</u>
2015-0615	Remove/Replace Pressurizer Heaters	4
2015-0636	Wagon Wheel Modification	0
2015-0702	Disassembly of Reactor Head	0
2015-0705	Reassembly of Reactor Head	2
2015-0727	Fuel Handling Machine Upgrade	0

Miscellaneous Documents

<u>Title</u>	<u>Date</u>
Refuel Outage 19 Outage ALARA Report	
Refuel Outage 20 Outage ALARA Report	
Source Term Reduction	September 2016

Section 2RS4: Occupational Dose Assessment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RP-101	Access Control For Radiologically Controlled Areas	11
EN-RP-102	Radiological Control	5
EN-RP-108	Radiation Protection Posting	17
EN-RP-131	Air Sampling	15
EN-RP-141	Job Coverage	5
EN-RP-201	Dosimetry Administration	4
EN-RP-203	Dose Assessment	7
EN-RP-205	Prenatal Monitoring	3
EN-RP-208	Whole Body Counting/In-vitro bioassay	6
UNT-001-016	Radiation Protection	303

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>
LO-WLO-2014-00015	Pre NRC Focused Assessment
LO-WLO-2016-00020	Pre NRC Focused Assessment

Condition Reports

CR-WF3-2015-00209	CR-WF3-2015-00401	CR-WF3-2015-01081	CR-WF3-2015-02162
CR-WF3-2015-06604	CR-WF3-2015-07100	CR-WF3-2015-07497	CR-WF3-2015-08257
CR-WF3-2016-02160	CR-WF3-2016-02286	CR-WF3-2016-02540	CR-WF3-2016-02557
CR-WF3-2016-02700	CR-WF3-2016-03170	CR-WF3-2016-05023	CR-WF3-2016-05796
CR-WF3-2015-02527	CR-WF3-2015-08325	CR-WF3-2016-02558	CR-WF3-2016-05797

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Periodic Review of Plant Isotopic Mix Compared to the RP Instrument Program	February 25, 2015
	Periodic Review of Plant Isotopic Mix Compared to the RP Instrument Program	March 31, 2016
	Evaluation of the Thermo PM-7 for Use as a Passive Monitor at the Waterford 3 Nuclear Plant	November 16, 2011

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Evaluation of the Canberra Gem-5 for Use as a Passive Monitor at the Waterford 3 Nuclear Plant	November 28, 2011
	Entergy Electronic Dosimeter Calibration Factor Adjustment	July 2015
Memorandum	Entergy EAD Calibration Bias	September 2014
WO 387654	Perform Neutron Characterization Study	
WO 387654	Waterford 3 Dry Fuel Storage Neutron Study	
WO 387654	Waterford 3 Containment Neutron Study	

Section 40A1: Performance Indicator Verification

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	MSPI Derivation Report	June 2016
EN-LI-114	Regulatory Performance Indicator Process	7
ECH-NE-09-00036	MSPI Basis Document	2
W3F1-2015-0083	NRC Performance Indicator (PI) Data – 3 rd Quarter 2015	October 8, 2015
W3F1-2016-0005	NRC Performance Indicator (PI) Data – 4 th Quarter 2015	January 14, 2016
W3F1-2016-0006	NRC Performance Indicator (PI) Data – Change Report Data 4 th Quarter 2015 SSFF Issue	January 19, 2016
W3F1-2016-0011	NRC Performance Indicator (PI) Data – Change Report Data 4 th Quarter 2015 SCRAM without complications correction	January 28, 2016
W3F1-2016-0035	NRC Performance Indicator (PI) Data – 1 st Quarter 2016 January - March	April 20, 2016
W3F1-2016-0050	NRC Performance Indicator (PI) Data – 2 nd Quarter 2016	July 18, 2016
W3F1-2016-0052	NRC Performance Indicator (PI) Data – Change Report (CR) Emergency Preparedness	July 21, 2016

Condition Reports (CRs)

CR-WF3-2016-06134

Section 4OA2: Problem Identification and Resolution

Documents/Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
EC 64530	Evaluation of LPSI B Piping Void Size	0
OP-903-026	Emergency Core Cooling System Valve Lineup Verification	26
ECP02-004	Water Hammer Analysis – LPSI “A”	0
EC-M97-002	Water Hammer Analysis – LPSI “B”	0
W3F1-2015-0069	Licensee Event Report (LER) 2015-006-00, Void Discovered in Low Pressure Safety Injection System Piping	August 18, 2015
W3F1-2016-0026	Retraction of Licensee Event Report (LER) 2015-006-00, Void Discovered in Low Pressure Safety Injection System Piping	May 19, 2016

Condition Reports (CRs)

CR-WF3-2015-4076

The following items are requested for the
Occupational/Public Radiation Safety Inspection
at Waterford 3
September 12 through 19, 2016
Integrated Report 2016003

Inspection areas are listed in the attachments below.

