



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

November 27, 2013

Kevin Mulligan
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 05000416/2013004**

Dear Mr. Mulligan:

On September 30, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Grand Gulf Nuclear Station, Unit 1. On October 16, 2013, 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 seven findings of very low safety significance (Green) in this report. Six of these findings involved violations of NRC requirements; one of these violations was determined to be Severity Level IV under the traditional enforcement process. Further, the inspectors documented a licensee-identified violation, which was determined to be of very low safety significance in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest 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 or the finding not associated with a regulatory requirement 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.

K. Mulligan

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In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public Inspections, Exemptions, Requests for Withholding," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Don Allen, Chief
Project Branch C
Division of Reactor Projects

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

Enclosure: Inspection Report 05000416/2013004
w/Attachments: 1) Supplemental Information
2) Request for Information for the Radiation Safety Inspection

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

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket: 05000416

License: NPF-29

Report: 05000416/2013004

Licensee: Entergy Operations, Inc.

Facility: Grand Gulf Nuclear Station, Unit 1

Location: 7003 Baldhill Road
Port Gibson, MS 39150

Dates: June 29 through September 30, 2013

Inspectors: R. Smith, Senior Resident Inspector
B. Rice, Resident Inspector
J. Braisted, Reactor Inspector
L. Ricketson, P.E., Senior Health Physicist
L. Carson II, Senior Health Physicist
N. Greene, Ph.D., Health Physicist
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P. Elkmann, Senior Emergency Preparedness Inspector
G. Pick, Senior Reactor Inspector
G. Guerra, CHP, Emergency Preparedness Inspector
N. Okonkwo, Reactor Inspector
B. Cecere, Emergency Preparedness Specialist, NSIR
C. Kahler, Emergency Preparedness Specialist, NSIR

Approved By: Don Allen, Chief
Project Branch C
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000416/2013004; 06/29/2013 – 9/30/2013; Grand Gulf Nuclear Station, Integ. Res. & Regl Rept; Op. Detrm & Funct. Ass.; Eval. of Chgs, Tsts, or Exp.; Plt Mods.; Rad. Gas & Liq. Eff.; Rad. Solid Proc. & Rad. Matl. Hdl, Strg, & Trans., & Fllwup Evnts

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

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. The inspectors reviewed a Green self-revealing finding for the failure to follow Procedure 04-1-02-1H13-P680-9A, "TSE INFL OFF," Revision 36; in that operations personnel did not verify steps were followed per this alarm response procedure prior to returning the turbine thermal stress evaluator (TSE) to service following maintenance activities. The failure to follow alarm response procedure then resulted in an automatic reactor scram on July 30, 2013. Site personnel determined that the scram was caused by high reactor pressure resulting from the turbine unloading beyond the capability of the bypass valves after restoring the TSE to service following maintenance. On July 26, 2013, the control room received an alarm "TSE-STU CAB FAIL." The licensee failed to determine the correct cause of the alarm due to inadequate troubleshooting. Therefore, when the maintenance was completed and the TSE was returned to service, the turbine started to unload resulting in a reactor scram due to reactor vessel high pressure. The immediate corrective actions included determining the cause of the scram and taking actions to restore equipment prior to plant startup. The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2013-04943.

The failure to follow alarm response steps to restore the TSE following maintenance is a performance deficiency. Specifically, Procedure 04-1-02-1H13-P680-9A, "TSE INFL OFF," Revision 36, step 4.1 requires operational personnel to ensure that the TSE is functioning correctly following maintenance prior to restoring to service. The performance deficiency is more than minor, and therefore a finding, because it is associated with the Initiating Events Cornerstone attribute of human performance and adversely affected the associated cornerstone objective to limit the likelihood of those events that upset

plant stability and that challenge critical safety functions during power operations. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the inspectors determined that the issue affected the Initiating Events Cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined that the issue has a very low safety significance (Green) because it only caused a reactor trip and did not cause a loss of mitigating equipment relied on to transition the plant from the onset of a trip to a stable shutdown condition. The inspectors determined that the apparent cause of the finding was that the licensee did not troubleshoot to validate the cause for alarm "TSE STU Cab Failure" in accordance with station troubleshooting procedures. Therefore, the finding has a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee did not use the troubleshooting process effectively [H.4(b)] (Section 4OA3).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," regarding the licensee's failure to follow the requirements of Procedure EN-OP-104, "Operability Determinations." Specifically, the inspectors identified that the licensee failed to establish an adequate basis for operability when a degraded or nonconforming condition had been identified. On August 30, 2013, Condition Report CR-GGN-2013-05604 was initiated to document a step change in the standby service water (SSW) siphon line K factor, which is a measure of flow through the siphon line. The K factor could have increased due to air entrapment in the siphon line that resulted from using air to mix the basin water following chemical treatments. The inspectors challenged the validity of the evaluation because the second step change in K factor, from 48 to 64, represented new information that had not been evaluated in the previous condition report. As an immediate corrective action, the licensee re-performed the operability determination and provided an adequate basis of operability by evaluating the system with the additional K factor data. Furthermore, the licensee verified the siphon line did not have any obstructions by observing the SSW basin levels equalize as water flowed through the siphon line. The licensee entered this issue into the corrective action process under Condition Report CR-GGN-2013-05687.

The failure to perform an operability determination in accordance with procedure was a performance deficiency. The performance deficiency was more than minor, and is therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely impacted the cornerstone objective of ensuring the reliability, availability 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," 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," the inspectors determined that the issue has 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 the apparent cause of this finding was that the licensee had identified and used previously completed operability evaluations without verifying that the previously completed evaluations were fully applicable to the identified conditions. Therefore, the finding had a cross-cutting aspect in the problem identification and resolution area, corrective action program component because the licensee failed to properly evaluate for operability conditions adverse to quality [P.1(c)] (Section 1R15).

- Green. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," regarding the licensee's failure to follow the requirements of Procedure 02-S-01-4, "Shift Relief and Turnover," Revision 42. Specifically, the licensee failed to ensure proper turnover of the status of temporary modifications installed in the plant was being conducted by operations staff during turnover. The inspectors determined that the operations staff was required by Attachment III of that procedure to review the TMs log prior to taking the shift. The inspectors interviewed the operations staff and asked if the TMs were reviewed prior to taking shift that day. The staff member stated he had not and when asked about Attachment III of the turnover procedure, he was not familiar with that attachment of the procedure. The inspectors interviewed additional operations staff members about the review of temporary modification status during turnover, and they also indicated they had not reviewed temporary modification during turnover. As a corrective action, the licensee added copies of Attachment III of the shift turnover procedure to the operations staff turnover book to ensure TMs were reviewed during shift turnover. The licensee entered this issue into the corrective action process under Condition Reports CR-GGN-2013-04481 and CR-GGN-2013-05955.

The failure to review temporary modifications by operations personnel during turnover in accordance with station procedures was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because if left uncorrected, it had the potential to lead to more significant safety concerns. Specifically, operators not reviewing the status of TMs installed in the plant during turnover could result in a loss of configuration control of plant equipment that could result in an improper response by operators to plant events. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the inspectors determined that the issue affected the Mitigating Systems Cornerstone. Using NRC Inspection Manual Chapter 0609, Attachment 4, Table 3, the inspectors were directed to NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors determined that the issue had a very low safety significance (Green) because it was not a deficiency affecting the design or qualification of a mitigating system, structure, or component, does not represent a loss of system or function, does not represent a loss of function for

greater than its technical specification allowed outage time, and does not represent a loss of function as defined by the licensee's Maintenance Rule program for greater than 24 hours. The inspectors determined the apparent cause of this finding was that licensee personnel were not using Attachment III of the operations turnover procedure. Therefore, the finding has a cross-cutting aspect in human performance area associated with work practices in that the licensee management did not provide proper oversight to ensure a proper turnover was being conducted by operations personnel [H.4.(c)] (Section 1R18).

