



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

May 12, 2015

Mr. Kevin Mulligan
Site Vice President Operations
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

**SUBJECT: GRAND GULF NUCLEAR STATION – NRC INTEGRATED INSPECTION
REPORT 05000416/2015001**

Dear Mr. Mulligan:

On March 31, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Grand Gulf Nuclear Station, Unit 1. On April 9, 2015, the NRC inspectors discussed the results of this inspection with you and other members of your staff. Inspectors documented the results of this inspection in the enclosed inspection report.

NRC inspectors documented six findings of very low safety significance (Green) in this report. All of these findings involved violations of NRC requirements. 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 Grand Gulf Nuclear Station.

If you disagree with a cross-cutting aspect assignment in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV; and the NRC resident inspector at the Grand Gulf Nuclear Station.

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

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Sincerely,

/RA by Jeffrey Sowa Acting For/

Greg Warnick, Chief
Project Branch C
Division of Reactor Projects

Docket No. 50-416
License No. NPF-29

Enclosure: Inspection Report 05000416/2015001
w/ Attachment: Supplemental Information

cc w/ encl: Electronic Distribution for Grand Gulf Nuclear Station

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Letter to Kevin Mulligan from Greg Warnick dated May 12, 2015

SUBJECT: GRAND GULF NUCLEAR STATION – NRC INTEGRATED INSPECTION
REPORT 05000416/2015001

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000416

License: NPF-29

Report: 05000416/2015001

Licensee: Entergy Operations, Inc.

Facility: Grand Gulf Nuclear Station, Unit 1

Location: 7003 Baldhill Road
Port Gibson, MS 39150

Dates: January 1 through March 31, 2015

Inspectors: R. Alexander, Acting Senior Resident Inspector
R. Smith, Acting Senior Resident Inspector
N. Day, Resident Inspector
R. Azua, Senior Project Engineer, Project Branch C
J. Braisted, Reactor Inspector, RIV/DRS/EB1
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N. Greene, PhD, Health Physicist
P. Hernandez, Health Physicist
J. Jacobson, NRO/DCIP/EVIB
R. Laura, NRO/DCIP/QVIB
L. Micewski, Reactor Inspector, NRO/DCIP/MVIB
J. O'Donnell, Health Physicist
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Approved By: Greg Warnick, Chief, Project Branch C
Division of Reactor Projects

SUMMARY

IR 05000416/2015001; 01/01/2015 – 03/31/2015; Grand Gulf Nuclear Station; Maint Effectiveness, Maint Risk Assessments and Emergent Work Control, Operability Determinations and Functionality Assessments, Rad Monitoring Instrument, Rad Environmental Monitoring Program, and Insp of Commercial-Grade Dedication Prgms

The inspection activities described in this report were performed between January 1 and March 31, 2015, by the resident inspectors at the Grand Gulf Nuclear Station, inspectors from NRC Headquarters, and inspectors from the NRC's Region IV office. Six findings of very low safety significance (Green) are documented in this report. All of these findings involved violations of NRC requirements. 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", dated June 02, 2011. The 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, dated July 9, 2013. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to take timely corrective actions to correct a condition adverse to quality associated with the division 1 and 2 standby service water pump house ventilation systems. Specifically, in June 2011, the licensee identified that relays associated with the standby service water system pump house ventilation system failed due to age/environmental degradation, which resulted in an unplanned inoperability of the standby service water system. However, the licensee did not implement timely corrective actions for replacing these relays, which resulted in the inoperability of the division 1 standby service water system in December 2014, and again in January 2015. The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2015-00739. The short-term corrective actions included replacing all of the division 1 and 2 standby service water ventilation pump house relays in February and early March 2015.

The inspectors determined that the failure to take timely corrective actions to replace degraded relays in the standby service water pump house ventilation system was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating System Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," dated June 19, 2012, the inspectors determined the issue to be of very low safety significance (Green) because all applicable screening questions in Manual Chapter 0609, Appendix A, Exhibit 2, were answered "no." The inspectors determined that this performance deficiency was not indicative of current plant performance, and therefore no cross-cutting aspect was considered. (Section 1R12)

- Green. The inspectors reviewed a self-revealing, non-cited violation of Technical Specification 5.4.1.a, for failure to follow a procedure which resulted in the unplanned inoperability of the reactor core isolation cooling system. This occurred when licensee technicians tested for continuity between incorrect points, while performing surveillance activities related to the residual heat removal system. This resulted in an invalid group 4 isolation signal and an isolation of the reactor core isolation cooling steam supply. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2015-01532, and took immediate corrective actions to stop the residual heat removal system surveillance activity and restore the reactor core isolation cooling system to service.

The failure to properly follow the surveillance procedure, which resulted in the unplanned inoperability of the reactor core isolation cooling system, was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance attribute of the Mitigating Systems Cornerstone. Specifically, the licensee's failure to properly follow the surveillance procedure resulted in the unplanned inoperability of the reactor core isolation cooling system, which adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, and Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) in that the issue did not affect the design or qualification of the reactor core isolation cooling system; did not represent a loss of the reactor core isolation cooling system function (in that the isolation could have been promptly reset by procedures, had the system operation been required); and did not represent loss of function for greater than the Technical Specification allowed outage time. The inspectors determined this finding had cross-cutting aspect in the area of human performance associated with avoiding complacency, in that the I&C technicians did not implement appropriate error reduction tools to ensure the meter was connected to the correct points, which resulted in the invalid group 4 isolation signal, and inoperability of the reactor core isolation cooling system [H.12]. (Section 1R13)

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify the suitability of replacement parts that were procured from commercial suppliers. Specifically, the inspectors noted that none of the tests specified by the licensee were sufficient to ensure that the seismic qualification of an auxiliary relay had been maintained. The finding was entered into the licensee's corrective action system as Condition Report CR-GGN-2014-05049.

The performance deficiency is more than minor, and therefore a finding, because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because the licensee performed an operability determination, which evaluated the safety impacts of postulated relay chatter during a seismic event, for the applications in which these relays were installed. The licensee's subsequent operability evaluation determined that potential relay chatter would not impact the safety-related functions of the relays in the applications in

which they were installed. Thus, all applicable screening questions in Manual Chapter 0609, Appendix A, Exhibit 2, were answered “no.” A cross-cutting aspect is not being assigned to this finding. (Section 4OA5)

Cornerstone: Occupational Radiation Safety

- Green. The inspectors identified a non-cited violation of 10 CFR 20.1501(c) for the licensee’s failure to properly calibrate the main steam line radiation monitors and the containment/drywell high range radiation monitors. The violation was of very low safety significance and was entered into the licensee’s corrective action program as Condition Report CR-GGNS-2015-01832.

The failure to properly calibrate radiation monitors was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affects the cornerstone objective to ensure adequate protection of employee health and safety and is associated with the cornerstone attribute of plant instrumentation. Specifically, the failure to properly calibrate radiation monitors impacts their ability to be used to assess dose rates. Using Inspection Manual Chapter 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process,” dated August 19, 2008, the inspectors determined the finding to be of very low safety significance because it was not an as low as reasonably achievable (ALARA) issue, there was no overexposure or substantial potential for overexposure, and the licensee’s ability to assess dose was not compromised. This finding has a cross-cutting aspect in the resources component of the human performance area because the licensee did not ensure that calibration procedures were adequate, nor was proper calibration equipment designed, characterized, and made available [H.1]. (Section 2RS5)

Cornerstone: Public Radiation Safety

- Green. The inspectors identified a non-cited violation of Technical Specification 5.5.1, “Offsite Dose Calculation Manual (ODCM).” Specifically, when changes were made to the Offsite Dose Calculation Manual in 1997, the licensee failed to establish an airborne sampling location for a community with the highest deposition factor (D/Q) for the site. As immediate corrective actions, the licensee evaluated their Offsite Dose Calculation Manual, evaluated the dose differential for the monitoring locations, and developed a plan to meet the environmental sampling requirements. The issue was documented in Condition Report CR-GGNS-2015-01835.

The failure to establish an air sampling location in the vicinity of a community having the highest D/Q was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affects the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the environment and public domain. Specifically, the failure to maintain the Offsite Dose Calculation Manual with appropriate airborne radionuclide sampling requirements adversely impacts the licensee’s ability to validate offsite radiation dose assessments for members of the public under certain effluent release conditions. Using Inspection Manual Chapter 0609, Appendix D, dated February 12, 2008, “Public Radiation Safety Significance Determination Process,” the inspectors determined that the violation had very low safety significance because it involved the environmental monitoring program. This finding has a cross-cutting aspect in the procedure adherence component of the human performance area because licensee personnel failed to follow procedures when

they determined the airborne sampling locations for the updated Radiological Environmental Monitoring Program [H.8]. (Section 2RS7)

Cornerstone: Emergency Preparedness

- Green. The inspectors identified a non-cited violation of 10 CFR 50.54(q)(2) for the licensee's failure to follow and maintain the effectiveness of an emergency plan that meets the requirements of the planning standard 50.47(b)(4), which requires that a standard emergency classification and action level scheme, is in use by the licensee. Specifically, the licensee had identified, on October 15, 2013, that the seismic monitoring instrumentation was non-functional, but had not further evaluated the plant configuration, and the effect on emergency action level declaration capabilities for seismic events. The licensee documented this issue in Condition Report CR-GGN-2015-00713. The corrective actions, based on CR-GGN-2013-06514, were implemented, and a new seismic monitor was installed, tested, and brought into service on January 30, 2015.

The licensee's inability to promptly declare Emergency Action Level (EAL) HA6, as required in the approved emergency classification and action level scheme per 10 CFR Part 50.47(b)(4), was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the procedure quality attribute of the Emergency Preparedness Cornerstone and adversely affects the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, it negatively impacts the cornerstone attribute of procedure quality in that the plant configuration prohibited the timely declaration of the facility EALs, as written. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, the inspectors determined that the issue affected the Emergency Preparedness Cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," dated September 23, 2014, the inspectors determined that the issue is of very low safety significance (Green) because an Emergency Action Level was rendered ineffective such that HA6 would not be declared, consistent with Table 5.4-1 and Figure 5.4-1. The inspectors determined the finding had a cross-cutting aspect in the area of problem identification and resolution associated with evaluation, in that the organization did not thoroughly evaluate issues to ensure that resolutions address causes, and extent of conditions, commensurate with their safety significance; in that while following Technical Requirements Manual requirements for a non-functional piece of equipment (seismic monitor), the complete effect was not evaluated to ensure the EALs were still capable of being implemented [P.2]. (Section 1R15)

PLANT STATUS

The Grand Gulf Nuclear Station began the inspection period at 100 percent rated thermal power.

On January 15, 2105, the operators reduced power to approximately 60 percent rated thermal power to perform power suppression testing, control rod pattern adjustment, and monthly control rod surveillance. On January 17, 2015, operators began increasing power and reached approximately 95 percent rated thermal power on January 18, 2015.

On January 19, 2015, operators reduced power to approximately 68 percent rated thermal power to perform a control rod pattern adjustment, and on the same day, they began increasing power and reached 100 percent rated thermal power on January 21, 2015.

On January 22, 2015, operators again reduced power to 80 percent rated thermal power to perform a final control rod pattern adjustment, and they returned to 100 percent rated thermal power on January 23, 2015.

On February 7, 2015, the unit experienced a generator load reject, resulting in a turbine trip, and a reactor scram. The cause of the generator load reject was an overcurrent condition sensed on the B phase of the main transformer, resulting in initiation of protective circuitry.

On February 15, 2015, operators began power ascension activities toward 100 percent rated thermal power, which was reached on February 26, 2015. These power ascension activities included two power reductions to 57 percent and 63 percent rated thermal power, on February 19 and February 24, respectively, to perform a control rod pattern adjustments.

On February 26, 2015, operators reduced power to approximately 95 percent rated thermal power due to a loss of a second stage moisture separator reheater. On February 27, 2015, operators returned the plant to approximately 100 percent rated thermal power.

On February 28, 2015, operators reduced power to approximately 80 percent rated thermal power to perform a final control rod pattern adjustment following the February 7 reactor scram. Operators returned the unit to 100 percent rated thermal power on March 1, 2015.

On March 12, 2015, operators reduced power to approximately 95 percent rated thermal power to replace the power supply for the second stage moisture separator reheater which was lost on February 26, and they returned to 100 percent rated thermal power on March 13, 2015.

The plant was maintained at 100 percent rated thermal 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)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

On January 7, 2015, the inspectors completed an inspection of the station's readiness for seasonal extreme weather conditions. The inspectors reviewed the licensee's adverse weather procedures for cold weather protection and evaluated the licensee's implementation of these procedures. The inspectors verified that prior to the onset of seasonal cold weather, the licensee had corrected weather-related equipment deficiencies identified during the previous cold weather protection walkdown, which was completed on November 4, 2014.

The inspectors selected four risk-significant systems that were required to be protected from adverse cold weather:

- Division 1, 2, and 3 emergency diesel generators and associated fire protection systems
- Division 1, 2, and 3 standby service water pump houses and valve nest rooms
- Fire water pump house and fire water storage tanks
- Condensate and refueling water storage tanks and associated piping

The inspectors reviewed the licensee's procedures and design information to ensure the systems would remain functional when challenged by adverse cold weather. The inspectors verified that operator actions described in the licensee's procedures were adequate to maintain readiness of these systems. The inspectors walked down portions of these systems to verify the physical condition the adverse weather protection features.

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

b. Findings

No findings were identified.

.2 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

On January 27, 2015, 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 seasonal cold weather, 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 Walkdown

a. Inspection Scope

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

- January 13, 2015, standby gas treatment train B, while train A was out of service
- February 3, 2015, fire water system, while a section of the system was isolated to repair a leak in the piping
- February 27, 2015, standby liquid control system, after completion of a quarterly surveillance activity
- March 20, 2015, high pressure core spray, when the system was protected while reactor core isolation cooling was unavailable

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 and/or trains were correctly aligned for the existing plant configuration.

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

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On March 23 – 24, 2015, the inspectors performed a complete system walk-down inspection of the division 3 emergency diesel generator. The inspectors reviewed the licensee's procedures and system design information to determine the correct lineup for the existing plant configuration. The inspectors also reviewed 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:

- January 22, 2015, Room 1A109 of Area 8 (High Pressure Core Spray Pump Room)
- February 3, 2015, Yard Area 59 for compensatory fire protection actions with a fire suppression system piping break
- February 24, 2015, Room OC503 of Area 25A (Control Room Area)
- March 4, 2015, Room 1D304 of Area 12 (Division 3 Emergency Diesel Generator Room)
- March 25, 2015, Area 25B (inclusive of the Unit 2 Switchgear 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 January 21, 2015, the inspectors completed their annual evaluation of the licensee's fire brigade performance. This evaluation included observation of the January 13, 2015, unannounced fire drill in the upper cable spreading room.