Please provide the requested information on or before August 8, 2016.

Please submit this information using the same lettering system as below. For example, all contacts and phone numbers for Inspection Procedure 71124.01 should be in a file/folder titled "1- A," applicable organization charts in file/folder "1- B," etc.

If information is placed on *ims.certrec.com*, please ensure the inspection exit date entered is at least 30 days later than the onsite inspection dates, so the inspectors will have access to the information while writing the report.

In addition to the corrective action document lists provided for each inspection procedure listed below, please provide updated lists of corrective action documents at the entrance meeting. The dates for these lists should range from the end dates of the original lists to the day of the entrance meeting.

If more than one inspection procedure is to be conducted and the information requests appear to be redundant, there is no need to provide duplicate copies. Enter a note explaining in which file the information can be found.

If you have any questions or comments, please contact Martin J. Phalen at (817) 200-1158 or martin.phalen@nrc.gov.

PAPERWORK REDUCTION ACT STATEMENT

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, control number 3150-0011.

2. Occupational ALARA Planning and Controls (71124.02)

Date of Last Inspection: October 26 through 30, 2015

- A. List of contacts and telephone numbers for ALARA program personnel
- B. Applicable organization charts
- C. Copies of audits, self-assessments, and LERs, written since date of last inspection, focusing on ALARA
- D. Procedure index for ALARA Program
- E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures may be requested by number after the inspector reviews the procedure indexes.
 - 1. ALARA Program
 - 2. ALARA Committee
 - 3. Radiation Work Permit Preparation
- F. A summary list of corrective action documents (including corporate and sub-tiered systems) written since September 1, 2015, related to the ALARA program. In addition to ALARA, the summary should also address Radiation Work Permit violations, Electronic Dosimeter Alarms, and RWP Dose Estimates.
 - List of all condition reports initiated by radiation protection from March 1, 2015 to Present.

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are "searchable" so that the inspector can perform word searches.

Copies of the Outage Control Center Radiation Protection Manager's Log for any forced outage since the last refuel
- G. List of work activities greater than 1 rem, since date of last inspection, Include original dose estimate and actual dose
- H. Site dose totals and 3-year rolling averages for the past 3 years (based on dose of record)
- I. Outline of source term reduction strategy
- J. If available, provide a copy of the ALARA outage report for the most recently completed outages for each unit
- K. Please provide your most recent Annual ALARA Report

4. Occupational Dose Assessment (Inspection Procedure 71124.04)

Date of Last Inspection: November 17 through 21, 2014

A. List of contacts and telephone numbers for the following areas:

1. Dose Assessment personnel

B. Applicable organization charts

C. Audits, self-assessments, vendor or NUPIC audits of contractor support, and LERs written since date of last inspection, related to:

1. Occupational Dose Assessment

D. Procedure indexes for the following areas:

1. Occupational Dose Assessment

E. Please provide specific procedures related to the following areas noted below. Additional Specific Procedures will be requested by number after the inspector reviews the procedure indexes.

1. Radiation Protection Program
2. Radiation Protection Conduct of Operations
3. Personnel Dosimetry Program
4. Radiological Posting and Warning Devices
5. Air Sample Analysis
6. Performance of High Exposure Work
7. Declared Pregnant Worker
8. Bioassay Program

F. List of corrective action documents (including corporate and sub-tiered systems) written since date of last inspection (November 17, 2014), associated with:

1. National Voluntary Laboratory Accreditation Program (NVLAP)
2. Dosimetry (TLD/OSL, etc.) problems
3. Electronic alarming dosimeters
4. Bioassays or internally deposited radionuclides or internal dose
5. Neutron dose
6. Results (lists) of Effective Dose Equivalent (EDEX) Calculations and assessments

NOTE: The lists should indicate the significance level of each issue and the search criteria used. Please provide in document formats which are "searchable" so that the inspector can perform word searches.

G. List of positive whole body counts since date of last inspection (November 17, 2014), names redacted if desired

H. Part 61 analyses/scaling factors

I. The most recent National Voluntary Laboratory Accreditation Program (NVLAP) accreditation report or, if dosimetry is provided by a vendor, the vendor's most recent results