- Green. The inspectors reviewed a self-revealing Green non-cited violation of Facility Operating License Condition 2.C (41), "Fire Protection Program," involving the failure to maintain design control of the power supplies for the emergency switchgear and battery room fire dampers. During a surveillance of the division 2 carbon dioxide Fire Damper Actuation System, ten division 1 switchgear and battery room cooler fire dampers were inadvertently closed. Electricians investigated and found that a common ground existed between the division 1 and 2 emergency switchgear and battery room damper control panels. The common ground was determined to originate from a factory installed ground strap connecting the negative terminal to the ground/neutral on the emergency switchgear and battery room damper control power supplies. The licensee reviewed plant drawings and determined that the ground strap on the power supplies should have been removed prior to installation due to this being designed as a non-grounded system. As an immediate corrective action, the licensee removed the factory installed ground straps and restored the system to operable status. The licensee entered this issue into the corrective action process under Condition Report CR-GGN-2013-03827.

The failure to verify a new power supply was a like-for-like replacement of the original power supply to ensure the replacement power supply did not alter the design of the damper control system was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the configuration control attribute of the Mitigating Systems Cornerstone and adversely impacted 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," the inspectors determined that the issue affected the Mitigating Systems Cornerstone. Using NRC Inspection Manual Chapter 0609, Attachment 4, Table 3, the inspectors were directed to NRC Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The inspectors determined that the finding had an adverse effect on the fixed fire suppression systems. The inspectors assigned a low degradation rating due to the fact that the automatic fire suppression system's performance and reliability was minimally impacted by the inspection finding. Since the finding was assigned a low degradation rating, it screened as being of very low safety significance (Green). The apparent cause of this finding was the procurement engineering evaluation did not verify the replacement power supplies met the design requirements to be compatible with

the unique design of the emergency switchgear and battery room damper control system. Therefore, the finding had a cross-cutting aspect in the area of human performance, work practices component because the licensee failed to properly perform a procurement evaluation in accordance with station procedures [H.4(b)] (Section 1R18).

Cornerstone: Barrier Integrity

- SL-IV. The team identified a Severity Level IV non-cited violation of 10 CFR 50.59, “Changes, Tests, and Experiments,” involving the licensee’s failure to obtain a license amendment pursuant to 10 CFR 50.90 prior to implementing a new method of evaluation for determining reactor vessel neutron fluence. On November 4, 2003, the NRC issued Amendment Number 160 to the Facility Operating License of the Grand Gulf Nuclear Station. The amendment revised the Updated Final Safety Analysis Report (UFSAR) to change the Reactor Vessel Material Surveillance Program to reflect participation in the Boiling Water Reactor Vessel and Internals Project (BWRVIP) Integrated Surveillance Program (ISP). Additionally, the amendment revised the UFSAR to state that neutron fluence calculations performed after 2002 will be in accordance a methodology that has been approved by the NRC staff and is consistent with the attributes identified in NRC Regulatory Guide 1.190, “Calculation and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence.” The licensee developed a new neutron fluence calculation method which was based on a neutron fluence calculation method that had been previously approved by the NRC for another facility, which was documented in “Nine Mile Point Nuclear Station, Unit No. 1 – Issuance of Amendment RE: Pressure-Temperature Limit Curves and Tables,” dated October 27, 2003. The NRC identified that the calculation, which was developed for GGNS, used the CASMO-4/SIMULATE code package to calculate the neutron source, whereas the prior calculation performed for Nine Mile Point Nuclear Station (NMP) used the ORIGEN code to calculate the neutron source. The inspectors determined that, although these codes are intended for the same purpose, they are distinct codes and the NRC approved only the use of one neutron source code (i.e., ORIGEN) in the neutron fluence calculation method of evaluation at Nine Mile Point. This finding was entered into the licensee’s corrective action program as Condition Report CR-GGN-2013-04743.

The licensee’s failure to determine that a change to their method of evaluation for calculating reactor vessel neutron fluence was a departure from a method of evaluation approved by the NRC and required NRC review and approval prior to implementation was a performance deficiency. The performance deficiency was evaluated using traditional enforcement because the finding had the ability to impact the regulatory process. The performance deficiency was more than minor because there was a reasonable likelihood that the change would require NRC review and approval prior to implementation. In accordance with the NRC Enforcement Manual, risk insights from Inspection Manual Chapter 0609, “Significance Determination Process,” are used in determining the significance of 10 CFR 50.59 violations. Using the Inspection Manual Chapter 0612, Appendix B,

“Issue Screening,” the team determined the finding adversely affected the Barrier Integrity Cornerstone. Using Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” the team determined the finding required a detailed risk evaluation because the finding involved the reactor coolant system boundary. A Senior Reactor Analyst performed the evaluation and determined the finding had very low safety significance (i.e., Green) because the NRC performed calculations and did not determine that the licensee’s Pressure-Temperature limits had or would have expired or been invalid; therefore, the change in risk was negligible. Since the finding had very low safety significance, the finding was determined to be Severity Level IV, in accordance with the NRC Enforcement Policy. The finding does not have a cross-cutting aspect because cross-cutting aspects are not assigned to traditional enforcement violations (Section 1R17).

Cornerstone: Public Radiation Safety

- Green. Inspectors identified three examples of a non-cited violation of Technical Specification 5.5, “Programs and Manuals,” for failure to maintain and implement requirements of the offsite dose calculation manual (ODCM). Specifically, the licensee failed to: (1) adequately document and justify ODCM changes, (2) approve licensee initiated changes to the ODCM, and (3) implement the radiological effluent controls for liquid releases. The violation was entered into the licensee’s corrective action program as Condition Report CR-GGN-2013-05039, and the licensee is evaluating the issue to determine the proper corrective action.

Failure to implement the requirements of the offsite dose calculation manual is a performance deficiency. This performance deficiency is more than minor because it affected the Public Radiation Safety Cornerstone attribute of program and process because the failure to adequately justify and approve offsite dose calculation manual changes resulted in 49 liquid effluent releases, contrary to the licensee’s Offsite Dose Calculation Manual, Revision 37, requirements. Using Inspection Manual Chapter 0609, Appendix D, “Public Radiation Safety Significance Determination Process,” dated February 12, 2008, the inspectors determined this to be a violation of very low safety significance (Green). The violation was in the effluent release program but was not a substantial failure to implement the effluent program, and the dose to the public did not exceed the 10 CFR Part 50 Appendix I criterion or 10 CFR 20.1301(e) limits. The violation had a cross-cutting aspect in the human performance area associated with the resources component because the licensee failed to ensure the individuals preparing and reviewing offsite dose calculation manual changes had sufficient knowledge of the effluent release control system, its components, and its function to adequately evaluate the impact of the change [H.2(b)] (Section 2RS6).

- Green. Inspectors identified a non-cited violation of Technical Specification 5.6.3 because the licensee failed to include in the 2012 Annual Radiological Effluent

Release Report some solid radioactive waste released to an offsite waste processor.

The failure to include in the 2012 Annual Radiological Effluent Release Report all solid radioactive waste released to an offsite waste processor was a performance deficiency, contrary to Technical Specification 5.6.3. The violation was determined to be more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program and process and adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation, in that some licensed radioactive material, which left the Grand Gulf Nuclear Station, was unaccounted for. Using Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, the inspectors determined the violation to be of very low safety significance because, although it was a radioactive material control issue, it was not a transportation issue, and it did not result in public dose greater than 0.005 rem. The violation had a cross-cutting aspect in the human performance area, work control component because the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate and coordinate with each other during activities in which interdepartmental coordination was necessary to assure human performance [H.3(b)] (Section 2RS8).

B. Licensee-Identified Violations

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

PLANT STATUS

Grand Gulf Nuclear Station began the inspection period performing power ascension activities and reached 100 percent thermal power on June 29, 2013.