During these drills, 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.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On January 29, 2015, the inspectors completed an inspection of underground bunkers susceptible to flooding. The inspectors selected five underground vaults/manholes that contained risk-significant or multiple-train cables whose failure could disable risk-significant equipment:

- Manhole (MH) 01, MH 02, MH 03, MH 20, and MH 21

The inspectors observed the material condition of the cables and splices contained in the vaults/manholes, and looked for evidence of cable degradation due to water intrusion. The inspectors verified that the cables and vaults met design requirements.

These activities constituted completion one bunker/manhole 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 February 11, 2015, the inspectors observed just-in-time reactor startup simulator training for an operating crew, prior to startup, following a reactor scram on February 7, 2015. The inspectors assessed the performance of the operators and the evaluator's critique of their performance. In the simulator observation, the inspectors noted proper peer checking and oversight with validation of a reactivity management Senior Reactor Operator, three part communication, appropriate annunciator responses, proper implementation of designated roles and responsibilities, appropriate simulator functionality/fidelity for the simulated startup, appropriate instructor guidance, and an appropriate critique after simulator termination. In addition to the simulator observation, the inspectors observed classroom discussions with regard to specific reactivity anomalies with respect to middle of life startup. In addition, the licensee also discussed a new feedwater set point setdown level modification, and an infrequently performed test or evolution briefing for reactor startup. The inspectors also attended the pre-job brief for the same crew on February 12, 2015.

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 January 15, 2015, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to performing suppression testing to locate indications of a leaking fuel bundle. The inspectors observed the operators' performance of the following activities:

- Reactivity Management Brief
- Power reduction/increase via control rod manipulations
- Operations shift turnover during the suppression testing
- Communication between operations, reactor engineering, and a vendor for grab sample testing

In addition, the inspectors assessed the operators' adherence to plant procedures, including EN-OP-115, "Conduct of Operations," Revision 15, and other operations department policies.

As part of this inspection activity, the inspectors observed the operators' use of the reactivity maneuver plan and rod movement sheets as provided by reactor engineering. The inspectors also verified appropriate operator response per annunciator response instructions and proper control room communication protocols.

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)

a. Inspection Scope

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

- January 26, 2015, standby service water pump house ventilation system (Y47), following two failures of the system that resulted in inoperability of the division 1 standby service water system
- January 29, 2015, leaking relief valve on one of four starting air receivers on the division 3 emergency diesel generator (P81) starting air subsystem

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 identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for the licensee's failure to take timely corrective actions to correct a condition adverse to quality associated with the division 1 and 2 standby service water pump house ventilation systems. Specifically, in June 2011, the licensee identified that relays associated with the standby service water system pump house ventilation system, failed due to age/environmental degradation, which resulted in an unplanned inoperability of the standby service water system. However, the licensee did not implement timely corrective actions for replacing these relays, which resulted in the unplanned inoperability of the division 1 standby service water system in December 2014, and again in January 2015.

Description. On January 26, 2015, while performing a maintenance effectiveness review of the standby service water (SSW) pump house ventilation system, the inspectors determined that recent failures of dampers associated with the division 1 SSW pump house ventilation had occurred on December 27, 2014, and then again on January 18, 2015. This resulted in the unplanned entry into two separate 72-hour shutdown action statements. The licensee determined that relays associated with the ventilation dampers had failed, which resulted in the inability of the dampers to open and the inoperability of the division 1 SSW system, because of the potential that the SSW pumps would overheat due to a lack of adequate ventilation during an accident condition. The licensee replaced the failed relays on both occasions and returned the division 1 SSW system to operable status within in the 72-hour shutdown action statement.

Upon further review, the inspectors concluded that in June 2011, the licensee had determined that these pump house relays were susceptible to age/environmental degradation. The licensee also determined that there was no recommended maintenance (per the vendor manual) for these relays. Nonetheless, the relays were in a normally energized state, were in a hot/humid environment, and required replacement every 18 years, per the licensee's corporate preventive maintenance template for relays in harsh environmental conditions. The licensee also determined that these relays were 26 years old at the time of the June 2011 event. The licensee took actions to implement replacement, but the subject relays were not scheduled to be replaced until May 2015, which would result in a total in-service life of 30 years. The licensee's lack of timely response to the replacement of these susceptible relays, which had already exceeded their life expectancy, resulted in the unplanned entry into two additional shutdown action statements for the division 1 SSW system, after the June 2011 actions.

The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2015-00739. The short-term corrective actions included replacing all the division 2 SSW ventilation pump house relays the week of February 2, 2015, and all of division 1 SSW ventilation pump house relays the week of March 9, 2015. Additionally, the licensee initiated Condition Report CR-GGN-2015-00642 to perform an effectiveness review, for extent of condition actions proposed or taken after the June 2011 event. This will ensure that new preventive maintenance tasks identified from the June 2011 event will be implemented for other safety related system relays by August 2015.

Analysis. The failure to take timely corrective actions to replace degraded relays in the SSW pump house ventilation system, was a performance deficiency. Specifically, the licensee identified a condition adverse to quality that effected safety related SSW equipment, and they failed to take timely corrective actions to prevent an unplanned reentry into a SSW system inoperability condition. This performance deficiency is more than minor, and therefore a finding, because it is associated with the equipment performance attribute of the Mitigating System Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, the inspectors determined that the issue affected the Mitigating Systems Cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," dated June 19, 2012, the inspectors determined the issue to be of very low safety significance (Green) because all applicable screening questions in Manual Chapter

0609, Appendix A, Exhibit 2, were answered “no.” The inspectors determined that this performance deficiency was not indicative of current plant performance, and therefore no cross-cutting aspect was considered.

Enforcement. Title 10 of the Code of Federal Regulations, Part 50, Appendix B, Criterion XVI, “Corrective Actions,” requires, in part, that conditions adverse to quality are promptly identified and corrected. Contrary to the above, from June 2011 to March 2015, the licensee did not promptly correct a condition adverse to quality. Specifically the licensee did not replace degraded relays in the SSW ventilation system identified in June 2011. This resulted in the additional inoperability of the SSW system in December 2014, and again in January 2015. For immediate corrective actions to restore compliance, the licensee replaced the failed relays and replaced all susceptible relays in the SSW system by March 13, 2015. This violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2.a of the Enforcement Policy, because it was of very low safety significance (Green) and it was entered into the licensee’s corrective action program as Condition Report CR-GGN-2015-00642 and CR-GGN-2015-00739. (NCV 05000416/2015001-01, Failure to Take Timely Corrective Actions Associated with Division 1 and 2 Standby Service Water Pump House Ventilation System Due to Degraded Relays)

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

a. Inspection Scope

The inspectors reviewed four risk assessments 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 January 7, 2015, the licensee had an emergent issue with the division 3 emergency diesel generator turbocharger soak back pump, requiring entry into a yellow risk condition to repair the pump, which rendered the diesel generator non-functional.
- On January 29, 2015, the licensee had an emergent issue with leaking pressure relief valve P81-PSV-F048B on the A003B air receiver for the division 3 emergency diesel generator. This required the licensee to transition from a division 2 work week to division 3 work days.
- The week of February 23, 2015, inclement freezing rain and cold temperatures developed, resulting in the licensee deferring and rescheduling work activities. Additionally, an emergent loss of a power supply to the rod control interface system and to second stage reheat steam controllers, resulted in the licensee reducing power to 95 percent rated thermal power.
- On March 23, 2015, the licensee conducted planned work associated with the division 3 emergency diesel generator on the outside air discharge screens, resulting in a yellow risk condition. During the same period, work activities with heavy equipment were conducted in, and around, the 115 kV switchyard.

The inspectors verified that these risk assessments were 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 assessments and verified that the licensee implemented appropriate risk management actions based on the result of the assessments.

Additionally, on March 12, 2015, the inspectors observed portions of an emergent work activity that had the potential to affect the functional capability of mitigating systems. Specifically, while technicians were conducting a surveillance activity associated with residual heat removal system A, a human performance error resulted in the isolation of the reactor core isolation cooling (RCIC) system steam supply. This rendered the RCIC system inoperable for a period of approximately 20 hours.

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

Introduction. The inspectors reviewed a Green, self-revealing, non-cited violation of Technical Specification 5.4.1.a, for failure to follow a procedure, which resulted in the unplanned inoperability of the RCIC system. This occurred when licensee technicians tested for continuity between incorrect points while performing surveillance activities related to the residual heat removal system. This resulted in an invalid group 4 isolation signal and an isolation of the RCIC steam supply, thereby rendering the system inoperable.

Description. On March 12, 2015, the licensee was performing Surveillance Procedure 06-IC-1E31-A-1003, "RHR [Residual Heat Removal] Area High Temp Calibration" for Channel A. The Instrument and Control (I&C) technicians were performing Attachment I, Step 5.12.8.b, that required checking for continuity with a multimeter between lifted lead EE-53 and terminal EE-51 within panel 1H13-P632. While performing this step, one of the I&C technicians inadvertently checked for continuity between terminal EE-53 (rather than the lifted lead from EE-53) and terminal EE-51. When the I&C technicians did not receive the expected continuity reading on the multimeter, they re-read the procedure step, and the technicians recognized their error. Because there was no immediate indication of consequences for performing the step incorrectly, the I&C technicians re-performed the step correctly and continued with the procedure. Concurrently with these actions, the control room received an annunciator for the RCIC system division 1 steam supply line high differential pressure (P601-21A-C1) and a subsequent group 4 isolation signal, resulting in the isolation of the steam supply for the RCIC turbine. Operations promptly declared the RCIC system inoperable and entered the Technical Specification 3.5.3 action statement to restore RCIC to operable status within 14 days. Operations contacted the I&C technicians conducting the residual heat removal surveillance, asked them to stop work, and informed them that RCIC had isolated. The licensee conducted a human performance evaluation of the event. This revealed that the I&C technicians did not use the appropriate application of peer checking to ensure the meter was connected to the correct points and the technicians did not stop work when they received an unexpected response. Finally, the

procedure had insufficient human factoring applied to prevent placing the meter on the wrong connections.

The licensee documented this issue in Condition Report CR-GGN-2015-01532. The licensee's corrective actions included restoring RCIC to an operable status; conducting a station-wide stand down with staff, highlighting the importance of knowing when to stop an activity when an expected response is not received; and modifying the surveillance procedure in consideration of the human factors and operating experience developed from this event.

Analysis. The failure to properly follow the surveillance procedure, which resulted in the unplanned inoperability of the RCIC system, was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the human performance attribute of the Mitigating Systems Cornerstone. Specifically, the licensee's failure to properly follow the surveillance procedure, resulted in the unplanned inoperability of the RCIC system, which adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, the inspectors determined that the issue affected the Mitigating Systems Cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings at Power," Exhibit 2, "Mitigating Systems Screening Questions," dated June 19, 2012, the inspectors determined that the finding was of very low safety significance (Green) in that the issue did not affect the design or qualification of the RCIC system; did not represent a loss of the RCIC system function (in that the isolation could have been promptly reset by procedures, had the system operation been required); and did not represent loss of function for greater than the Technical Specification allowed outage time.

In addition, the inspectors determined this finding had cross-cutting aspect in the area of human performance associated with avoiding complacency. Specifically, the I&C technicians did not implement appropriate error reduction tools (i.e., peer checking/concurrent verification) to ensure the meter was connected to the correct points, which resulted in the invalid group 4 isolation signal, and inoperability of the RCIC system [H.12].

Enforcement. Technical Specification 5.4.1.a requires in part, that written procedures be established, implemented, and maintained covering, "the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978." Section 1.d, of Regulatory Guide 1.33, recommends administrative procedures for procedure adherence, and Section 8.b.(2)(cc), of Regulatory Guide 1.33, recommends procedures for surveillance tests associated with environmental monitor calibrations. Attachment I, of Procedure 06-IC-1E31-A-1003, "RHR [Residual Heat Removal] Area High Temp Calibration," Step 5.12.8.b, states, "using multimeter, verify the following: multimeter set for ohms, continuity between lifted lead EE-53 and terminal EE-51 in 1H13-P632."

Contrary to the above, on March 12, 2015, an I&C technician checked for continuity between terminal EE-53 (rather than lifted lead EE-53) and terminal EE-51, resulting in the unplanned inoperability of the RCIC system. Upon identification by the control room of the unintended RCIC isolation, the licensee took immediate actions to stop the I&C

surveillance and restore the RCIC system to operable status. Because the finding was of very low safety significance and has been entered into the corrective action program as Condition Report CR-GGN-2015-01532, this violation is being treated as a non-cited violation, consistent with section 2.3.2.a of the NRC Enforcement Policy. (NCV 05000416/2015001-02, Failure to Follow a Procedure Resulting in the Unplanned Inoperability of the Reactor Core Isolation Cooling System)

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed four operability determinations and functionality assessments that the licensee performed for degraded or nonconforming SSCs:

- January 12, 2015, functionality assessment of seismic monitor instrumentation
- January 21, 2015, functionality assessment of the engineered safety feature room cooler 1T46-B002B
- January 29, 2015, operability determination of division 3 emergency diesel generator with depressurized air start receiver A003B
- March 9, 2015, operability determination of standby liquid control train A due to loss of control room indication of 004A squib valve continuity

The inspectors reviewed the timeliness and technical adequacy of the licensee's evaluations. Where the licensee determined the degraded SSC to be operable or functional, the inspectors verified that the licensee's compensatory measures were appropriate to provide reasonable assurance of operability or functionality. The inspectors verified that the licensee had considered the effect of other degraded conditions on the operability or functionality of the degraded SSC.

These activities constituted completion of four operability and functionality review samples as defined in Inspection Procedure 71111.15.

b. Findings

Introduction. The inspectors identified a Green, non-cited violation of 10 CFR 50.54(q)(2) for the licensee's failure to follow and maintain the effectiveness of an emergency plan that meets the requirements of the planning standard 50.47(b)(4), which requires that a standard emergency classification and action level scheme is in use by the licensee. Specifically, the licensee had identified on October 15, 2013, that the seismic monitoring instrumentation was non-functional, but had not further evaluated the plant configuration and the effect on emergency action level declaration capabilities for seismic events.