On July 13, 2013, the operators reduced reactor power to approximately 70 percent due to the main transformer phase A losing 3 out of 5 cooling banks, which caused main transformer temperatures to increase. The licensee determined the cause and increased to 100 percent power on July 14, 2013.

On July 30, 2013, the reactor experienced an automatic shutdown due to high reactor pressure. The licensee determined the cause of the scram was due to a failure of the B turbine stress evaluator (TSE) transmitter, which caused turbine load demand to decrease, which then caused reactor pressure to increase to the scram set point. The licensee corrected the condition and returned to 100 percent power on August 8, 2013.

On September 27, 2013, the operators reduced reactor power to approximately 65 percent for a control rod sequence exchange, turbine testing, and channel bow testing. The operators continued power ascension activities through the end of the quarter.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- Residual heat removal A after returning the system to standby lineup from a shutdown cooling lineup
- Suppression pool makeup B during train A maintenance
- Residual heat removal C following maintenance outage and surveillance

The inspectors selected these systems based on their risk significance relative to the reactor safety cornerstones at the time they were inspected, while considering out of service time, inoperable or degraded conditions, recent system outages, and maintenance, modification, and testing. The inspectors attempted to identify any discrepancies that could affect the function of the system, and, therefore, potentially increase risk. The inspectors reviewed applicable operating procedures, system

diagrams, UFSAR, technical specification requirements, administrative technical specifications, outstanding work orders, condition reports, and the impact of ongoing work activities on redundant trains of equipment in order to identify conditions that could have rendered the systems incapable of performing their intended functions. The inspectors also inspected accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On the week of July 29, 2013, the inspectors performed a complete system alignment inspection of the standby gas treatment system to verify the functional capability of the system. The inspectors selected this system based on risk-informed insights from site-specific risk studies together with other factors, such as engineering analysis and judgment, operating experience, performance history, current plant mode, and/or previous walkdowns. The inspectors reviewed plant procedures, including abnormal and emergency, drawings, USAR and vendor manuals to determine the correct lineup and visually inspected the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment-alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one complete system walkdown sample, as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

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

- Division 1 switchgear room (OC202)
- Division 2 switchgear room (OC215)
- Division 3 switchgear room (OC210)
- Division 1 and division 2 remote shutdown panel areas (OC208/OC208A)

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

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

b. Findings

No findings were identified.

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

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On August 8, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during requalification. The inspectors assessed the following areas:

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

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

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On July 30, 2013, the inspectors observed the performance of on-shift licensed operators in the plant's main control room. At the time of the observations, the plant was in a period of heightened activity due to a reactor scram. The inspectors observed the operators' performance of the following activities:

- Response to an automatic reactor scram from high reactor pressure that was caused by a turbine generator runback
- Stabilization of the plant in normal level band using reactor feed pump turbine A and reactor core isolation cooling
- Securing reactor core isolation cooling when no longer required
- Stabilization of cooldown rate by using plant bypass valves
- Operators taking post scram actions to shutdown balance of plant equipment and placing the plant in hot shutdown mode

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

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

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- Neutron monitoring system (C51)

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

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

The inspectors assessed performance issues with respect to the reliability, availability, and condition monitoring of the system. In addition, the inspectors verified maintenance effectiveness issues were appropriately handled by a screening and identification process and that issues were entered into the corrective action program with the

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

The inspectors also performed a review of the (a)(3) Periodic Evaluation. This review is credited as an inspection sample.

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

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- The week of July 8, 2013, with normal scheduled work and emergent severe weather resulting in the site going to yellow risk
- The week of July 21, 2013, with reactor protection system motor generator set A tripping and having to place the division 1 reactor protection bus on alternate power
- The week of July 30, 2013, following a reactor scram the site entering yellow risk for decay heat removal due to only having two divisions of decay heat removal available
- On September 11, 2013, the plant entering a heightened risk profile due to the tripping of the B reactor protection system and having to place division 2 of reactor protection on alternate with division 1 of reactor protection already being on alternate power alignment
- The week of September 17, 2013, with the division 1 diesel generator being inoperable due to a faulty vibration sensor

The inspectors selected these activities based on potential risk significance relative to the reactor safety cornerstones. As applicable for each activity, the inspectors verified that licensee personnel performed risk assessments as required by 10 CFR 50.65(a)(4) and that the assessments were accurate and complete. When licensee personnel performed emergent work, the inspectors verified that the licensee personnel promptly assessed and managed plant risk. The inspectors reviewed the scope of maintenance

work, discussed the results of the assessment with the licensee's probabilistic risk analyst or shift technical advisor, and verified plant conditions were consistent with the risk assessment. The inspectors also reviewed the technical specification requirements and inspected portions of redundant safety systems, when applicable, to verify risk analysis assumptions were valid and applicable requirements were met. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- Plant service water system, Class III ASME piping leak, CR-GGN-2013-5416
- Standby service water siphon line friction flow resistance factor increase, CR-GGN-2013-05604
- High pressure core spray pump increase in vibration, CR-GGN-2013-05611

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

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

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," regarding the licensee's failure to follow the requirements of Procedure EN-OP-104, "Operability Determinations." Specifically, the inspectors identified that the licensee failed to establish an adequate basis for operability when a degraded or nonconforming condition had been identified.

Description. Procedure EN-OP-104, "Operability Determinations," Revision 6, provides the guidance used by operations staff at the Grand Gulf Nuclear Station to perform operability determinations. Paragraph 5.3.6 of the procedure requires that if a condition report describes an operable but degraded or nonconforming condition for which pre-defined compensatory measures exist, and an existing condition report has previously screened the condition as OPERABLE-COMP MEAS, then validate that the operability evaluation completed for the previous nonconforming condition bounds the condition documented in the new condition report. On August 30, 2013, Condition Report CR-GGN-2013-05604 was initiated to document a step change in the standby service water (SSW) siphon line K factor, which is a measure of flow through the siphon line. The SSW siphon line K factor jumped from 48 to 64, where a K factor of 65 is the upper limit of operability for the siphon line. The K factor of 64 was considered acceptable by the licensee based on the OPERABLE-COMP MEAS determination in CR-GGN-2013-02201 without validating the step change was bounded by conditions evaluated in CR-GGN-2013-02201.

The inspectors challenged the validity of the evaluation because the second step change in K factor, from 48 to 64, represented new information that had not been evaluated in the previous condition report. This is due to the previous operability evaluation for Condition Report CR-GGN-2013-02201 postulated a linear increase in the K factor of 3.5 per month. The K factor increase could have occurred due to air entrapment in the siphon line that resulted from using air to mix the basin water following chemical treatments. Operators are required to vent the siphon line following chemical mixing activities. If the operators cannot verify that the line successfully vented, then a flow test and K factor calculation must be performed. Following the K factor step change identified in CR-GGN-2013-02201, the site implemented a compensatory measure to perform the flow test monthly. The trend from the flow test data showed that the K factor has risen from 48.6 in March 2013 to 52 in July 2013, and then a step change to 64 in August 2013.

The licensee entered this issue into the corrective action process under Condition Report CR-GGN-2013-05687. As an immediate corrective action, the licensee re-performed the operability determination and provided an adequate basis of operability by evaluating the system with the additional K factor data. Furthermore, the licensee verified the siphon line did not have any obstructions by observing the SSW basin levels equalize as water flowed through the siphon line.

Analysis. The failure to perform an operability determination in accordance with procedure was a performance deficiency. The performance deficiency was more than minor, and is therefore a finding, because it is associated with the equipment performance attribute of the Mitigating Systems Cornerstone and adversely impacted the cornerstone objective of ensuring the reliability, availability 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," 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," the inspectors determined that the issue has 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 the apparent cause of this finding was that the licensee had identified and used previously completed operability evaluations without verifying that the previously completed evaluations were fully applicable to the identified conditions. Therefore, the finding had a cross-cutting aspect in the problem identification and resolution area, corrective action program component because the licensee failed to properly evaluate for operability conditions adverse to quality [P.1(c)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that activities affecting quality shall be prescribed by documented instructions or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions or drawings. Procedure EN-OP-140, "Operability Determinations," Revision 6, in part, required the licensee to validate that if an operability evaluation was completed for a prior non-conforming condition, the operability evaluation bounds the condition documented in the new condition report. Contrary to this requirement, on August 30, 2013, the licensee failed to validate that an operability evaluation for a prior non-conforming condition bounded the condition documented in the new condition report. Specifically, Condition Reports CR-GGN-2013-05604 documented a non-conforming condition in which the licensee failed to validate that the operability evaluation completed for the prior non-conforming condition bounded the condition documented in the new condition report. As an immediate corrective action, the licensee re-performed the evaluation and established an adequate basis for operability for the condition described in the condition report described above. This violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance (Green) with no actual safety consequence, and it was entered into the licensee's corrective action program as CR-GGN-2013-05687 to address recurrence: NCV 05000416/2013004-01, Failure to Follow Procedure Results in Inadequate Operability Determination.

1R17 Evaluations of Changes, Tests, or Experiments (71111.17)

a. Inspection Scope

The inspectors reviewed one evaluation to determine whether the change to the facility or procedures, as described in the Updated Final Safety Analysis Report, had been

reviewed and documented in accordance with 10 CFR 50.59 requirements. The inspectors verified that when the change, test, or experiment was made, an evaluation was performed in accordance with 10 CFR 50.59 and licensee personnel had appropriately concluded that the change, test, or experiment could be accomplished without obtaining a license amendment. The inspectors also verified that safety issues related to the changes, tests, or experiments were resolved. The inspectors compared the safety evaluation and supporting documents to the guidance and methods provided in the Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," as endorsed by NRC Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," to determine the adequacy of the safety evaluations.

These activities constitute completion of one sample of an evaluation that was screened out by licensee personnel as defined in Inspection Procedure 71111.17-04.

b. Findings

Introduction. The team identified a Severity Level IV, non-cited violation of 10 CFR 50.59, "Changes, Tests, and Experiments," involving the licensee's failure to obtain a license amendment pursuant to 10 CFR 50.90 prior to implementing a new method of evaluation for determining reactor vessel neutron fluence.

Description. On November 4, 2003, the U.S. Nuclear Regulatory Commission (NRC) issued Amendment Number 160 to the Facility Operating License of the Grand Gulf Nuclear Station (GGNS). The amendment revised the Updated Final Safety Analysis Report (UFSAR) to change the Reactor Vessel Material Surveillance Program to reflect participation in the Boiling Water Reactor Vessel and Internals Project (BWRVIP) Integrated Surveillance Program (ISP). Additionally, the amendment revised the UFSAR to state that neutron fluence calculations performed after 2002 would be in accordance with a methodology that has been approved by the NRC staff and is consistent with the attributes identified in NRC Regulatory Guide 1.190, "Calculational and Dosimetry Methods for Determining Pressure Vessel Neutron Fluence."

On November 16, 2006, the licensee performed a 50.59 review for Licensing Basis Document Change (LBDC) 2005-064 and Calculation CEP-S-2005-001. This review included an evaluation of the new neutron fluence calculation method which the licensee had committed to implementing in license amendment 160. The licensee concluded that the FSAR update regarding the fluence calculations would not result in a departure from a method of evaluation described in the UFSAR (i.e. an NRC approved methodology). The licensee made this determination because they had used a neutron fluence calculation method that had been previously approved by the NRC for another facility, documented in "Nine Mile Point Nuclear Station, Unit No. 1 – Issuance of Amendment RE: Pressure-Temperature Limit Curves and Tables," dated October 27, 2003.

In July of 2013, the team reviewed the 10 CFR 50.59 evaluation described in the preceding paragraph and the new neutron fluence calculation method of evaluation including the results presented in Report Number MPM-104772, "Neutron Transport

Analysis for Grand Gulf Nuclear Station,” February 2004. In their review, the team identified that the calculation, which was developed for GGNS, used the CASMO-4/SIMULATE code package to calculate the neutron source, whereas the prior calculation performed for Nine Mile Point Nuclear Station (NMP) used the ORIGEN code to calculate the neutron source. The inspectors determined that, although these codes are intended for the same purpose, they are distinct codes and the NRC approved only the use of one neutron source code (i.e., ORIGEN) in the neutron fluence calculation method of evaluation at NMP.

According to guidance in Nuclear Energy Institute (NEI) 96-07, Revision 1, “Guidelines for 10 CFR 50.59 Implementation,” (which the NRC endorsed in Regulatory Guide 1.187, “Guidance for Implementation of 10 CFR 50.59, Changes, Tests, And Experiments,” dated November 2000) the use of new or revised methods of evaluation is considered to be a change that is controlled by 10 CFR 50.59. The guidance states that a departure from a method of evaluation described in the UFSAR means (i) changing any of the elements of the method described in the UFSAR unless the results of the analysis are conservative or essentially the same; or (ii) changing from a method described in the FSAR to another method unless that method has been approved by NRC for the intended application. Furthermore, NEI 96-07 specifies that when considering the application of a method of evaluation, it is necessary to adopt the method of evaluation *en toto* and apply it consistent with applicable terms, conditions, and limitations. Since the licensee’s method of evaluation differed from what the NRC had approved for NMP, with respect to the code used for calculating the neutron source, the inspectors determined that the licensee had not adopted the method of evaluation for calculating neutron fluence *en toto*; therefore, the licensee’s method of evaluation for calculating reactor vessel neutron fluence constituted a departure from a method of evaluation and required NRC review and approval prior to implementation.

Analysis. The licensee’s failure to determine that a change to their method of evaluation for calculating reactor vessel neutron fluence was a departure from a method of evaluation approved by the NRC and required NRC review and approval prior to implementation was a performance deficiency. The performance deficiency was evaluated using traditional enforcement because it had the ability to impact the regulatory process. The performance deficiency was more than minor because there was a reasonable likelihood that the change would require NRC review and approval prior to implementation. In accordance with the NRC Enforcement Policy, risk insights from the Inspection Manual Chapter 0609, “Significance Determination Process,” can be used in determining the significance of 10 CFR 50.59 violations. Using the Inspection Manual Chapter 0612, Appendix B, “Issue Screening,” the team determined the finding adversely affected the Barrier Integrity Cornerstone. Using the Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings At-Power,” the team determined that the finding required a detailed risk evaluation because the finding involved the reactor coolant system boundary. A Senior Reactor Analyst performed the evaluation and determined the finding had very low safety significance (i.e., Green) because the NRC performed calculations and did not determine that the licensee’s Pressure-Temperature limits had or would have expired or been invalid; therefore, the change in risk was negligible. Since the finding had very low

safety significance, the finding was determined to be Severity Level IV, in accordance with the NRC Enforcement Policy. The finding does not have a cross-cutting aspect because cross-cutting aspects are not assigned to traditional enforcement violations.

Enforcement. The team identified a Severity Level IV, non-cited violation of 10 CFR 50.59, "Changes, Tests and Experiments" which states, in part, that "a licensee shall obtain a license amendment pursuant to Section 50.90 prior to implementing a proposed change, test, or experiment if this activity would result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses." Contrary to the above, the licensee failed to obtain a license amendment pursuant to Section 50.90 prior to implementing a proposed change, test, or experiment if this activity would result in a departure from a method of evaluation described in the FSAR (as updated) used in establishing the design bases or in the safety analyses. Specifically, on November 16, 2006, the licensee implemented a change in the method of evaluation for determining reactor vessel neutron fluence without obtaining a NRC approved license amendment. No actual safety consequences were identified. This finding was entered into the licensee's corrective action program as Condition Report CR-GGN-2013-04743. Because this violation has been entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000416/2013004-02, Failure to Obtain NRC Approval for a Change in Method of Evaluation for Determining Reactor Vessel Fluence.