Description. On January 12, 2015, while performing an operability/functionality determination review of the seismic monitoring system, the inspectors determined that with the lack of the Containment Operating Basis Earthquake (P856-1A-A3) control room indication, and Drywell Operating Basis Earthquake (P856-1A-A5) control room indication, as required per Emergency Classification for seismic hazard HA6, as well as

the lack of backup instrumentation C85-J601, as allowed per EAL contingency planning document 10-S-01-38, Revision 3, the licensee was not capable of declaring an Alert based on seismic conditions occurring at the site. The inspectors noted that EAL Contingency Planning Document 10-S-01-38, Revision 3, allows the use of "Confirmation from the MS [Mississippi] Bureau of Geology," as another backup to P856-1A-A3 and P856-1A-1A5. However, the MS Bureau of Geology office is not required to remain staffed after normal business hours, and is therefore, not an appropriate backup.

As described in the approved emergency classification and action level scheme, EAL HA6 has two conditions, 1.a. (associated with the seismic instrumentation) and 1.b. (associated with confirmation of seismic activity) applicable to seismic events. However, with the control room seismic monitor out of service with no continuously available EAL Contingency Planning Document 10-S-01-38 backups, the 1.a. requirement was not capable of being fulfilled, and therefore was unable to be declared as it is written.

Additionally, the out of service control room panel, which included the P856-1A-A3 and P856-1A-A5 indicators, also included the Strong Motion Accelerometer System Activation (P856-1A-A1) control room indicator, which was one possible input for declaring an unusual event per EAL HU6. As such, the ability to declare HU6 was also degraded during the period, in that only the confirmation of seismic activity on-site functions (i.e., felt on plant site and confirmation of seismic activity from the National Earthquake Center) was available for operators to declare the applicable unusual event EAL.

The licensee documented this issue in Condition Report CR-GGN-2015-00713. The corrective actions, based on CR-GGN-2013-06514, were implemented, and a new seismic monitor was installed, tested, and placed into service on January 30, 2015.

Analysis. The licensee's inability to promptly declare EAL HA6, as required in the approved emergency classification and action level scheme per 10 CFR Part 50.47(b)(4), was a performance deficiency. This performance deficiency is more than minor, and therefore a finding, because it is associated with the procedure quality attribute of the Emergency Preparedness Cornerstone and adversely affects the cornerstone objective to ensure that the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, it negatively impacts the cornerstone attribute of procedure quality in that the plant configuration prohibited the timely declaration of the facility EALs, as written. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," dated June 19, 2012, the inspectors determined that the issue affected the Emergency Preparedness Cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix B, "Emergency Preparedness Significance Determination Process," dated September 23, 2014, the inspectors determined that the issue is of very low safety significance (Green) because an EAL was rendered ineffective such that HA6 would not be declared, consistent with Table 5.4-1 and Figure 5.4-1. The inspectors determined the finding had a cross-cutting aspect in the area of problem identification and resolution associated with evaluation, in that the organization did not thoroughly evaluate issues to ensure that resolutions address causes, and extent of conditions, commensurate with their safety significance; in that while following Technical Requirements Manual requirements for a non-functional piece of equipment (seismic monitor), the complete effect was not evaluated to ensure the EALs were still capable of being implemented [P.2].

Enforcement. Title 10 of the Code of Federal Regulations, Part 50.54(q)(2) requires licensees to follow and maintain the effectiveness of an emergency plan that meets the requirements of the planning standards of Title 10 of the Code of Federal Regulations, Part 50.47(b). Part 50.47(b)(4) requires, in part, that a standard emergency classification and action level scheme is in use by the licensee. Contrary to the above, from approximately October 2013 through January 2015, the licensee did not ensure the ability to declare EAL HA6. Specifically the licensee did initiate a deficiency document, as required per Technical Requirements Manual 6.3.2, and did not further recognize that the seismic monitor out of service directly impacted the emergency action level and declaration scheme. For immediate corrective actions to restore compliance, the licensee replaced the seismic monitoring system on January 30, 2015. This violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy, because it was of very low safety significance (Green) and it was entered into the licensee's corrective action program as Condition Reports CR-GGN-2015-00713 and CR-GGN-2015-01236. (NCV 05000416/2015001-03, Emergency Action Level Scheme for Nonfunctional Seismic Monitor)

1R18 Plant Modifications (71111.18)

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed one temporary plant modifications that affected risk-significant SSCs. On February 12, 2015, the inspectors reviewed a temporary modification to install flexible conduit and wiring for A, B, and C phase main transformer overcurrent relay circuits.

The inspectors verified that the licensee had installed this temporary modification in accordance with technically adequate design documents. The inspectors verified that this modification did not adversely impact the operability or availability of affected SSCs. The inspectors reviewed design documentation and plant procedures affected by the modification to verify the licensee maintained configuration control.

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

b. Findings

No findings were identified.

.2 Permanent Modifications

a. Inspection Scope

The inspectors reviewed one permanent plant modification that affected risk-significant SSCs. On February 11, 2015, the inspectors reviewed a permanent modification to the feedwater level control system.

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 functionality 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 five post-maintenance testing activities that affected risk-significant SSCs:

- January 6, 2015, following the division 3 emergency diesel generator soak back pump 1P81C004B coupling rebuild
- January 7, 2015, following the control room air conditioning system B Freon and valve leak repairs, and filter inspection and cleaning
- January 12, 2015, 90-day maintenance and lubrication of the SSW A, cooling tower fan A
- February 6, 2015, following replacement of the division 2 SSW ventilation relays, and fastener and flashing repair
- February 26, 2015, replacement of the power supply to the rod control interface system and moisture separator re-heaters second stage steam supply controllers and subsequent retest

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 five 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 six 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 test:

- February 26, 2015, standby liquid control system B quarterly surveillance

Containment isolation valve surveillance test:

- February 23, 2015, high pressure core spray (E22) valves associated with the suppression pool suction

Reactor coolant system leak detection test:

- January 21, 2015, conducted a surveillance review for the time period of March 2014 through January 2015 for drywell unidentified leakage

Other surveillance tests:

- January 14, 2015, turbine stop and control valve channel C time response testing
- March 1, 2015, division 3 emergency diesel generator monthly functional test
- March 17, 2015, 125V dc battery bank pilot cell testing (safety-related banks 1A3, 1B3, and 1C3)

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. As applicable, the inspectors verified that the licensee restored the operability of the affected SSCs following testing.

These activities constituted completion of six 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 March 18, 2015, 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 Simulator and the Backup Emergency Operations Facility, 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 also observed the licensee's implementation of measures to respond to an uncertain security environment, protect key personnel, and coordinate with the offsite Incident Command Post. 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

2RS5 Radiation Monitoring Instrumentation (71124.05)

a. Inspection Scope

The inspectors evaluated the accuracy and operability of the radiation monitoring equipment used by the licensee (1) to monitor areas, materials, and workers to ensure a radiologically safe work environment and (2) to detect and quantify radioactive process streams and effluent releases. The inspectors interviewed licensee personnel, walked down various portions of the plant, and reviewed licensee performance in the following areas:

- Selected plant configurations and alignments of process, postaccident, and effluent monitors with descriptions in the Final Safety Analysis Report and the offsite dose calculation manual
- Selected instrumentation, including effluent monitoring instrument, portable survey instruments, area radiation monitors, continuous air monitors, personnel contamination monitors, portal monitors, and small article monitors to examine their configurations and source checks
- Calibration and testing of process and effluent monitors, laboratory instrumentation, whole body counters, postaccident monitoring instrumentation, portal monitors, personnel contamination monitors, small article monitors, portable survey instruments, area radiation monitors, electronic dosimetry, air samplers, and continuous air monitors
- Audits, self-assessments, and corrective action documents related to radiation monitoring instrumentation since the last inspection

These activities constituted completion of one sample of radiation monitoring instrumentation, as defined in Inspection Procedure 71124.05.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 20.1501(c) for the licensee's failure to properly calibrate the main steam line radiation monitors and the containment/drywell high range radiation monitors. The violation was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR-GGNS-2015-01832.

Description. On March, 24, 2015, the inspectors observed and later evaluated the calibration of the Main Steam Line (MSL) Radiation Monitor "D" detector. The licensee used Procedure 06-IC-1D17-R-1002, "Main Steam Line High Radiation Monitor (PCIS) Calibration," Revision 108, dated December 13, 2011, to perform the calibration of this monitor. In Section 5.37 of each attachment (I – IV for Channels A-D) to this procedure, the radiation calibration method of the detector was described. As described in Step 5.37.2, the inspectors observed the MSL detector being placed in an approximately 10 R/hr field as indicated by the radiation protection meter, to obtain a detector response. The inspectors noted the radiation source had to be repositioned (moved closer) several times to obtain an approximate 10 R/hr detector response. The MSL detector response was supposed to be within ± 10 percent of the portable radiation detection meter reading. The inspectors observed the process repeated in Step 5.37.4 with an approximately 10 mR/hr field as indicated by a portable radiation detection meter. However, the inspectors noted that the licensee used a different radiation source and source-to-detector geometry for this step.

The inspectors' subsequent evaluation of the MSL detector calibration process resulted in concerns with the licensee's calibration method because it did not employ reproducible geometries (i.e., source-to-detector geometry for the two different sources used), radiation source calibration documentation (dose rates), or use a valid secondary standard (i.e., a portable survey instrument checked out from the radiation protection department was being used for comparing detector responses). American National Standards Institute (ANSI) N323D-2002, "American National Standard for Installed Radiation Protection Instrumentation," approved on September 3, 2002, describes standard methods and conditions for calibration of installed radiation instruments. This ANSI Standard requires installed instrument calibrations to be performed in reproducible geometries (calibration assemblies) with calibration sources and secondary standards traceable to the National Institute of Standards and Technology (NIST). The equipment and calibration configuration used by the licensee did not meet the ANSI standard's requirements. Therefore, the inspectors concluded that the MSL "D" radiation monitor was not properly calibrated. As the same procedure was used for all four MSL monitor channels, the inspectors concluded that none of the MSL monitors had been properly calibrated.

The inspectors also reviewed the November 29, 2012, calibration of the "B" Containment/Drywell High Range Area Radiation Monitor. The licensee used Procedure 06-IC-1D21-R-1002, "Containment/Drywell High Range Area Radiation Monitor Calibration," Revision 107, dated September 12, 2011, to calibrate the Channel B monitor. Section 5.87, "Detector Radiation Functional," states in Step 5.87.1, "Expose the detector being calibrated to radiation source such that detector is in a 5 R/hr field (Allowable value 4.5 R/hr to 5.5 R/hr)." There was no requirement for or documentation of a radiation field measurement for this step. There was no specified source-to-detector geometry. In the next step, 5.87.2, the "As Found" reading was

recorded as 3.30 R/hr. This step included a table showing the tolerance for the “As Found” reading to be a “MIN” of 3 R/hr and a “MAX” of 7 R/hr; a tolerance of ± 40 percent from the “DESIRED” dose rate of 5 R/hr. There was no justification found for this tolerance band. Industry standard (ANSI) acceptance criteria for radiation instrument calibrations is ± 10 percent of the actual dose rate and ± 20 percent for a source check. The recorded reading of 3.30 R/hr was 34 percent from the “DESIRED” 5 R/hr, well outside acceptance criteria for radiation measurement instrumentation, including source checks. As was the case for the MSL monitor calibration, the method did not employ reproducible source-to-detector geometries, radiation. Therefore, the inspectors concluded that the “B” radiation monitor was not properly calibrated.

In addition to the guidance in ANSI N323D for the calibration of installed monitors, NUREG-0737, “Clarification of TMI Action Plan Requirements,” dated November 1980, contains calibration requirements for accident monitoring instrumentation. The “Special Calibration” section of Table II.F.1-3, “Containment High-Range Radiation Monitor,” states in the in-situ calibration requirement to use a calibrated radiation source. Step 3.3 of the licensee’s calibration procedure required the use of a “Radiation source capable of producing 5 R/hr field, Shepherd source or equivalent (no decay sheets required).” Since there were no decay sheets required and no source calibration documentation provided, the inspectors concluded that the calibration method did not meet the requirements in NUREG-0737. Therefore, none of the containment/drywell radiation monitors had been properly calibrated.

Analysis. The failure to properly calibrate radiation monitors was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affects the cornerstone objective to ensure adequate protection of employee health and safety and is associated with the cornerstone attribute of plant instrumentation. Specifically, the failure to properly calibrate radiation monitors impacts their ability to be used to assess dose rates. Using IMC 0609, Appendix C, “Occupational Radiation Safety Significance Determination Process,” dated August 19, 2008, the inspectors determined the finding to be of very low safety significance because it was not an as low as reasonably achievable (ALARA) issue, there was no overexposure or substantial potential for overexposure, and the licensee’s ability to assess dose was not compromised. This finding has a cross-cutting aspect in resources component of the human performance area because the licensee did not ensure that calibration procedures were adequate nor was proper calibration equipment designed, characterized, and made available [H.1].