1R18 Plant Modifications (71111.18)

.1 Temporary Modifications

a. Inspection Scope

To verify that the safety functions of important safety systems were not degraded, the inspectors reviewed the temporary modification identified as plant service water pump A low flow trip bypass.

The inspectors reviewed the temporary modification and the associated safety-evaluation screening against the system design bases documentation, including the UFSAR and the technical specifications, and verified that the modification did not adversely affect the system operability/availability. The inspectors also verified that the installation and restoration were consistent with the modification documents and that configuration control was adequate. Additionally, the inspectors verified that the temporary modification was identified on control room drawings, appropriate tags were placed on the affected equipment, and licensee personnel evaluated the combined effects on mitigating systems and the integrity of radiological barriers.

These activities constitute completion of one sample for temporary plant modifications, as defined in Inspection Procedure 71111.18-05.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," regarding the licensee's failure to follow the requirements of Procedure 02-S-01-4, "Shift Relief and Turnover," Revision 42. Specifically, the licensee failed to ensure proper turnover of the status of temporary modifications installed in the plant was being conducted by operations staff during turnover.

Description. On July 10, 2013, during a review of the plant's temporary modification of the plant service water pump A low flow trip bypass, the inspectors determined that the operators had not logged this temporary modification (TM) into their operator logs on March 8, 2013, as required by Procedure EN-DC-136, "Temporary Modifications," Step 1.7 of Attachment 9.3. In further review, inspectors found that of the approximately 14 active TMs, none had been logged in the operator logs as required. The inspectors reviewed the Operator Turnover Procedure 02-S-01-4, "Operation Section Procedure Shift Relief and Turnover," Revision 42, and determined that the operations staff were required by Attachment III of that procedure to review the TMs log prior to taking the shift. The inspectors interviewed the operations staff and asked if the TMs were reviewed prior to taking shift that day. The staff member stated he had not and when asked about Attachment III of the turnover procedure, he was not familiar with that attachment of the procedure. The inspectors interviewed additional operations staff members about the review of temporary modification status during turnover and they also indicated they had not reviewed temporary modification during turnover. The inspectors determined from these interviews that the operations staff was not maintaining required knowledge of the status of temporary modifications installed in the plant.

The licensee entered this issue into the corrective action process under Condition Reports CR-GGN-2013-04481 and CR-GGN-2013-05955. As a corrective action, the licensee created a temporary modification log as part of the operator logs. They additionally added copies of Attachment III of the shift turnover procedure to the operations staff turnover book to ensure TMs were reviewed during shift turnover. The inspectors observed a turnover of operations staff after corrective actions were put in place and determined an adequate review of TMs during turnover was occurring.

Analysis. The failure to review temporary modifications by operations personnel during turnover in accordance with station procedures was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because if left uncorrected, it had the potential to lead to more significant safety concerns. Specifically, operators not reviewing the status of TMs installed in the plant during turnover could result in a loss of configuration control of plant equipment that could result in an improper response by operators to plant events. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the inspectors determined that the issue affected the Mitigating Systems Cornerstone. Using NRC Inspection Manual Chapter 0609, Attachment 4, Table 3, the inspectors were directed to NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors determined that the issue had a very low safety

significance (Green) because it was not a deficiency affecting the design or qualification of a mitigating system, structure, or component, does not represent a loss of system or function, does not represent a loss of function for greater than its technical specification allowed outage time, and does not represent a loss of function as defined by the licensee's Maintenance Rule program for greater than 24 hours. The inspectors determined the apparent cause of this finding was that licensee personnel were not using Attachment III of the operations turnover procedure. Therefore, the finding has a cross-cutting aspect in human performance area associated with work practices in that the licensee management did not provide proper oversight to ensure a proper turnover was being conducted by operations personnel [H.4.(c)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that activities affecting quality shall be prescribed by documented instructions or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions or drawings. Procedure 02-S-01-4, "Shift Relief and Turnover," Revision 42, per Step 6.1.7, required the operations personnel to review the status of temporary modifications during turnover. Contrary to this requirement, on or before July 10, 2013, the operations personnel failed to perform a review of the status of temporary modifications during shift turnover as required by procedure. Specifically, operations personnel were not reviewing the status of temporary modifications installed in the plant during turnover resulting in a failure to maintain an awareness of plant configuration changes due to temporary modifications. This violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance (Green) with no actual safety consequence, and it was entered into the licensee's corrective action program as CR-GGN-2013-04481 and CR-GGN-2013-05955 to address recurrence: NCV 05000416/2013004-03, Failure to Review Temporary Modifications by Operations Personnel During Turnover.

.2 Permanent Modifications

a. Inspection Scope

The inspectors reviewed key parameters associated with energy needs, materials, replacement components, timing, heat removal, control signals, equipment protection from hazards, operations, flow paths, pressure boundary, ventilation boundary, structural, process medium properties, licensing basis, and failure modes for the permanent modification identified as power supply to the Z77 ventilation fire dampers.

The inspectors verified that modification preparation, staging, and implementation did not impair emergency/abnormal operating procedure actions, key safety functions, or operator response to loss of key safety functions; post-modification testing will maintain the plant in a safe configuration during testing by verifying that unintended system interactions will not occur; systems, structures and components' performance characteristics still meet the design basis; the modification design assumptions were appropriate; the modification test acceptance criteria will be met; and licensee personnel identified and implemented appropriate corrective actions associated with permanent

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

These activities constitute completion of one sample for permanent plant modifications, as defined in Inspection Procedure 71111.18-05.

b. Findings

Introduction. The inspectors reviewed a self-revealing Green non-cited violation of Facility Operating License Condition 2.C (41), "Fire Protection Program," involving the failure to maintain design control of the power supplies for the emergency switchgear and battery room fire dampers.

Description. On June 10, 2013, during a surveillance of the division 2 carbon dioxide Fire Damper Actuation System, ten division 1 switchgear and battery room cooler fire dampers were inadvertently closed. Electricians investigated and found that a common ground existed between the divisions 1 and 2 emergency switchgear and battery room damper control panels. The common ground was determined to originate from a factory installed ground strap connecting the negative terminal to the ground/neutral on the emergency switchgear and battery room damper control power supplies. The licensee reviewed plant drawings and determined that the ground strap on the power supplies should be removed prior to installation due to this being a non-ground system.

The power supplies for the divisions 1 and 2 emergency switchgear and battery room damper control were procured in October 2010 as replacement for the original obsolete power supplies. The procurement engineering evaluation did not verify the replacement power supplies met the design requirements to be compatible with the unique design of the emergency switchgear and battery room damper control system. As a result, prior to the installation of the new division 1 power supply in November 2012, the assessment of the impact of the installation of the new power supply would have on installed components, systems and plant operation was inadequate in that the need to remove the factory installed ground strap connecting the negative terminal to the ground/neutral was not recognized.

The licensee entered this issue into the corrective action process under Condition Report CR-GGN-2013-03827. As an immediate corrective action, the licensee removed the factory installed ground straps and restored the system to operable status.

Analysis. The failure to verify a new power supply was a like for like replacement of the original power supply to ensure the replacement power supply did not alter the design of the damper control system was a performance deficiency. The performance deficiency was more than minor, and therefore a finding, because it was associated with the configuration control attribute of the Mitigating Systems Cornerstone and adversely impacted 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," the inspectors determined that the issue affected the Mitigating Systems Cornerstone. Using NRC Inspection Manual Chapter 0609, Attachment 4, Table 3, the

inspectors were directed to NRC Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process." The inspectors determined that the finding had an adverse effect on the fixed fire suppression systems. The inspectors assigned a low degradation rating due to the fact that the automatic fire suppression system's performance and reliability was minimally impacted by the inspection finding. Since the finding was assigned a low degradation rating, it screened as being of very low safety significance (Green). The apparent cause of this finding was the procurement engineering evaluation did not verify the replacement power supplies met the design requirements to be compatible with the unique design of the emergency switchgear and battery room damper control system. Therefore, the finding had a cross-cutting aspect in the area of human performance, work practices component because the licensee failed to properly perform a procurement evaluation in accordance with station procedures [H.4(b)].