Enforcement. Title 10 CFR 20.1501(c) states that the licensee shall ensure that instruments and equipment used for quantitative radiation measurements (e.g., dose rate and effluent monitoring) are calibrated periodically for the radiation measured. Contrary to the above, on November 29, 2012, and March 24, 2015, the licensee failed to ensure that instruments used for quantitative radiation measurements were calibrated periodically for the radiation measured. Specifically, on March 24, 2015, the licensee failed to properly calibrate the main steam line radiation monitor “D” using industry accepted calibration methods and equipment. In addition, on November 29, 2012, the licensee failed to properly calibrate the drywell high range radiation monitor “B” using a calibrated radiation source and acceptable tolerances as acceptance criterion. The violation was of very low safety significance (Green) and was entered into the licensee’s corrective action program as Condition Report CR-GGNS-2015-01832. The violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement

Policy. (NCV 05000416/2015001-04, Failure to Properly Calibrate Main Steam Line Radiation Monitors and Containment/Drywall High Range Radiation Monitors)

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

a. Inspection Scope

The inspectors evaluated whether the licensee maintained gaseous and liquid effluent processing systems and properly mitigated, monitored, and evaluated radiological discharges with respect to public exposure. The inspectors verified that abnormal radioactive gaseous or liquid discharges and conditions, when effluent radiation monitors are out of service, were controlled in accordance with the applicable regulatory requirements and licensee procedures. The inspectors verified that the licensee's quality control program ensured radioactive effluent sampling and analysis adequately quantified and evaluated discharges of radioactive materials. The inspectors verified the adequacy of public dose projections resulting from radioactive effluent discharges. The inspectors interviewed licensee personnel and reviewed or observed the following items:

- Radiological effluent release reports since the previous inspection and reports related to the effluent program issued since the previous inspection
- Effluent program implementing procedures, including sampling, monitor setpoint determinations, and dose calculations
- Equipment configuration and flow paths of selected gaseous and liquid discharge system components, filtered ventilation system material condition, and significant changes to their effluent release points, if any, and associated 10 CFR 50.59 reviews
- Selected portions of the routine processing and discharge of radioactive gaseous and liquid effluents (including sample collection and analysis)
- Controls used to ensure representative sampling and appropriate compensatory sampling
- Results of the inter-laboratory comparison program
- Effluent stack flow rates
- Surveillance test results of technical specification-required ventilation effluent discharge systems since the previous inspection
- Significant changes in reported dose values
- A selection of radioactive liquid and gaseous waste discharge permits
- Part 61 analyses and methods used to determine which isotopes are included in the source term
- Offsite dose calculation manual changes

- Meteorological dispersion and deposition factors
- Latest land use census
- Records of abnormal gaseous or liquid tank discharges
- Groundwater monitoring results
- Changes to the licensee's written program for identifying and controlling contaminated spills/leaks to groundwater
- Identified leakage or spill events and entries made into 10 CFR 50.75 (g) records, if any, and associated evaluations of the extent of the contamination and the radiological source term
- Offsite notifications and reports of events associated with spills, leaks, and groundwater monitoring results
- Audits, self-assessments, reports, and corrective action documents related to radioactive gaseous and liquid effluent treatment since the last inspection

These activities constituted completion of one sample of radioactive gaseous and liquid effluent treatment, as defined in Inspection Procedure 71124.06.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (71124.07)

a. Inspection Scope

The inspectors evaluated whether the licensee's radiological environmental monitoring program quantified the impact of radioactive effluent releases to the environment and sufficiently validated the integrity of the radioactive gaseous and liquid effluent release program. The inspectors verified that the radiological environmental monitoring program was implemented consistent with the licensee's technical specifications and offsite dose calculation manual, and that the radioactive effluent release program met the design objective in Appendix I to 10 CFR Part 50. The inspectors verified that the licensee's radiological environmental monitoring program monitored non-effluent exposure pathways, was based on sound principles and assumptions, and validated that doses to members of the public were within regulatory dose limits. The inspectors reviewed or observed the following items:

- Annual environmental monitoring reports and offsite dose calculation manual
- Selected air sampling and dosimeter monitoring stations
- Collection and preparation of environmental samples

- Operability, calibration, and maintenance of meteorological instruments
- Selected events documented in the annual environmental monitoring report which involved a missed sample, inoperable sampler, lost dosimeter, or anomalous measurement
- Selected structures, systems, or components that may contain licensed material and has a credible mechanism for licensed material to reach ground water
- Records required by 10 CFR 50.75(g)
- Significant changes made by the licensee to the offsite dose calculation manual as the result of changes to the land census or sampler station modifications since the last inspection
- Calibration and maintenance records for selected air samplers, composite water samplers, and environmental sample radiation measurement instrumentation
- Inter-laboratory comparison program results
- Audits, self-assessments, reports, and corrective action documents related to the radiological environmental monitoring program since the last inspection

These activities constituted completion of one sample of radiological environmental monitoring program, as defined in Inspection Procedure 71124.07.

b. Findings

Introduction. The inspectors identified a Green, non-cited violation of Technical Specification (TS) 5.5.1, "Offsite Dose Calculation Manual," (ODCM) for the failure to establish, implement, and maintain the ODCM relative to the airborne radionuclide and particulate sampling requirements. Specifically, the inspectors reviewed changes made to the ODCM in 1997 and determined the licensee failed to establish an airborne sampling location for a community in the highest deposition factor (D/Q) wind sector for the site.

Description. In 1997, the licensee made changes to their process for reviewing the Radiological Environmental Monitoring Program (REMP). The licensee stated that changes made to the REMP and their process for reviewing the REMP were justified. In addition, the stated revised establishment of their REMP sampling locations met the ODCM requirements. However, the NRC inspectors did not find a proper documented justification for one of the established airborne sampling locations required by their ODCM.

The ODCM required the licensee to establish an airborne sampling location in the vicinity of a community having the highest deposition factor (D/Q). The highest D/Q typically correlates with the sector to where the wind blows most frequently. The licensee had established air sampling station 1 (AS-1) in the southeast direction (Sector G), known as the Port Gibson City Barn, as the sampling location in the community with the highest D/Q. However, information reviewed by the inspectors

showed that there were closer communities in nearby sectors, including the sector with the highest D/Q, which was determined to be in the southwest direction (Sector L). The inspectors determined this by reviewing the licensee's current ODCM, the 2002-2011 meteorological analysis performed for the site, the 2012 and 2014 land use census evaluations, and Google Earth maps. All documents reviewed identified Sector L as the highest D/Q sector. The licensee had no credible explanation as to why AS-1 sampling station was located in Sector G rather than the communities closer to the site with higher D/Q values. The licensee had established and maintained this location since 1997, and perhaps earlier, despite an opportunity to identify the issue during each subsequent biennial land use census evaluation. Most recently, this opportunity would have been available with the results of the 2012 land use census evaluation performed.

Discussions with the licensee revealed that the underlying cause of this issue was the licensee's failure to follow procedures/manuals. Specifically, the licensee's ODCM states that the licensee shall conduct REMP sampling in accordance with their ODCM requirements, as noted in ODCM Table 6.12.1-1. It also states that a land use census is performed every two years and shall be utilized to identify the appropriateness of their REMP sampling locations. Licensee Procedure 06-EN-S000-O-0002, Revision 101, "Land Use Census," discusses land use census requirements and the ODCM states how the land use census results are to be evaluated. The ODCM states if the land use census results identify a new location which yields a calculated dose or dose commitment from the same exposure pathway that is 20 percent greater than a current sample location, then the new location shall be added to the REMP. However, the licensee did not evaluate the land use census results in order to assess the appropriateness of the REMP sampling locations. In order to determine where to sample, the licensee must evaluate the dose from the atmospheric relative concentration (X/Q) and its associated deposition (D/Q) for each of the exposure pathways. If there is a 20 percent increase in the X/Q value for a sector or location, there is likely a similar increase in the D/Q value and dose. The inspectors identified a greater than 20 percent difference in the X/Q between the current sampling location, AS-1, and the location in Sector L with a community in the vicinity sampling in Sector L was required, but not implemented.

Analysis. The failure to establish an air sampling location in the vicinity of a community having the highest D/Q was a performance deficiency. The performance deficiency is more than minor, and therefore a finding, because it adversely affects the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the environment and public domain. Specifically, the failure to implement the Offsite Dose Calculation Manual with appropriate airborne radionuclide requirements adversely impacts the licensee's ability to validate offsite radiation dose assessments for members of the public under certain effluent release conditions. Using Inspection Manual Chapter 0609, Appendix D, dated February 12, 2008, "Public Radiation Safety Significance Determination Process," the inspectors determined that the finding had very low safety significance (Green) because it involved the environmental monitoring program. The finding has a cross-cutting aspect in the procedure adherence component of the human performance area because licensee personnel failed to follow procedures when they established the airborne sampling location for the updated Radiological Environmental Monitoring Program [H.8].

Enforcement. Technical Specification 5.5.1 requires the licensee to establish, implement, and maintain the Offsite Dose Calculation Manual (ODCM). ODCM Limiting

Condition of Operation (LCO) 6.12.1 states the radiological environmental monitoring program shall be conducted as specified in ODCM Table 6.12.1-1. ODCM Table 6.12.1-1 requires the licensee to [collect one airborne] sample from the vicinity of a community having the highest calculated annual average ground level D/Q. ODCM Surveillance Requirement 6.12.2.1 states, in part, that the licensee shall conduct a land use census and the land use census shall verify the appropriateness of the sample location used to fulfill the requirements of LCO 6.12.1. Contrary to the above, since at least 1997, the licensee failed to verify the appropriateness of the sample location used to fulfill the requirements of LCO 6.12.1. Specifically, the licensee failed to properly evaluate changes in their land use census results and meteorological analyses to verify the appropriateness of the airborne indicator sampling location in the vicinity of a community having the highest calculated annual average ground level D/Q.

As immediate corrective actions, the licensee evaluated their ODCM and developed a plan to meet the REMP sampling requirements. Because this violation was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR-GGNS-2015-01835, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy. (NCV 05000416/2015001-05, Failure to Establish, Implement, and Maintain Appropriate Changes to the Offsite Dose Calculation Manual For REMP Airborne Sampling)

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation (71124.08)

a. Inspection Scope

The inspectors evaluated the effectiveness of the licensee's programs for processing, handling, storage, and transportation of radioactive material. The inspectors interviewed licensee personnel and reviewed the following items:

- The solid radioactive waste system description, process control program, and the scope of the licensee's audit program
- Control of radioactive waste storage areas including container labeling/markings, and monitoring containers for deformation or signs of waste decomposition
- Changes to the liquid and solid waste processing system configuration including a review of waste processing equipment that is not operational or abandoned in place
- Radio-chemical sample analysis results for radioactive waste streams and use of scaling factors and calculations to account for difficult-to-measure radionuclides
- Processes for waste classification including use of scaling factors and 10 CFR Part 61 analysis
- Shipment packaging, surveying, labeling, marking, placarding, vehicle checking, driver instructing, and preparation of the disposal manifest

- Audits, self-assessments, reports, and corrective action reports radioactive solid waste processing, and radioactive material handling, storage, and transportation performed since the last inspection

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

These activities constituted completion of one sample of radioactive solid waste processing, and radioactive material handling, storage, and transportation, as defined in Inspection Procedure 71124.08.

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

40A1 Performance Indicator Verification (71151)

.1 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors reviewed licensee event reports (LERs) for the period of January 1, 2014, through December 31, 2014, to determine the number of scrams that occurred. The inspectors compared the number of scrams reported in these LERs to the number reported for the performance indicator. Additionally, the inspectors sampled monthly operating logs to verify the number of critical hours during the period. 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 data reported.

These activities constituted verification of the unplanned scrams per 7000 critical hours performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors reviewed monthly power history graphs for time period in addition to operating logs, and corrective action program records, for the period of January 1, 2014, through December 31, 2014, to determine the number of unplanned power changes that occurred. The inspectors compared the number of unplanned power changes documented to the number reported for the performance indicator. Additionally, the

inspectors sampled monthly operating logs to verify the number of critical hours during the period. 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 data reported.

These activities constituted verification of the unplanned power outages per 7000 critical hours performance indicator, as defined in Inspection Procedure 71151.

b. Findings

No findings were identified.

.3 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

The inspectors reviewed the licensee's basis for including or excluding in this performance indicator each scram that occurred between January 1, 2014, and December 31, 2014. 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 data reported.

These activities constituted verification of the unplanned scrams with complications performance indicator, 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

The inspectors selected one issue for an in-depth follow-up:

- On January 26 – 30, 2015, the inspectors reviewed Condition Report CR-GGN-2014-05868, which addressed the Foreign Materials Exclusion (FME) program as an Area for Improvement. Specifically, the licensee identified that station supervisors and workers did not demonstrate proper FME program knowledge, implementation, behaviors, and work practices to maintain appropriate FME controls. The inspectors performed a detailed review of other condition reports written in 2014 related to FME issues, and they identified numerous examples whereby the lack of FME program knowledge was a contributing factor. A number of these previous corrective actions were focused on addressing the specific incident instead of addressing the root cause. All of the examples reviewed were either a Significance Category C or D. Recent condition reports written in 2015 indicated examples where plant equipment failed to operate appropriately, or was damaged due to foreign material inclusion. As a result of these and other FME related issues, the Condition Report Review Group prompted this condition report and developed the FME Focus Area Action Plan to address the negative trend in this area. The inspectors reviewed the licensee's action plan. Overall, the licensee's efforts are expansive, addressing the FME program structure, training and coaching, program implementation, communication, and program oversight and performance sustainability. Though this condition report was assigned a Significance Category C, the CRG assigned the Manager of Maintenance as the FME Focus Area Action Plan owner. However, due to its recent implementation, the inspectors were unable to evaluate the action plan's effectiveness.

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

b. Findings

No findings were identified.

40A3 Follow-up of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) Licensee Event Report 05000416/2013-0005-01: "Revised Licensee Event Report for Reactor Pressure Vessel Steam Pressure Less than 0 psig During Six Plant Startups Resulting in a Violation of Technical Specification 3.4.11, RCS Pressure and Temperature (P/T) Limits"

a. Inspection Scope

On December 12, 2013, with the plant operating in Mode 1 at 100 percent thermal power, Grand Gulf Nuclear Station (GGNS) discovered that during the past six startups, the reactor pressure vessel (RPV) steam pressure was allowed to be below zero (0) pounds per square inch gage (psig) with the main steam isolation valves open and the

mechanical vacuum pumps running, without entering Limiting Condition of Operation (LCO) 3.4.11, Reactor Coolant System Pressure and Temperature Limits. From December 12, 2010, through December 12, 2013, there were six occurrences of reactor pressure being less than 0 psig. The reactor pressure/temperature curves in the GGNS Pressure and Temperature Limits Report have a minimum pressure value of 0 psig referenced on the curve. The lowest pressure identified in the six occurrences was approximately -9.9 psig on December 13, 2013. All systems performed per design during the reactor startups with the RPV pressure below 0 psig, during the past 3 years.

The initial licensee event report for this event was discussed in NRC Inspection Report 05000416/2014003 in Section 4OA3. That report documented the causes of not entering the applicable LCO action statement, and the licensee's planned corrective actions to address the apparent and associated causes. The inspectors reviewed the licensee's apparent cause evaluation, and planned corrective actions, and they determined that the licensee's conclusions and course of action were reasonable at that time.

This revision to the LER was submitted by the licensee to reflect changes in the corrective actions implemented to correct the cause based on the revised apparent cause evaluation. Specifically, the licensee modified the applicable integrated operating instruction to prohibit drawing of a vacuum on the reactor vessel at any time to ensure compliance with Technical Specification 3.4.11, Pressure and Temperature Limits Report. For this report, the inspectors reviewed the licensee's revised apparent cause evaluation and corrective actions implemented, and they determined the licensee's conclusions and course of action were reasonable. The enforcement aspects of this event were previously discussed in NRC Inspection Report 05000416/2013005 in Section 1R20. Documents reviewed as part of this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

4OA5 Other Activities

Inspection of Commercial-Grade Dedication Programs – Pilot Inspection (43004) Review of Individual Commercial-grade Dedication Packages

Since the capability of components to perform properly under their full range of design basis conditions is often not tested during normal plant operations, reasonable assurance of such performance is provided through a quality assurance program that governs the development and implementation of component technical requirements. Appropriate quality assurance requirements are also imposed by NRC licensees on suppliers and sub suppliers to ensure manufactured components comply with their technical requirements. Inspection of procurement and commercial-grade dedication programs, verifies that components are properly designed and manufactured, and as

such, can be relied upon to perform their intended safety functions. Dedication is the process used to ensure that safety-related components, purchased from commercial suppliers without approved nuclear quality assurance programs, have been properly designed, manufactured, and tested.

a. Inspection Scope

The inspectors interviewed responsible engineering personnel and reviewed policies, procedures, and records associated with the dedication of commercial-grade items to verify that activities associated with commercial-grade dedication met applicable regulatory requirements. The inspectors reviewed Procurement Engineering Evaluations (PEEs) of commercial-grade items to verify the evaluations identified the associated safety functions, postulated failure modes that may adversely affect the safety functions, effects of the equipment failures, and critical characteristics of the equipment that provided reasonable assurance that the items would perform their intended safety function.

The inspectors reviewed the following purchase order (PO) documents to verify the requirements of the PEEs were correctly translated into specifications for purchase and dedication of commercial-grade items:

- 10400595 for an auxiliary relay

The inspectors reviewed records of receipt acceptance inspection to verify that the licensee had properly developed and implemented a plan for commercial-grade dedication.

b. Findings

Introduction. The inspectors identified a Green, non-cited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the licensee's failure to verify the suitability of replacement parts that were procured from commercial suppliers. Specifically, the inspectors noted that none of the tests specified by the licensee were sufficient to ensure that the seismic qualification of an auxiliary relay had been maintained.

Description. Criterion III, "Design Control," of Appendix B to 10 CFR Part 50, states in part that, "Measures shall also be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of the structures, systems and components." In addition, 10 CFR Part 21 defines the process for dedicating commercial-grade items as basic components. 'Dedication' is an acceptable process undertaken to provide reasonable assurance that commercial-grade items, which are planned to be used as basic components, will perform their intended safety function. In this respect, such components are deemed equivalent to items designed and manufactured under a 10 CFR Part 50, Appendix B, quality assurance program. The assurance is achieved by identifying critical characteristics of the items, and verifying their acceptability by inspections, tests, or analysis. Title 10 CFR Part 21 defines critical characteristics, in part, as those important design, material, and performance characteristics of commercial-grade items that, once verified, will provide reasonable assurance that these items will perform their intended safety function.

The PEE 00131149 is for an Auxiliary Relay Type HEA61 dedicated for Grand Gulf Nuclear Station. The item is a high speed, multi-contact, hand-reset, auxiliary relay that will be mounted in a safety-related, seismically-qualified parent component. The critical characteristics listed in the PEE were configuration/dimensions, manufacturer/part number, and electrical function. The PEE required performing a visual and dimensional inspection of the auxiliary relay, and comparing it to several drawings, plus a continuity test to verify the position of the contacts in the open and close position. The inspectors noted that none of the tests specified by the PEE were sufficient to ensure that the seismic qualification of the relay had been maintained. Since relays are seismically sensitive components, specific tests are required to ensure that no changes to materials, parts, or manufacturing processes have been made that might invalidate the original seismic qualification testing. The relays were procured from a commercial distributor that does not have knowledge or control of the components' design or manufacturing processes. The inspectors noted that the cause of the performance deficiency appeared to be the lack of appropriate definitions, and guidance for technical evaluations in the implementing procedure for commercial-grade dedication.

Analysis. The failure to adequately establish measures for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of systems, structures, and components was a performance deficiency. This performance deficiency was more than minor, and therefore a finding, because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," dated June 19, 2012, Exhibit 2, "Mitigating Systems Screening Questions," the issue screened as having very low safety significance (Green) because the licensee performed an operability determination, which evaluated the safety impacts of postulated relay chatter during a seismic event, for the applications in which these relays were installed. The subsequent licensee operability evaluation determined that potential relay chatter would not impact the safety-related functions of the relays, which were installed in the residual heat removal pump A lockout circuit, and the lockout circuit for bus 15AA, which protects the safety-related 15AA electrical bus. Thus all applicable screening questions in Manual Chapter 0609, Appendix A, Exhibit 2, were answered "no." A cross-cutting aspect is not being assigned to this finding.

Enforcement. Title 10 of the Code of Federal Regulations, Part 50, Appendix B, Criterion III, "Design Control," requires, in part, "Measures shall be established for the selection and review for suitability of application of materials, parts, equipment, and processes that are essential to the safety-related functions of systems, structures, and components." Title 10 of the Code of Federal Regulations, Part 21.3, "Definitions," defines the process for dedicating commercial-grade items as basic components. 'Dedication' when applied to nuclear power plants licensed pursuant to 10 CFR Part 50, dedication is an acceptable process undertaken to provide reasonable assurance that a commercial grade item to be used as a basic component will perform its intended safety function. In this respect, such components are deemed equivalent to items designed and manufactured under a 10 CFR Part 50, Appendix B, quality assurance program. This assurance is achieved by identifying critical characteristics of the item, and verifying their acceptability by inspections, tests, or analysis. Title 10 CFR Part 21 defines critical

characteristics, in part, as those important design, material, and performance characteristics of commercial-grade items that, once verified, will provide reasonable assurance that these items will perform their intended safety function.

Contrary to the above, as of June 23, 2014, the licensee failed, as part of their 'Commercial Dedication' process, to verify the seismic capabilities (performance characteristic) of the auxiliary relay Type HEA61, which were later found to be installed in the residual heat removal pump A lockout circuit, and the lockout circuit for bus 15AA, which protects the safety-related 15AA electrical bus. The licensee's subsequent operability evaluation determined that relay chatter would not be a concern for the specific applications for which the subject relays were installed. Procedural enhancements to the licensee's program for performing commercial grade dedications are being evaluated via a corporate initiative documented in CR-HQN-2014-0538. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program as Condition Report GGN-2014-05049, this violation is being treated as a non-cited violation, consistent with Section 2.3.2.a of the Enforcement Policy. (NCV 05000416/2015001-06 Failure to Adequately Establish Commercial-Grade Items as Basic Components)

40A6 Meetings, Including Exit

Exit Meeting Summary

On February 18, 2015, the team leader presented the commercial-grade dedication inspection results to Mr. Kevin Mulligan, Site Vice President, and other members of the licensee staff. The licensee acknowledged the findings during the meeting. While some proprietary information was reviewed during this inspection, no proprietary information was included in this report.

On March 27, 2015, the inspectors presented the radiation safety inspection results to Mr. Kevin Mulligan, Site Vice President, 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 April 9, 2015, the inspectors presented the inspection results to Mr. Kevin Mulligan, Site Vice President, 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.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

J. Ashley, Specialist, Chemistry
R. Benson, Manager, Chemistry
D. Ellis, Acting Manager, Emergency Preparedness
J. Eubanks, Supervisor, Central Calibration Facility
L. Litsey, FME Coordinator
R. Meister, Senior Licensing Specialist
R. Miller, Manager, Radiation Protection
M. Milley, Manager, Maintenance
K. Mulligan, Site Vice President
J. Nadeau, Manager Regulatory Assurance
M. Novogratz, Engineer, Systems Engineering
K. O'Neal, Specialist, Chemistry
R. Scarbrough, Senior Licensing Specialist
D. Speeg, Coordinator/Scheduler, Instruments and Controls
P. Stokes, Support Supervisor, Radiation Protection
S. Stringfellow, Specialist, Chemistry
R. Sumrall, Manager, Chemistry
S. Sweet, Engineer, Licensing

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000416/2015001-01	NCV	Failure to Take Timely Corrective Actions Associated with Division 1 and 2 Standby Service Water Pump House Ventilation System Due to Degraded Relays (Section 1R12)
05000416/2015001-02	NCV	Failure to Follow a Procedure Resulting in the Unplanned Inoperability of the Reactor Core Isolation Cooling System (Section 1R13)
05000416/2015001-03	NCV	Emergency Action Level Scheme for Nonfunctional Seismic Monitor (Section 1R15)
05000416/2015001-04	NCV	Failure to Properly Calibrate Main Steam Line Radiation Monitors and Containment/Drywall High Range Radiation Monitors (Section 2RS5)
05000416/2015001-05	NCV	Failure to Establish, Implement, and Maintain Appropriate Changes to the Offsite Dose Calculation Manual For REMP Airborne Sampling (Section 2RS7)
05000416/2015001-06	NCV	Failure to Adequately Establish Commercial-Grade Items as Basic Components (Section 4OA5)

Closed

05000416/2013-0005-01	LER	Revised Licensee Event Report for Reactor Pressure Vessel
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Closed

Steam Pressure Less than 0 psig During Six Plant Startups
Resulting in a Violation of Technical Specification 3.4.11, RCS
Pressure and Temperature (P/T) Limits (Section 40A3)

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
04-1-01-N71-1	Circulating Water System	76
04-1-01-N71-3	Auxiliary Cooling Tower System	24
04-1-01-P41-1	Standby Service Water System	138
04-1-03-A30-1	Cold Weather Protection	23

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Chemistry Environmental	January 8, 2015

Condition Reports (CRs)

CR-GGN-2014-07369	CR-GGN-2014-07378	CR-GGN-2014-07379
CR-GGN-2014-07380	CR-GGN-2014-07384	CR-GGN-2014-07385
CR-GGN-2014-07428	CR-GGN-2015-00144	CR-GGN-2015-00151

Work Orders (WOs)

WO 52534678 01

Section 1R04: Equipment Alignment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
04-1-01-T48-1	Standby Gas Treatment	35
04-S-01-P64-1	Fire Protection Water System	63
06-OP-1C41-M-0001	Surveillance Procedure, Standby Liquid Control Operability	113
04-1-01-T48-1, Attachment III	Standby Gas Treatment	35

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
04-1-01-T48-1, Attachment V	Standby Gas Treatment	35
04-1-01-T48-1, Attachment VIII	Temporary Modification Record Sheet, Defeat Auto Start Logic of SBGT B	35
04-1-01-T48-1, Attachment VII	Temporary Modification Record Sheet, Restore Auto Start Logic of SBGT A	35
04-1-01-T48-1, Attachment VI	Temporary Modification Record Sheet, Modify 1T42B002 and 1T42B005 Control Circuit	35
06-OP-1E22-M- 0001	Data Sheet II HPCS Monthly Functional Test	109

Condition Reports (CRs)

CR-GGN-2014-00026	CR-GGN-2014-00029	CR-GGN-2014-00035
CR-GGN-2014-00053	CR-GGN-2014-00476	CR-GGN-2014-01016
CR-GGN-2014-01047	CR-GGN-2014-01507	CR-GGN-2014-01562
CR-GGN-2014-02366	CR-GGN-2014-02519	CR-GGN-2014-02575
CR-GGN-2014-02678	CR-GGN-2014-02684	CR-GGN-2014-02729
CR-GGN-2014-02815	CR-GGN-2014-03039	CR-GGN-2014-03126
CR-GGN-2014-03127	CR-GGN-2014-03298	CR-GGN-2014-03602
CR-GGN-2014-03603	CR-GGN-2014-03683	CR-GGN-2014-04038
CR-GGN-2014-04164	CR-GGN-2014-04288	CR-GGN-2014-04290
CR-GGN-2014-04291	CR-GGN-2014-04492	CR-GGN-2014-04597
CR-GGN-2014-04679	CR-GGN-2014-04681	CR-GGN-2014-04683
CR-GGN-2014-04696	CR-GGN-2014-04712	CR-GGN-2014-04683
CR-GGN-2014-04696	CR-GGN-2014-04712	CR-GGN-2014-04718
CR-GGN-2014-04757	CR-GGN-2014-04821	CR-GGN-2014-05069
CR-GGN-2014-05200	CR-GGN-2014-05222	CR-GGN-2014-05251
CR-GGN-2014-05252	CR-GGN-2014-05297	CR-GGN-2014-05411
CR-GGN-2014-05534	CR-GGN-2014-05599	CR-GGN-2014-05795
CR-GGN-2014-05819	CR-GGN-2014-05921	CR-GGN-2014-06318
CR-GGN-2014-06321	CR-GGN-2014-06323	CR-GGN-2014-06401
CR-GGN-2014-06602	CR-GGN-2014-06933	CR-GGN-2014-06952
CR-GGN-2014-06965	CR-GGN-2014-07002	CR-GGN-2014-07433

CR-GGN-2014-07529	CR-GGN-2014-07798	CR-GGN-2014-08011
CR-GGN-2014-08017	CR-GGN-2015-00071	CR-GGN-2015-00487
CR-GGN-2015-00498	CR-GGN-2015-00499	CR-GGN-2015-00501
CR-GGN-2015-00513	CR-GGN-2015-00554	CR-GGN-2015-00596
CR-GGN-2015-00645	CR-GGN-2015-00782	CR-GGN-2015-00783
CR-GGN-2015-01234	CR-GGN-2015-01265	CR-GGN-2015-01326
CR-GGN-2015-01388	CR-GGN-2015-01389	CR-GGN-2015-01706

Work Orders (WOs)