Enforcement. License Condition 2. C(41), "Fire Protection Program," requires the licensee to implement and maintain in effect all provisions of the approved Fire Protection Program as described in Revision 5 to the Updated Final Safety Analysis Report (UFSAR.) UFSAR Table 9.5-11, "Fire Protection Program Comparison with NRC Requirements," provides Grand Gulf Station Position on meeting NRC's Appendix A to Branch Technical Position APCSB 9.5-1, dated August 23, 1976. Position C.2 states, in part, the scope of the Fire Protection Quality Assurance Program for Grand Gulf Nuclear Station was limited to selected aspects of 10 CFR 50, Appendix B. Specifically, Criteria III – V, VII, X, XI, and XIV – XVIII of Appendix B were invoked. Title 10 CFR Part 50, Appendix B, Criterion III, "Design Control," states, in part, design changes, including field changes, shall be subject to design control measures commensurate with those applied to the original design. Contrary to this requirement, on November 21, 2012, the licensee failed to ensure that design changes were subject to design control measures commensurate with those applied to the original design. Specifically, the licensee failed to ensure replacement power supplies that had factory installed grounding straps did not alter the original design of the emergency switchgear and battery room fire damper control. The licensee failed to identify that the grounding strap caused a common ground condition to exist between divisions 1 and 2. As an immediate corrective action, the licensee removed the factory installed ground straps and restored the system to operable status. This violation is being treated as a non-cited violation (NCV), consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance (Green) with no actual safety consequence, and it was entered into the licensee's corrective action program as CR-GGN-2013-03827 to address recurrence: NCV 05000416/2013004-04, Failure to Maintain Design Control of the Power Supplies for the Emergency Switchgear and Battery Room Fire Dampers.

1R19 Post-Maintenance Testing (71111.19)

a. Inspection Scope

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

- For suppression pool makeup system A following maintenance
- For reactor protection system A following maintenance after output breaker trip
- For intermediate range monitors D, F, and H following maintenance during a force outage
- For recirculation flow control valve B following packing replacement
- For division 1 diesel generator following maintenance after the diesel tripped on faulted vibration switch

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

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

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

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors selected risk-significant surveillance activities based on risk information and reviewed the UFSAR, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety

functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- Preconditioning
- Evaluation of testing impact on the plant
- Acceptance criteria
- Test equipment
- Procedures
- Jumper/lifted lead controls
- Test data
- Testing frequency and method demonstrated technical specification operability
- Test equipment removal
- Restoration of plant systems
- Fulfillment of ASME Code requirements
- Updating of performance indicator data
- Engineering evaluations, root causes, and bases for returning tested systems, structures, and components not meeting the test acceptance criteria were correct
- Reference setting data
- Annunciators and alarms setpoints

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

- July 3, 2013, inservice testing of standby liquid control system
- July 10, 2013, main steam isolation valve half isolation due to main steam low flow signal
- July 26, 2013, standby service water siphon line surveillance
- July 27-29, 2013, oscillating power range neutron monitor surveillance

- September 10, 2013, division 2 diesel generator surveillance
- September 16, 2013, seismic monitor surveillance
- September 23, 2013, division 3 emergency core cooling loss of coolant accident surveillance

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

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

b. Findings

No findings were identified.

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors observed the biennial emergency preparedness exercise conducted by the licensee on September 10, 2013. The scenario simulated:

- Degrading reactor fuel
- A vehicle accident affecting a plant building housing safety-related systems
- An unexpected main turbine trip
- Failure of the reactor protection system to trip the reactor, with ineffective manual shutdown of the reactor (greater than 4 percent power)
- A steam line break in the turbine building with a failure of both steam line isolation valves to close, resulting in an unfiltered radiological release to the environment
- Radiation measurements in the environment sufficient to require offsite protective actions; to demonstrate the licensee personnel's capability to implement their emergency plan

The inspectors evaluated exercise performance by focusing on the risk-significant activities of event classification, offsite notification, recognition of offsite dose consequences, and development of protective action recommendations, in the control room simulator and the following dedicated emergency response facilities:

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

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

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

The inspectors attended the post-exercise critiques in each emergency response facility to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended a subsequent formal presentation of critique items to plant management. The specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.01-06.

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on July 16, 2013, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the Technical Support Center (TSC) to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the attachment.

These activities constitute completion of one emergency preparedness drill observation sample, as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation (71114.08)

a. Inspection Scope

The license submitted the preliminary 2013 biennial exercise scenario on July 10, 2013, in accordance with the requirements of Appendix E to 10 CFR 50, Part IV.F(2)(b). The inspectors reviewed the preliminary scenario and objectives to determine if the exercise would acceptably test major elements of the licensee's emergency plan, allow demonstration of the key emergency response organization skills, and avoided preconditioning of the exercise participants.

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstone: Occupational and Public Radiation Safety

2RS5 Radiation Monitoring Instrumentation (71124.05)

a. Inspection Scope

This area was inspected to verify the licensee is assuring the accuracy and operability of radiation monitoring instruments that are used to: (1) monitor areas, materials, and workers to ensure a radiologically safe work environment; and (2) detect and quantify radioactive process streams and effluent releases. The inspectors used the requirements in 10 CFR Part 20, the technical specifications, and the licensee's procedures required by technical specifications as criteria for determining compliance. During the inspection, the inspectors interviewed licensee personnel, performed walkdowns of various portions of the plant, and reviewed the following items:

- 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
- Select 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, continuous air monitors
- Audits, self-assessments, and corrective action documents related to radiation monitoring instrumentation since the last inspection

Specific documents reviewed during this inspection are listed in the attachment. These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.05-05.

b. Findings

No findings were identified.

2RS6 Radioactive Gaseous and Liquid Effluent Treatment (71124.06)

a. Inspection Scope

This area was inspected to: (1) ensure the gaseous and liquid effluent processing systems are maintained so radiological discharges are properly mitigated, monitored, and evaluated with respect to public exposure; (2) ensure abnormal radioactive gaseous or liquid discharges and conditions, when effluent radiation monitors are out-of-service, are controlled in accordance with the applicable regulatory requirements and licensee procedures; (3) verify the licensee's quality control program ensures the radioactive effluent sampling and analysis requirements are satisfied so discharges of radioactive materials are adequately quantified and evaluated; and (4) verify the adequacy of public dose projections resulting from radioactive effluent discharges. The inspectors used the requirements in 10 CFR Part 20; 10 CFR Part 50, Appendices A and I; 40 CFR Part 190; the Offsite Dose Calculation Manual, and licensee procedures required by the Technical Specifications as criteria for determining compliance. The inspectors interviewed licensee personnel and reviewed and/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, if any
- 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, if any
- 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, if any
- Meteorological dispersion and deposition factors
- Latest land use census
- Records of abnormal gaseous or liquid tank discharges, if any
- Groundwater monitoring results
- Changes to the licensee's written program for indentifying and controlling contaminated spills/leaks to groundwater, if any
- 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, or groundwater monitoring results, if any
- Audits, self-assessments, reports, and corrective action documents related to radioactive gaseous and liquid effluent treatment since the last inspection

Specific documents reviewed during this inspection are listed in the attachment. These activities constitute completion of the one required sample, as defined in Inspection Procedure 71124.06-05.

b. Findings

Introduction. Inspectors identified three examples of a Green non-cited violation of Technical Specification 5.5, "Programs and Manuals," for failure to maintain and implement requirements of the offsite dose calculation manual (ODCM). Specifically, the licensee failed to: (1) adequately document and justify ODCM changes, (2) approve licensee initiated changes to the ODCM, and (3) implement the radiological effluent controls for liquid releases.