WO 52614130 01

Section 1R05: Fire Protection

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-TQ-125, Attachment 9.1	Fire Brigade Drills, 1/13/15 Team A	2
EN-TQ-125, Attachment 9.1	Fire Brigade Drills, 1/13/15, Unannounced, Upper Cable Spreading Room	2
Fire Pre-Plan SSW-03	Yard Electrical Manholes MH01, MH20, and MH21	0
Fire Pre-Plan A- 06	Automatic Fire Systems	2
Fire Pre-Plan A- 06, Attachment 2	Major Equipment Elevation 93'-0"	1
Fire Protection Pre-Plan Index	Auxiliary Building Elevation 93'	1
Fire Pre-Plan A- 06	HPCS Room, Room 1A109, Area 8, Elevation 93'	2
Fire Pre-Plan A- 06, Attachment 1	Access Drawing	1
GG USFAR	9A.5.5 Fire Area 5	
Fire Pre-Plan C- 13, Attachment 2	Drawing of Major Equipment, Elevation 156'	3
Fire Pre-Plan C- 13, Attachment 1	Access Drawing	3
Fire Pre-Plan C- 13	Control Room, Control Panel, Suspended Ceiling, and Support Areas OC503	4

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
GG USFAR	9A.5.50.4 Fire Zone OC503: Control Room Area, Elevation 166' 0"	
Fire Pre-Plan DG-04	HPCS Diesel Generator 1D304, Area 12, Elevation 133	7
Fire Pre-Plan DG-04	Access Drawing	4
Fire Pre-Plan DG-04, Attachment I	Equipment, Breaker No. Location, and H.S. Number	0
GG USFAR	9A.5.63 Fire Area 63	
GG UFSAR	9A.5.30 Fire Area 30	

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
NEIL POV-026	Nuclear Electric Insurance Limited General Arrangement Insurance Plan	10
Fire Pre-Plan C-13, Attachment 2	Drawing of Major Equipment, Elevation 156'	3
Fire Pre-Plan C-13, Attachment 1	Access Drawing	3
Fire Pre-Plan C-07-2	Control Building Elevation 111'	3

Condition Reports (CRs)

CR-GGN-1-2015-0635 CR-GGN-1-2015-01238

Section 1R06: Flood Protection Measures

Work Orders (WOs)

WO 52600829 01 WO 52600100 01 WO 52602889 01
WO 52599609 01 WO 52599610 01

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

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RE-215	Reactivity Maneuver Plan (BWR)	5
EN-OP-115	Conduct of Operations	15

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
GGN 2015 33	TEAR Printout for selected TEAR: GGNS – NRC Examination Report 05000416/2014301	
GGN 2015 34	TEAR Printout for selected TEAR: GGNS – NRC Examination Report 05000416/2014301 Power Suppression Test Profile	January 2015

Condition Reports (CRs)

CR-GGN-2014-07576	CR-GGN-2014-07577
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Section 1R12: Maintenance Effectiveness

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
EN-LI-118, Attachment 9.8	Equipment Apparent Cause Evaluation: 1Y47F002A Damper Failure	0
EN-DC-205	Maintenance Rule Monitoring	5
EN-DC-205, Attachment 9.1	Maintenance Rule Functional Failure Evaluation Template CR-GGN-2013-07510/07516	December 7, 2013
EN-DC-205, Attachment 9.1	Maintenance Rule Functional Failure Evaluation Template CR-GGN-2015-00554, CR-GGN-2015-00568, CR-GGN-2015-00596	January 29, 2015

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	System Health Report: GGNS, Unit 1 P81-DIV 3 Emergency Diesel Generator	Q4-2014
	Maintenance Rule Database, P81 HPCS Diesel Generator System	

Condition Reports (CRs)

CR-GGN-1-2015-0642	CR-GGN-1-2015-0739	CR-GGN-1-2015-01134
CR-GGN-1-2015-01132	CR-GGN-2015-00342	CR-GGN-2011-00434
CR-GGN-2011-00441	CR-GGN-2014-08441	CR-GGN-2011-04696
CR-GGN-2011-03730	CR-GGN-2013-00220	CR-GGN-2013-01546
CR-GGN-2013-01204	CR-GGN-2011-08683	CR-GGN-2012-11948
CR-GGN-2013-02934	CR-GGN-2013-02932	CR-GGN-2014-01176
CR-GGN-2011-09336	CR-GGN-2012-01594	CR-GGN-2014-08155
CR-GGN-2015-00419	CR-GGN-2011-00402	CR-GGN-2011-00349
CR-GGN-2011-00482	CR-GGN-2011-00878	CR-GGN-2011-01103
CR-GGN-2011-02496	CR-GGN-2011-03897	CR-GGN-2015-00052
CR-GGN-2015-00024	CR-GGN-2015-00585	CR-GGN-2015-00745
CR-GGN-2013-05014	CR-GGN-2015-00778	CR-GGN-2015-00779
CR-GGN-2014-00026	CR-GGN-2014-00029	CR-GGN-2014-00035
CR-GGN-2014-00053	CR-GGN-2014-00476	CR-GGN-2014-01016
CR-GGN-2014-01047	CR-GGN-2014-01507	CR-GGN-2014-01562
CR-GGN-2014-02366	CR-GGN-2014-02519	CR-GGN-2014-02575
CR-GGN-2014-02678	CR-GGN-2014-02684	CR-GGN-2014-02729
CR-GGN-2014-02815	CR-GGN-2014-03039	CR-GGN-2014-03126
CR-GGN-2014-03127	CR-GGN-2014-03298	CR-GGN-2014-03602
CR-GGN-2014-03603	CR-GGN-2014-03683	CR-GGN-2014-04038
CR-GGN-2014-04164	CR-GGN-2014-04288	CR-GGN-2014-04290
CR-GGN-2014-04291	CR-GGN-2014-04492	CR-GGN-2014-04597
CR-GGN-2014-04679	CR-GGN-2014-04681	CR-GGN-2014-04683
CR-GGN-2014-04696	CR-GGN-2014-04712	CR-GGN-2014-04683
CR-GGN-2014-04696	CR-GGN-2014-04712	CR-GGN-2014-04718
CR-GGN-2014-04757	CR-GGN-2014-04821	CR-GGN-2014-05069
CR-GGN-2014-05200	CR-GGN-2014-05222	CR-GGN-2014-05251
CR-GGN-2014-05252	CR-GGN-2014-05297	CR-GGN-2014-05411
CR-GGN-2014-05534	CR-GGN-2014-05599	CR-GGN-2014-05795
CR-GGN-2014-05819	CR-GGN-2014-05921	CR-GGN-2014-06318
CR-GGN-2014-06321	CR-GGN-2014-06323	CR-GGN-2014-06401
CR-GGN-2014-06602	CR-GGN-2014-06933	CR-GGN-2014-06952

CR-GGN-2014-06965	CR-GGN-2014-07002	CR-GGN-2014-07433
CR-GGN-2014-07529	CR-GGN-2014-07798	CR-GGN-2014-08011
CR-GGN-2014-08017	CR-GGN-2015-00071	CR-GGN-2015-00487
CR-GGN-2015-00498	CR-GGN-2015-00499	CR-GGN-2015-00501
CR-GGN-2015-00513	CR-GGN-2015-00554	CR-GGN-2015-00596
CR-GGN-2015-00645	CR-GGN-2015-00782	CR-GGN-2015-00783
CR-GGN-2015-01234	CR-GGN-2015-01265	CR-GGN-2015-01326
CR-GGN-2015-01388	CR-GGN-2015-01389	CR-GGN-2015-01706
CR-GGN-2013-07695	CR-GGN-2013-05975	CR-GGN-2013-05961
CR-GGN-2013-07884	CR-GGN-2013-07516	CR-GGN-2013-07443
CR-GGN-2013-07375	CR-GGN-2013-07500	CR-GGN-2013-07511
CR-GGN-2013-07435	CR-GGN-2013-07822	CR-GGN-2013-06018
CR-GGN-2013-05751	CR-GGN-2013-05978	CR-GGN-2013-07038
CR-GGN-2013-07493	CR-GGN-2013-07510	CR-GGN-2013-07254

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision/ Date</u>
EN-WM-101, Attachment 9.1	On-Line Emergent Work Addition/Deletion Approval Form for WO 52599965-01	January 6, 2015
05-1-02-VI-2	Hurricanes, Tornados, and Severe Weather, Entered December 23, 2014 @ 9:33 am	128
EN-FAP-EP-010	Severe Weather Response	1
05-1-VI-2	Hurricanes, Tornados, and Severe Weather, Entered January 3, 2015 @ 11:06 am	128
06-IC-1E31-A- 1003	Surveillance Procedure: RHR Area High Temp Calibration	106
EN-WM-101, Attachment 9.1	On-Line Emergent Work Addition/Deletion Approval Form for WO 52472243-01	January 30, 2015
EN-WM-101, Attachment 9.1	On-Line Emergent Work Addition/Deletion Approval Form for WO 52431792-01	January 29, 2015
EN-WM-104	On-Line Risk Assessment	10

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
3.8.1	AC Sources-Operating LCOTR No.: 1-TS-15-0005	
	Integrated Risk Summary Week of 1/26/15	January 28 – 30, 2015
	Integrated Risk Summary Week of 03/23/2015	March 22 – 29, 2015
	EOOS Risk Report for 23 March 2015	March 23, 2015
	GGNS EEOS Risk Monitor Users' Manual (Model 3b)	October 24, 2013
	Yellow Memo - Department Clock Reset: RCIC Isolated on False RHR Room Temperature Signal During I&C Maintenance (CR-GGN-2015-01532)	March 12, 2015
Attachment 9.11	Level 1 Human Performance Evaluation (HUE) for CR-GGN-2015-01532	March 24, 2015

Work Orders (WOs)

WO 52536844-01

Condition Reports (CRs)

CR-GGN-2015-00554 CR-GGN-2015-01532

Section 1R15: Operability Determinations and Functionality Assessments

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-LI-101-ATT-9.1	10 CFR 50.59 Evaluation Form, EC-53955, Evaluation # 2015-0001-R00	12
10-S-01-1, Attachment I	Emergency Classifications	124
10-S-01-38, Attachment VII	Hazards and Other Malfunctions: Earthquake	3
05-S-02-VI-3	Off-Normal Event Procedure	110
05-S-02-VI-3	Off-Normal Event Procedure	112
10-S-01-1	Activation of the Emergency Plan	124
10-S-01-1, Attachment II	Activation of the Emergency Plan, Initiating Condition – Alert	124

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	Integrated Risk Summary Week of 1/26/15	January 27, 2015
LCO 13-335	Seismic Monitor RTS	January 30, 2015
	USGS Earthquake Hazards Program	February 5, 2015
GG USFAR	9.5 - 17, 35-37	
GNRI-95/00044	Issuance of Amendment No. 120 to Facility Operating License No. NPF-29 – Grand Gulf Nuclear Station, Unit 1 (TAC No. M88101)	February 21, 1995
15-0003	Standing Order Division 3 DG Starting Air System	March 26, 2015

Condition Reports (CRs)

CR-GGN-2014-08258	CR-GGN-2014-08262	CR-GGN-2015-00713
CR-GGN-1-2015-01236	CR-GGN-2013-05902	CR-GGN-2013-06514
CR-GGN-1-2015-00568	CR-GGN-1-2015-00554	CR-GGN-2015-01412
CR-GGN-2015-00596	LR-LAR-2015-00065	CR-GGN-2012-10720

Section 1R18: Plant Modifications

Procedures

<u>Number</u>	<u>Title</u>
EN-DC-136 R11, Attachment 9.4	Temporary Modification Control Form TMOD No.: 55470
EN-DC-136 R11, Attachment 9.10	Temporary Modification Change Notice TMCN No.: 55493

Condition Reports (CRs)

CR-GGN-2015-00892	CR-GGN-2015-01607
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Engineering Changes (ECs)

EC No. 53539, Rev. 0

Work Orders (WOs)

WO 00404811-09

Section 1R19: Post-Maintenance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-FAP-WM-002	Critical Evolutions	2
06-OP-1P41-M-0004, Attachment I	Surveillance Procedure Data Package for SSW Loop A Operability Check	109
04-1-03-Z51-2, Attachment I	B Control Room Air Conditioner Flow Test	8

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
	T-0 + 24hrs	January 11, 2015
	T-0 + 24hrs	January 5 2015

Condition Reports (CRs)

CR-GGN-2015-00071

Work Orders (WOs)

WO 52280718 01 WO 00313515 04 WO 52589834 01
WO 00343297 01 WO 00384398 01 WO 00401275 01
WO 00313515 01

Section 1R22: Surveillance Testing

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-OP-109	Drywell Leakage	2
06-EL-1L11-W-0001	Surveillance Procedure, 125-Volt Battery Bank Pilot Cell Check	104
06-OP-1000-D-0001	Daily Operating Logs	146
06-OP-1000-W-0001	Weekly Operating Logs	108

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
06-OP-1C41-Q-0001	Surveillance Procedure, Standby Liquid Control Functional Test	125
07-S-02-2	Special Guidance for the Performance of Electrical Activities	5
GG UFSAR	8.3.2 DC Power Systems	
GG UFSAR	Table 9.3-4 Standby Liquid Control System Operating Pressure/Temperature Conditions	
GG UFSAR	9.3.5 Standby Liquid Control System	3
06-OP-1P81-M-0002	HPCS Diesel Generator 13 Functional Test	128
GG USFAR	8.3 – 23-27a HPCS Diesel Generator	2

Drawings

<u>Number</u>	<u>Title</u>	<u>Revision</u>
M-1082	P&I Diagram Standby Liquid Control System Unit 1	28
Figure 9.3-25	GGNS USFAR System Flow Diagram Standby Liquid Control System	3

Other Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	Drywell Unidentified Leakage Rate Trend	March 15, 2014 – January 20, 2015
	Drywell Identified Leakage Rate Trend	March 15, 2014 – January 20, 2015
	Check Valve Leakage (D.W. Floor Drains) Calculation	July 22, 2014 – January 11, 2015
	RP Log for Initial Drywell Entry	February 8, 2015
	Steam Dome Pressure	February 7, 2015 - February 9, 2015

Other Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	RP Drywell Closeout	February 15, 2015
	Steam Dome Pressure	February 14, 2015 - February 17, 2015
	D/W Cooler Drain Flow	January 27, 2015 – February 22, 2015
	Drywell Unidentified Leakage Rate Trend	March 17, 2014 – February 22, 2015
	PDS Trend (Drywell Gaseous RADN and Drywell Particulate RADN)	February 3, 2015 – February 23, 2015
GE 22A5296 AA	Appendix B GE-3 Standby Liquid Control	0
	GGNS Operations Logs: Maintenance Rule Functional / Non-Functional, Days	March 1, 2015
	GGNS Operations Logs: HPCS Diesel Generator Functional Test / Time Stop, Days	March 1, 2015
Tech Specs	AC Sources – Operating 3.8.1	182

Condition Reports (CRs)

CR-GGN-1-2015-0391	CR-GGN-2014-08307	CR-GGN-2015-00745
CR-GGN-1-2015-0769	CR-GGN-1-2015-0778	CR-GGN-1-2015-0779
CR-GGN-1-2015-0781		

Engineering Changes (ECs)

EC No. 48054, Rev. 0

Work Orders (WOs)

WO 52447131	WO 52444384	WO 52598656 01
WO 003890909 01	WO 52594435 01	WO 52594437 01
WO 52594428 01	WO 401728	WO 00389090 01
WO 52599383 01		

Section 1EP6: Drill Evaluation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
10-S-01-41	Alternate Emergency Response Facilities	0

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
GGNS Emergency Drill Scenario	2015 1 st Quarter Green Team Drill Scenario Package	February 16, 2015
	Grand Gulf Emergency Notification Forms (Drill) Nos. 1 – 8	March 18, 2015

Condition Reports (CRs)

CR-GGN-1-2015-01894	CR-GGN-1-2015-01902
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Section 2RS5: Radiation Monitoring Instrumentation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
06-IC-1D17-R-1002	Main Steam Line High Radiation Monitor (PCIS) Calibration	108
06-IC-1D21-R-1002	Containment/Drywell High Range Area Radiation Monitor Calibration	107
06-IC-SD17-A-1026	Accident Range Monitor AXM-1 Calibration Containment Ventilation	108
08-S-03-22	Installed Radiation Monitoring System Alarm Setpoint Determination and Control	114
08-S-07-83	Operation and Calibration of the ND-9000 Whole Body Counter	10
EN-RP-301	Radiation Protection Instrument Control	7
EN-RP-303	Source Checking of Radiation Protection Instrumentation	4
EN-RP-317	Central Calibration Facility	0
EN-RP-317-03	Operation and Calibration of Sources and Laboratory Standard Instruments	0

Audits and Self-Assessments

<u>Number</u>	<u>Title</u>	<u>Date</u>
QA-2-2-2013- GGNS-01	GGNS Combined Chemistry Effluent and Environmental Monitoring Program Audit	December 19, 2013

Condition Reports (CRs)

CR-GGN-2013-06914	CR-GGN-2013-06917	CR-GGN-2014-00266
CR-GGN-2014-01232	CR-GGN-2014-02665	CR-GGN-2014-04536
CR-GGN-2014-08179	CR-GGN-2015-01353	CR-GGN-2015-01631
CR-GGN-2014-06347	CR-GGN-2014-00505	CR-GGN-2014-08174
CR-GGN-2014-01186		

Portable Radiation Instrument Calibration Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
11400	ASP-1 (NRD) Remball	September 22, 2014
CHP-ASA029	Model H-810 Air Sampler (Hi-Vol)	October 7, 2014
CHP-CR-272	LM-12 Frisker	April 16, 2014
CHP-DR-265	Model 9-3	April 17, 2014
CHP-TEL063	WR Telepole	July 31, 2014
HP-DR-519	AMP 100	February 25, 2015
HP-DS-071	SAC-4 Scaler (Alpha)	August 14, 2014

Stationary Radiation Instrument Calibration Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
ARGOS 001	ARGOS-5AB Personnel Contamination Monitor	January 27, 2015
CRONOS 001	CRONOS Contamination Monitor	February 25, 2015
GEM 002	Canberra GEM-5	October 20, 2014
STM 11716	Gamma Scintillation Tool Monitor	January 22, 2015

Stationary Radiation Instrument Calibration Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
WBC	People Mover WBC System	October 17, 2013

Installed Radiation Monitor Calibration Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
52347800	Containment/Drywell High Range Area Radiation Monitor Calibration, Channel B	November 29, 2012
52482062	Liquid Radwaste Effluents Radiation Monitor Calibration	April 21, 2014
52482239	Circulating Water Blowdown Flow Calibration	July 28, 2014
52495760	Main Steam Line High Radiation Monitor (PCIS) Calibration, Channel D	March 25, 2015
52505084	Radwaste Building Ventilation Gaseous Monitor Calibration	August 6, 2014
52517765	Offgas Post Treatment Gaseous Monitor B Calibration	December 4, 2014
52528067	Accident Range Monitor AXM-1 Calibration Standby Gas Treatment System A	January 26, 2015
52539858	Accident Range Monitor AXM-1 Calibration Offgas and Radwaste Ventilation	January 8, 2015
460001759	Primary Calibration Data for Containment Vent AXM	June 25, 1981
524866727	Eberline (SPING) Radiation Monitor Calibration (SGTS A Vent)	April 16, 2014

Other Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
Q4-2014	System Health Report, G17 – Liquid Radwaste	March 11, 2015
Q2-2014	System Health Report, G17 – Process Radiation Monitoring	March 11, 2015
	Offsite Dose Calculation Manual	39

Section 2RS6: Radioactive Gaseous and Liquid Effluent Treatment

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
1-S-08-11	Radioactive Discharge Controls	113
06-CH-SG17-V-0034	Radwaste Release Inop Radwaste Monitor Pre-Release Analysis	106
06-CH-SG17-P-0041	Radwaste Release Pre-Release Analysis	108
06-CH-SG17-P-0041	Radwaste Release Pre-Release Analysis	109
06-CH-SG17-M-0045	Radwaste Release Post-Release	104
06-CH-1D17-M-0005	Turbine Building Vent Isotopic	109
06-CH-1D17-M-0005	Containment Building Vent Isotopic	109
06-CH-1D17-M-0005	Fuel Handling Area Vent Isotopic	109
06-CH-1D17-M-0005	Containment Building Vent Tritium	109
06-CH-1000-M-0049	Perform Effluent Dose Calculation	106
06-CH-1D17-W-0017	Gaseous Release Points – Iodines, Tritium, and Particulates	5
EN-CY-108	Monitoring of Nonradioactive Systems	
01-S-02-3	Installed Radiation Monitoring System Alarm Setpoint Determination and Control	119
08-S-03-10	Chemistry Sampling Program	49
08-S-03-22	Rad Monitor Setpoint Determination	114
EN-LI-114	Performance Indicator Process	6
06-OP-1000-D-0001	Surveillance Procedure Daily Operating Logs	146
04-1-02-1H13-P601	Alarm Response Instruction Panel No.: 1H13-P601	158
08-S-04-15	Gaseous Radwaste Daily Data	12

Audits, Self-Assessments, And Surveillances

<u>Number</u>	<u>Title</u>	<u>Date</u>
QA-2-6-2013-GGNS-1	GGNS Combined Chemistry Effluent and Environmental Monitoring Program Audit Report	December 19, 2013
2012-00581	NUPIC Audit of Gel Labs	April 16, 2012

Condition Reports (CRs)

CR-GGN-2015-01834	CR-GGN-2015-01833	CR-GGN-2015-01816
CR-GGN-2014-03461	CR-GGN-2014-01242	CR-GGN-2014-00546
CR-GGN-2013-06094	CR-GGN-2013-05563	CR-GGN-2013-04413
CR-GGN-2015-01607	CR-GGN-2015-01610	CR-GGN-2015-01913
CR-GGN-2014-00303	CR-GGN-2014-04416	CR-GGN-2015-00892

CR-GGN-2013-03649

CR-GGN-2013-06422

CR-GGN-2014-04165

10 CFR 50.75(g) Condition Reports (CRs)

CR-GGN-2013-02598

CR-GGN-2014-02615

Release Permits

Liquid Releases

2013060 2013152 2014229 2015038

Gas Releases

2013072 2013074 2013089 2013090 2013095
2013096 2013097

Sampling And Analysis Results

<u>Number</u>	<u>Title</u>	<u>Date</u>
W.O.52661822	Air Sample – Containment Bldg. Vent Tritium	March 26, 2015
W.O.52661822	Air Sample – Containment Vent Isotopic	March 25, 2015

In-Place Filter Testing Records

<u>System</u>	<u>Train</u>	<u>Test</u>	<u>Date</u>
Standby Gas Treatment	B	DOP & HEPA	May 24, 2013
Standby Gas Treatment	A	DOP & HEPA	June 5, 2013
Control Room Standby	B	DOP & HEPA	May 24, 2013
Control Room Standby	A	DOP & HEPA	June 5, 2013

Other Documents

	<u>Revision/Date</u>
Offsite Dose Calculation Manual	39
2013 Annual Radioactive Effluent Release Report	April 25, 2014
Ground Water Action Plan 030415	July 2014
Ground Water Strategic Plan	March 2014
Ground Water Monitoring Plan	August 2012

Section 2RS7: Radiological Environmental Monitoring Program

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
01-S-06-5	Reportable Events or Conditions	110
06-EN-S000-A-0003	Interlaboratory Comparison Program	101

06-EN-S000-O-0002	Land Use Census	101
06-EN-S000-V-0001	Radiological Environmental Sampling	110
06-IC-SC84-SA-1003	Primary Tower Wind Speed/Direction, Air Temperature (T/dT) and Relative Humidity	105
06-OP-1000-D-0001	Surveillance Procedure: Data Sheet I – Daily Operating Logs	146
07-S-53-C84-7	Backup Tower Wind Speed/Direction and Air Temperature Calibration	0
EN-LI-108	Event Notification and Reporting	10
EN-RP-113	Response to Contaminated Spills / Leaks	8

Audits, Self-Assessments, and Surveillances

<u>Number</u>	<u>Title</u>	<u>Date</u>
QA-2/6-2013-GGNS-01	QA Audit Report: Combined Chemistry Effluent and Environmental Monitoring Program Audit	December 19, 2013
23484	NUPIC Audit of Teledyne Brown Engineering – Environmental Services	March 10, 2014
23724	NUPIC Audit of GEL Laboratories, LLC	May 29, 2014
WO 52573864	Met Tower Alignment, Tension, and Plumb Met Tower	February 2, 2015

Calibration and Maintenance Records

<u>Number</u>	<u>Title</u>	<u>Date</u>
CHEM-007	Air Sampler Calibration Data Sheet	July 9, 2013
CHEM-001	Air Sampler Calibration Data Sheet	January 27, 2014
CHEM-003	Air Sampler Calibration Data Sheet	January 27, 2014
CHEM-007	Air Sampler Calibration Data Sheet	July 22, 2014
WO 52395056	Calibration for Primary Tower Wind Speed/ Direction and Air Temperature (T/dT) and Relative Humidity	October 2, 2014
WO 52515743	Calibration for Backup Tower Wind Speed/Direction and Air Temperature	December 12, 2014
CHEM-001	Air Sampler Calibration Data Sheet	January 21, 2015
CHEM-003	Air Sampler Calibration Data Sheet	January 21, 2015

Other Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	GGNS Offsite Dose Calculation Manual	38
96-0036-R00	GGN Unit 1: Changes, Tests or Experiments Safety and Environmental Evaluation Form	July 30, 1996
	2012 GGNS Land Use Census	April 19, 2013
	2012 Annual Radiological Environmental Operating Report	May 1, 2013
49894	Event Notification to the State of Mississippi in Response to Contaminated Spills/Leaks Procedure	March 11, 2014
	GGNS Travel Time Analysis: Northwest Corner of M&E Building To Construction Wells by FTN Associates	April 4, 2014
	2013 Annual Radiological Environmental Operating Report	April 25, 2014
	2013 Annual Radioactive Effluent Release Report	April 29, 2014
	GEL Laboratories, LLC Analytical Results for GGNS Groundwater Samples	November 24, 2014
	GEL Laboratories, LLC Analytical Results for Airborne Sampling (AS-1, AS-3, and AS-7)	January 2014 to December 2014
	2014 GGNS Land Use Census	December 4, 2014
	Review of the 2002-2011 Offsite Dose Calculation Manual (ODCM) Annual Average Relative Concentration (X/Q) and Relative Deposition (D/Q)	December 30, 2014
	Teledyne Brown Engineering, Inc. Analytical Results for Airborne Sampling (AS-1, AS-3, and As-7)	January 2015 to March 2015
	2014 ODCM Annual Average Relative Concentration (X/Q) and Relative Deposition (D/Q)	March 2015

Condition Reports (CRs)

CR-GGNS-2013-04177	CR-GGNS-2013-04327	CR-GGNS-2013-04479
CR-GGNS-2014-02772	CR-GGNS-2014-03254	CR-GGNS-2014-04202
CR-GGNS-2014-05258	CR-GGNS-2014-05450	CR-GGNS-2015-00200
CR-GGNS-2015-01316	CR-GGNS-2014-04632	CR-GGNS-2014-02598
CR-GGNS-2014-04720	CR-GGNS-2014-02615	

Section 2RS8: Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-AD-101	Procedure Process	24
EN-RW-101	Radioactive Waste Management	3

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-RW-102	Radioactive Shipping Procedure	11
EN-RW-103	Radioactive Waste Tracking Procedure	4
EN-RW-104	Scaling Factors	11
EN-RW-105	Process Control Program	4
08-S-01-25	Radiation Protection Procedure: Radwaste Resin Transfer	7
08-S-06-50	Radwaste Instruction: Loading Radioactive Material	9
08-S-06-71	Radwaste Instruction: Sampling Procedures for Waste Classification	7

Condition Reports (CRs)

CR-GGN-2015-00231	CR-HQN-2014-00766	CR-GGN-2013-00305
CR-GGN-2014-04188	CR-GGN-2014-07468	CR-GGN-2015-00231
CR-GGN-2015-01320	CR-HQN-2015-00280	CR-GGN-2015-01277
CR-GGN-2013-00715		

Radioactive Materials/Waste Shipments

<u>Number</u>	<u>Title</u>	<u>Date</u>
GGN-2013-0601	Low Activity PDX/Bead Resin – LSA-II	June 3, 2013
GGN-2013-0908	RWCU-B liner – LSA-II	September 30, 2013
GGN-2013-1001	Badger Equipment – Type A	October 1, 2013
GGN-2013-1010	RWCU-B – LSA-II	October 21, 2013
GGN-2014-0201	DAW – LSA-II	February 6, 2014
GGN-2014-0204	RWCU-B – LSA-II	February 10, 2014
GGN-2014-0404	GE Equipment – Type B and General Design	April 3, 2014
GGN-2014-1009	RWCU-A – Type B	October 27, 2014
GGN-2014-1102	RWCU-A – Type B	November 10, 2014