Description. The first example involved Technical Specification 5.5.1, which required the licensee to have sufficient information to support and justify licensee initiated ODCM changes with appropriate analyses or evaluations, and determine that the change maintains the required level of radioactive effluent control. On June 20, 2013, the inspectors reviewed ODCM, Revision 38, which was implemented in March 2012, and determined the licensee failed to comply with technical specification requirements for making ODCM changes.

The licensee-initiated ODCM change, Revision 38, was documented by Licensing Basis Document Change Request (LBDCR) 2012-012, and completed on March 15, 2012. This ODCM change removed the requirement to implement Action Statement 6.3.9, Condition D.1, which required the licensee to immediately suspend the release of radioactive effluent via the affected pathway if flow rate measurement devices listed in Table 6.3.9-1 were not restored to operable condition within 30 days. These flow rate measurement devices were associated with the liquid radioactive waste effluent and the circulating water blow down (CWBD) systems. The CWBD flow rate measurement device (or monitor) was the focus of this change. The CWBD monitor's function was to send an actuation signal to stop the liquid radioactive effluent release if the CWBD dilution flow rate fell below a preset level. Inspectors reviewed the LBDCR and the associated process applicability determination document. The inspectors concluded that neither of the documents contained sufficient information to support the change because there was no analysis or evaluation justifying the change. The LBDCR merely stated that the existing action requirement was "over prescriptive," without providing a basis for the statement or an operational justification for the change. Also, the information provided in the LBDCR incorrectly described ODCM 6.3.9, Condition D.1, as specifying the suspension of "dilution flow" activities after 30 days, if flow indication is not restored. ODCM 6.3.9, Condition D.1, does not require the suspension of "dilution flow," but does require the suspension of the "release of radioactive effluent" via the affected pathway. Specifically, it suspends the release of liquid radioactive waste. Because of this statement, the inspectors concluded the individuals that prepared and reviewed this change lacked sufficient training or knowledge of the liquid effluent control system design and function. The process applicability determination document, dated March 15, 2012, screened this ODCM change out of the 10 CFR 50.59 review process. This document used the same responses in Section VI.B, "Basis," stating "the suspension of dilution flow, when there is no indication after 30 days, is over prescriptive." The inspectors concluded from the

information provided that no determination was made on whether the change maintained required effluent control levels.

The second example of this violation involved the licensee's failure to obtain the plant manager's approval of an ODCM change. On July 19, 2013, the inspectors requested documentation showing the plant manager's approval for ODCM Revision 38. The licensee responded on July 29, 2013, with condition report CR-GGN-2013-4917, documenting that the plant manager had not approved ODCM Revision 38. Because the licensee failed to properly justify the change to ODCM requirements as discussed above and also failed to obtain the plant manager's approval, ODCM Revision 38 did not comply with the technical specification requirements. Therefore, the inspectors concluded that the changes made in ODCM Revision 38 were invalid.

As a result of the conclusions above, the inspectors reviewed examples where effluent monitors listed in ODCM Table 6.3.9-1 were declared inoperable and found a third example of a violation. The licensee's failure to properly change the ODCM led to a failure to implement the existing radiological effluent controls for liquid releases. Specifically, licensee declared the CWBD monitor inoperable on February 22, 2012, in LCOTR # 1-OTS-11-0002, and they did not restore the monitor to operable condition until May 29, 2012. Since ODCM, Revision 38, was invalid, ODCM, Revision 37, contained the radioactive effluent controls required for licensee implementation. ODCM 6.3.9, Condition D.1, required the licensee to suspend release of radioactive effluent via the affected pathway (liquid radwaste effluent line) following a failure to restore the CWBD flow monitor to operable condition within 30 days. This monitor's timely restoration period ended at noon on March 23, 2012, at which time the licensee should have suspended liquid radioactive effluent releases. However, the licensee continued to make liquid effluent releases with the CWBD monitor inoperable until they restored the monitor to service on May 29, 2012. During this period, the licensee made 49 releases of liquid radioactive effluents, constituting about 24 percent of the liquid releases made in 2012. The inspectors verified no effluent release limit was exceeded as a result of these releases.

Analysis. Failure to implement the requirements of the ODCM is a performance deficiency. This performance deficiency is more than minor because it affected the Public Radiation Safety Cornerstone attribute of program and process because the failure to adequately justify and approve ODCM changes resulted in 49 liquid effluent releases, contrary to the licensee's ODCM, Revision 37, requirements. Using Inspection Manual Chapter 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, the inspectors determined this to be a violation of very low safety significance (Green). The violation was in the effluent release program, but was not a substantial failure to implement the effluent program and the dose to the public did not exceed the 10 CFR Part 50 Appendix I criterion or 10 CFR 20.1301(e) limits. This violation had a cross-cutting aspect in the human performance area associated with the resources component because the licensee failed to ensure that the individuals preparing and reviewing ODCM changes had sufficient knowledge of the effluent release control system, its components, and its function to adequately evaluate the impact of the change [H.2(b)].

Enforcement. Technical Specification 5.5, "Programs and Manuals," requires the licensee to maintain and implement the requirements of the offsite dose calculation manual (ODCM). Technical Specification 5.5.1, "Licensee initiated changes to the ODCM," Paragraph a, requires, in part, that licensee-initiated changes to the ODCM be documented with (1) sufficient information to support the change together with the appropriate analyses or evaluations justifying the change and (2) a determination that ODCM change maintains the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR Part 190, 10 CFR 50.36a, and 10 CFR Part 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations. Contrary to Technical Specification 5.5.1, "Licensee initiated changes to the ODCM," Paragraph a, in March 2012, the licensee initiated a change to the ODCM which was not documented with (1) sufficient information to support the change together with the appropriate analyses or evaluations justifying the change or (2) a determination that the ODCM change maintained the level of radioactive effluent control required by 10 CFR 20.1302, 40 CFR 190, 10 CFR 50.36a, and 10 CFR 50, Appendix I, and not adversely impact the accuracy or reliability of effluent, dose, or setpoint calculations. Specifically, the inspectors found that LBDCR 2012-012 and the associated process applicability determination did not contain sufficient information to adequately support or justify the ODCM Revision 38 change. Additionally, no determination was provided by this documentation that the change maintained the required level of radioactive effluent controls.

Technical Specification 5.5.1, "Licensee initiated changes to the ODCM," Paragraph b, requires, in part, that licensee initiated changes to the ODCM be approved by the plant manager for the change to become effective. Contrary to Technical Specification 5.5.1, "Licensee initiated changes to the ODCM," Paragraph b, as of July 29, 2013, the plant manager had not approved the ODCM, Revision 38, change. On March 23, 2012, the licensee implemented this ODCM change without the plant manager's approval.

Technical Specification 5.5.1.b, "Offsite Dose Calculation Manual," requires, in part, that the ODCM contain the radiological effluent controls. ODCM, Revision 37, Action Statement 6.3.9, Condition D.1, required the licensee to immediately suspend the release of radioactive effluent via the affected pathway, if flow rate measurement devices listed in Table 6.3.9-1 were not restored to operable condition within 30 days. Contrary to the above, on March 23, 2012, the licensee did not immediately suspend the release of the radioactive effluent via the affected pathway when a flow rate measurement device listed in Table 6.3.9-1 was not restored to operable condition within 30 days. Specifically, 49 liquid effluent releases were made between March 23, 2012, the end of the timely restoration period for the CWBD monitor, and May 29, 2012, when the CWBD monitor was restored to operable condition. Regulatory limits for effluent releases were not exceeded, the monitor had been restored, and corrective actions are still being considered.