Other Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
GNRO-2015/00014	Renew Quality Assurance Program Approval for Radioactive Material Packages	March 25, 2015
TIMM301	Inspect Mausoleum floor drain pit for water	February 19, 2015
TIMM301	Inspect mausoleum floor drain pit for water	January 5, 2015
QA-14/15-2013-GGNS-1	Quality Assurance Audit Report – Radiation Protection and Radwaste	December 19, 2013
WLP-RW-IPS06	Overview of Packaging and Shipping	8
	Annual Radioactive Effluent Release Report	April 4, 2014
UFSAR Chapter 11	GGN Updated Final Safety Analysis Report	LDC 98057
UFSAR Chapter 12	GGN Updated Final Safety Analysis Report	LDC 99060

Section 4OA1: Performance Indicator Verification

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-LI-114	Performance Indicator Process, Unit 1, 1 st Qtr 2014	6
EN-LI-114	Performance Indicator Process, Unit 1, 2 nd Qtr 2014	6
EN-LI-114	Performance Indicator Process, Unit 1, 3 rd Qtr 2014	6
GG USFAR 3.1.2.3.9	Criterion 28 – Reactivity Limits	0
EN-LI-114	Performance Indicator Process, GGNS Unit 1, 4Q2014 Quarterly Report & 3Q2014	6

Condition Reports (CRs)

CR-GGN-1-2015-01117

Section 4OA2: Problem Identification and Resolution

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
EN-MA-118	Foreign Material Exclusion	10

Condition Reports (CRs)

CR-GGN-2014-00102	CR-GGN-2014-01846	CR-GGN-2014-03361
CR-GGN-2014-00218	CR-GGN-2014-01852	CR-GGN-2014-03730
CR-GGN-2014-00394	CR-GGN-2014-01922	CR-GGN-2014-04603
CR-GGN-2014-00520	CR-GGN-2014-01966	CR-GGN-2014-04902
CR-GGN-2014-00965	CR-GGN-2014-01984	CR-GGN-2014-05094
CR-GGN-2014-01068	CR-GGN-2014-02007	CR-GGN-2014-05314
CR-GGN-2014-01147	CR-GGN-2014-02008	CR-GGN-2014-05667
CR-GGN-2014-01211	CR-GGN-2014-02051	CR-GGN-2014-05752
CR-GGN-2014-01244	CR-GGN-2014-02053	CR-GGN-2014-05820
CR-GGN-2014-01368	CR-GGN-2014-02099	CR-GGN-2014-05850
CR-GGN-2014-01382	CR-GGN-2014-02105	CR-GGN-2014-05851
CR-GGN-2014-01415	CR-GGN-2014-02112	CR-GGN-2014-05868
CR-GGN-2014-01478	CR-GGN-2014-02121	CR-GGN-2014-05987
CR-GGN-2014-01479	CR-GGN-2014-02211	CR-GGN-2014-06125
CR-GGN-2014-01482	CR-GGN-2014-02219	CR-GGN-2014-06132
CR-GGN-2014-01484	CR-GGN-2014-02349	CR-GGN-2014-06133
CR-GGN-2014-01532	CR-GGN-2014-02354	CR-GGN-2014-06557
CR-GGN-2014-01541	CR-GGN-2014-02439	CR-GGN-2014-06986
CR-GGN-2014-01577	CR-GGN-2014-02557	CR-GGN-2014-07196
CR-GGN-2014-01651	CR-GGN-2014-02572	CR-GGN-2014-07310
CR-GGN-2014-01663	CR-GGN-2014-02621	CR-GGN-2014-07722
CR-GGN-2014-01681	CR-GGN-2014-02881	CR-GGN-2014-07980
CR-GGN-2014-01747	CR-GGN-2014-03050	CR-GGN-2015-00100
CR-GGN-2014-01826	CR-GGN-2014-03066	CR-GGN-2015-00362
CR-GGN-2014-01845	CR-GGN-2014-03278	

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

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
01-S-06-26	Post-Trip Analysis GGNS Unit 1, Scram No. 136	21
05-1-02-I-1	Reactor Scram	123
04-1-01-N21-1	Feedwater System	72
03-1-01-1	Integrated Operating Instruction: Cold Shutdown to Generator Carrying Minimum Load	168

Other Documents

<u>Number</u>	<u>Title</u>	<u>Revision/Date</u>
	Power Profile for RMP-GG 20-044 Reactor Startup February 2015	0
	Power Profile for RMP-GG 20-044 Reactor Startup February 2015	1
EN-MA-118	Foreign Material Exclusion	10
WT-2014-295	Grand Gulf Nuclear Station Foreign Material Exclusion Focus Area Action Plan	August 9, 2014
GNRO-2014/00070	Revised Licensee Event Report for Reactor Pressure Vessel Steam Pressure Less than 0 psig During Six Plant Startups Resulting in a Violation of Technical Specification 3.4.11, RCS Pressure and Temperature (P/T) Limits	October 7, 2014

Condition Reports (CRs)

CR-GGN-2015-00801	CR-GGN-2015-00804	CR-GGN-2015-00805
CR-GGN-2015-00809	CR GGN-2014-07722	CR GGN-2014-05868
CR-GGN-2014-00965	CR-GGN-2014-01382	CR GGN-2014-01478
CR GGN-2014-01484	CR GGN-2014-01532	CR-GGN-2014-01577
CR-GGN-2014-02354	CR GGN-2014-02557	CR GGN-2014-03066
CR-GGN-2014-01846	CR-GGN-2014-01482	CR-GGN-2013-7021 (Apparent Cause Evaluation, Revision1)

Work Orders (WOs)

WO 00404908 01

Section 4OA5: Other Activities

Procedures

<u>Number</u>	<u>Title</u>	<u>Revision</u>
	Entergy Quality Assurance Manual dated November 21, 2013	25
EN-MP-117	Standardized Purchasing Process dated August 23, 2013	4
EN-MP-120	Material Receipt dated November 21, 2013	7
EN-MP-138	Commercial-grade Dedication Lab Conduct of Operation dated November 21, 2013	1
EN-DC-306	Commercial-grade Item Evaluation dated November 21, 2013	4
EN-DC-313	Procurement Engineering Process dated January 2, 2014	10

Other Documents

<u>Number</u>	<u>Title</u>	<u>Date</u>
PO 10400595	Relay, Aux, 125VDC, 125V Coil	
	Procurement Engineering Evaluation 131149	June 24, 2014
	Operability Evaluation CR-GGN-2014-8417	January 21, 2015

Condition Reports (CRs)

CR-GGN-2014-05049

**The following items are requested for the
Radiation Safety Team Inspection
at
Grand Gulf Nuclear Station
March 23-27, 2015
Inspection Report Number 50-416/2015-01**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before **March 13, 2015**.

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 **Louis Carson** at **(817) 200-1221** or **Louis.Carson@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.

5. Radiation Monitoring Instrumentation (71124.05)

1. Date of Last Inspection: June 17, 2013, John O'Donnell

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

2. Effluent monitor calibration
3. Radiation protection instrument calibration
4. Installed instrument calibrations
5. Count room and Laboratory instrument calibrations

B. Applicable organization charts

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

1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, or whole body counters
2. Installed radiation monitors

D. Procedure index for:

1. Calibration, use and operation of continuous air monitors, criticality monitors, portable survey instruments, temporary area radiation monitors, electronic dosimeters, teledosimetry, personnel contamination monitors, and whole body counters.
2. Calibration of installed radiation monitors

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. Calibration of portable radiation detection instruments (for portable ion chambers)
2. Whole body counter calibration
3. Laboratory instrumentation quality control

F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the following programs:

1. Area radiation monitors, continuous air monitors, criticality monitors, portable survey instruments, electronic dosimeters, teledosimetry, personnel contamination monitors, whole body counters,
2. Installed radiation monitors,
3. Effluent radiation monitors
4. Count room radiation instruments

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. Offsite dose calculation manual, technical requirements manual, or licensee controlled specifications which lists the effluent monitors and calibration requirements.

H. Current calibration data for the whole body counter's.

I. Primary to secondary source calibration correlation for effluent monitors.

J. A list of the point of discharge effluent monitors with the two most recent calibration dates and the work order numbers associated with the calibrations.

K. Radiation Monitoring System health report for the previous 12 months

6. Radioactive Gaseous And Liquid Effluent Treatment (71124.06)

Date of Last Inspection: **June 17, 2013, Louis Carson**

- A. List of contacts and telephone numbers for the following areas:
 - 1. Radiological effluent control
 - 2. Engineered safety feature air cleaning systems
 - 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. Radioactive effluents
 - 2. Engineered Safety Feature Air cleaning systems
 - D. Procedure indexes for the following areas
 - 1. Radioactive effluents
 - 2. Engineered Safety Feature Air cleaning systems
 - 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. Sampling of radioactive effluents
 - 2. Sample analysis
 - 3. Generating radioactive effluent release permits
 - 4. Laboratory instrumentation quality control
 - 5. In-place testing of HEPA filters and charcoal adsorbers
 - 6. New or applicable procedures for effluent programs (e.g., including ground water monitoring programs)
 - F. List of corrective action documents (including corporate and subtiered systems) written since date of last inspection, associated with:
 - 1. Radioactive effluents
 - 2. Effluent radiation monitors
 - 3. Engineered Safety Feature Air cleaning systems
- 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. Provide the **2013** Annual Radioactive Effluent Release Report, or the two most recent reports.
 - H. Current Copy of the Offsite Dose Calculation Manual
 - I. Copy of the **2013 and 2014** interlaboratory comparison results for laboratory quality control performance of effluent sample analysis, or the two most recent results.
 - J. Effluent sampling schedule for the week of the inspection
 - K. New entries into 10 CFR 50.75(g) files since date of last inspection
 - L. Operations department (or other responsible dept.) log records for effluent monitors removed from service or out of service
 - M. Listing or log of liquid and gaseous release permits since date of last inspection
 - N. A list of the technical specification-required air cleaning systems with the two most recent surveillance test dates of in-place filter testing (of HEPA filters and charcoal adsorbers) and laboratory testing (of charcoal efficiency) and the work order numbers associated with the surveillances

- O. System Health Report for radiation monitoring instrumentation. Also, please provide a specific list of all effluent radiation monitors that were considered inoperable for 7 days or more since **June 17, 2013**. If applicable, please provide the relative Special Report and condition report(s). moreover
- P. A list of all radiation monitors that are considered §50.65/Maintenance Rule equipment.
- Q. A list of all significant changes made to the Gaseous and Liquid Effluent Process Monitoring System since the last inspection, **June 17, 2013**. If applicable, please provide the corresponding UFSAR section in which this change was documented.
- R. A list of any occurrences in which a non-radioactive system was contaminated by a radioactive system. Please include any relative condition report(s).

7. Radiological Environmental Monitoring Program (71124.07)

Date of Last Inspection: **June 17, 2013, Natasha Green**

- A. List of contacts and telephone numbers for the following areas:
 1. Radiological environmental monitoring
 2. Meteorological monitoring
- 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. Radiological environmental monitoring program (including contractor environmental laboratory audits, if used to perform environmental program functions)
 2. Environmental TLD processing facility
 3. Meteorological monitoring program
- D. Procedure index for the following areas:
 1. Radiological environmental monitoring program
 2. Meteorological monitoring program
- 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. Environmental Program Description
 2. Sampling, collection and preparation of environmental samples
 3. Sample analysis (if applicable)
 4. Laboratory instrumentation quality control
 5. Procedures associated with the Offsite Dose Calculation Manual
 6. Appropriate QA Audit and program procedures, and/or sections of the station's QA manual (which pertain to the REMP)
- F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection, related to the following programs:
 1. Radiological environmental monitoring
 2. Meteorological monitoring

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. Wind Rose data and evaluations used for establishing environmental sampling locations

- H. Copies of the 2 most recent calibration packages for the meteorological tower instruments
 - I. Copy of the 2013 Annual Radiological Environmental Operating Report and Land Use Census, and current revision of the Offsite Dose Calculation Manual, or the two most recent reports.
 - J. Copy of the environmental laboratory's interlaboratory comparison program results for 2013 and 2014, or the two most recent results, if not included in the annual radiological environmental operating report
 - K. Data from the environmental laboratory documenting the analytical detection sensitivities for the various environmental sample media (i.e., air, water, soil, vegetation, and milk)
 - L. Quality Assurance audits (e.g., NUPIC) for contracted services
 - M. Current NEI Groundwater Initiative Plan and status
 - N. Technical requirements manual or licensee controlled specifications which lists the meteorological instruments calibration requirements
 - O. A list of Regulatory Guides and/or NUREGs that you are currently committed to relative to the *Radiological Environmental Monitoring Program*. Please include the revision and/or date for the committed item and where this can be located in your current licensing basis/UFSAR.
 - P. If applicable, per NEI 07-07, provide any reports that document any spills/leaks to groundwater since the last inspection
- 8. Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)**
- A. List of contacts and telephone numbers for the following areas:
 1. Solid Radioactive waste processing
 2. Transportation of radioactive material/waste
 - B. Applicable organization charts (and list of personnel involved in solid radwaste processing, transferring, and transportation of radioactive waste/materials)
 - C. Copies of audits, department self-assessments, and LERs written since date of last inspection related to:
 1. Solid radioactive waste management
 2. Radioactive material/waste transportation program
 - D. Procedure index for the following areas:
 1. Solid radioactive waste management
 2. Radioactive material/waste transportation
 - 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. Process control program
 2. Solid and liquid radioactive waste processing
 3. Radioactive material/waste shipping
 4. Methodology used for waste concentration averaging, if applicable
 5. Waste stream sampling and analysis
 - F. A summary list of corrective action documents (including corporate and subtiered systems) written since date of last inspection related to:

1. Solid radioactive waste
2. Transportation of radioactive material/waste

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. Copies of training lesson plans for 49CFR172 subpart H, for radwaste processing, packaging, and shipping.
- H. A summary of radioactive material and radioactive waste shipments made from date of last inspection to present
- I. Waste stream sample analyses results and resulting scaling factors for **2013 and 2014**, or the two most recent results.
- J. Waste classification reports if performed by vendors (such as for irradiated hardware)
- K. A listing of all onsite radwaste storage facilities. Please include a summary *or* listing of the items stored in each facility, including the *total* amount of radioactivity and the *highest* general area dose rate.

Although it is not necessary to compile the following information, the inspector will also review:

- L. Training, and qualifications records of personnel responsible for the conduct of radioactive waste processing, package preparation, and shipping