Because these three examples of a violation were determined to be of very low safety significance and have been entered into the corrective action program as Condition

Report 2013-05039, this violation is being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000416/2013004-05, Failure to Implement the Offsite Dose Calculation Manual.

2RS7 Radiological Environmental Monitoring Program (71124.07)

a. Inspection Scope

This area was inspected to: (1) ensure that the radiological environmental monitoring program verifies the impact of radioactive effluent releases to the environment and sufficiently validates the integrity of the radioactive gaseous and liquid effluent release program; (2) verify that the radiological environmental monitoring program is implemented consistent with the licensee's technical specifications and/or offsite dose calculation manual, and to validate that the radioactive effluent release program meets the design objective contained in Appendix I to 10 CFR Part 50; and (3) ensure that the radiological environmental monitoring program monitors non-effluent exposure pathways, is based on sound principles and assumptions, and validates that doses to members of the public are within the dose limits of 10 CFR Part 20 and 40 CFR Part 190, as applicable. The inspectors reviewed and/or observed the following items:

- Annual environmental monitoring reports and offsite dose calculation manual
- Selected air sampling and thermoluminescence 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 thermoluminescence 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
- Interlaboratory comparison program results

- Audits, self-assessments, reports, and corrective action documents related to the radiological environmental monitoring program since the last inspection

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

These activities constitute completion of the one required sample as defined in Inspection Procedure 71124.07-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

This area was inspected to verify the effectiveness of the licensee's programs for processing, handling, storage, and transportation of radioactive material. The inspectors used the requirements of 10 CFR Parts 20, 61, and 71 and Department of Transportation regulations contained in 49 CFR Parts 171-180 for determining compliance. 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 constitute completion of the one required sample as defined in Inspection Procedure 71124.08-05.

b. Findings

Introduction. Inspectors identified a Green non-cited violation of Technical Specification 5.6.3 because the licensee failed to include in the 2012 Annual Radiological Effluent Release Report (ARERR) some solid radioactive waste released to an offsite waste processor.

Description. While inspecting the licensee's 2012 ARERR activities related to solid radioactive material shipment records, inspectors identified that some low level radwaste shipments were not reported. The report stated that the licensee made 97 radwaste shipments of solid radwaste. By reviewing the licensee's radwaste shipment logs for 2012, the inspectors noted an additional 41 shipments identified by the licensee as waste which were not included in the ARERR. These shipments were made to Impact Services, Incorporated (ISI), in Oak Ridge, Tennessee. Most of the solid wastes generated were associated with the last refueling outage and extended power uprate (EPU). The 41 solid waste shipments represented 157 millicuries of radioactive material, with each individual shipment containing 1.5 to 32 millicuries.

The services provided by ISI included low-level radioactive waste (LLRW) volume reduction, sorting and segregation, decontamination, and thermal processing. According to ISI's radioactive material license, issued by the state of Tennessee, the company could dispose of low-level radioactive material in Class 1 landfills under the state's bulk survey free release (BSFR) program. The licensee's solid waste shipments to ISI included concrete, metals, wood, and dry radioactive waste for BSFR, recycle, disposal, and burial. The licensee's position was that all the radioactive material sent to ISI was to be processed for recycle or release. However, the inspectors stated this did not take into account the various items of solid radwaste with licensed material, which were removed from Grand Gulf Nuclear Station (GGN) and transferred to ISI for decontamination and ultimate disposal.

Further discussions with licensee staff responsible for radwaste shipments revealed that the GGN-EPU project did not specifically plan the disposition of radwaste generated for Refueling Outage 18. Radiation protection personnel did not communicate to the Chemistry Department that the 41 shipments of radioactive material sent to ISI were LLRW required to be reported in the Regulatory Guide 1.21 report. Inspectors determined from these discussions that the licensee had failed to evaluate the impact the work scope associated with creating solid radwaste, shipping radioactive materials offsite and that inappropriate coordination of those work activities existed between EPU Project, Radiation Protection, and Chemistry.

The NRC defines a waste processor in 10 CFR Part 20, Appendix G, as an entity, operating under a Commission or Agreement State license, whose principal purpose is

to process, repackage, or otherwise treat low-level radioactive material or waste generated by others prior to eventual transfer of waste to a licensed LLRW land disposal facility. The NRC defines waste in 10 CFR Part 61 as LLRW containing source, special nuclear, or byproduct material that is acceptable for disposal in a land disposal facility. In addition, NRC Health Physics Position (HPPOS) 291, in NUREG/CR-5569, Revision 1, clarified the waste volume reporting requirement of NRC Regulatory Guide 1.21, "Measuring, Evaluating, and Reporting Radioactivity in Solid Waste and Releases of Radioactive Materials in Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plants," Revision 1. HPPOS 291, states the following:

- Solid waste information reported in the annual report should be the volume and activity of the low-level waste leaving the reactor site that the licensee believes will be sent directly, or via a processor or collector, to a licensed disposal site.
- Consistent with this response, and Regulatory Guide 1.21, Table 3, the report should identify the type of waste, the number of shipments, mode of transportation, and destination of the waste shipments leaving the licensee's facility.
- The term "radioactive waste," as used above, applies to the transfer of any radioactive material for which no further use by the license is foreseen (e.g., material sent for compaction prior to disposal is waste; contaminated tools transferred for decontamination before intended reuse is not waste).

The inspectors concluded the material shipped to ISI was low-level radioactive waste that had to be reported in the 2012 ARERR in accordance with the technical specification and ODCM requirements and the licensee's failure to include all solid radioactive waste released to an offsite waste processor was a performance deficiency. The licensee issued corrective action document CR-GGN-2013-03991 to address the concerns the inspectors identified.

Analysis. The failure to include in the 2012 ARERR some solid radioactive waste released to an offsite waste processor was a performance deficiency, contrary to Technical Specification 5.6.3 and ODCM 5.6.3. The finding was more than minor because it was associated with the Public Radiation Safety Cornerstone attribute of program/process and adversely affected the cornerstone objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation because the licensee had not accounted for some licensed radioactive material which left the site. Using IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," dated February 12, 2008, the inspectors determined this to be a finding of very low safety significance (Green) because, although it was a radioactive material control issue, it was not a transportation issue, and it did not result in public dose greater than 0.005 rem. The violation had a cross-cutting aspect in the human performance area, work control component because the licensee did not appropriately coordinate work activities by incorporating actions to address the need for work groups to communicate

and coordinate with each other during activities in which interdepartmental coordination was necessary to assure human performance [H.3.b].

Enforcement. Technical Specification 5.6.3 requires the licensee submit to the Commission ARERRs in accordance with 10 CFR 50.36(a), including the quantities of solid radwaste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM in conformance with 10 CFR 50.36(a) and 10 CFR Part 50, Appendix I, Section IV.B.1. ODCM Section 5.6.3, Revision 37, requires that the licensee report a summary of the quantities of solid waste released from the unit as outlined in Regulatory Guide 1.21, Revision 1, June 1974, per Table 3. Table 3 requires the type of waste shipped offsite (i.e. resins, dry compressible, contaminated equipment, and other); estimate of major nuclides composition in waste, and solid waste disposition (such as: number of shipments, mode of transportation, destination). Licensee procedure 08-S-08-5, "Environmental Reporting," Revision 109, implements this requirement and, in Section 6.6.3, states, in part, report a summary of the types solid radioactive waste released and shipped offsite in the ARERR including the container type and volume, type of waste, total curie quantity, principle radionuclides, and solidification agent. Contrary to the above, the ARERR submitted to the NRC for 2012 did not include a complete summary of the quantities of solid waste released from the unit as outlined in Regulatory Guide 1.21, Revision 1, June 1974, per Table 3. Specifically, in 2012 the licensee made at least 41 solid radwaste shipments (totaling 157 millicuries) offsite to waste processor, ISI in Oak Ridge, Tennessee, but the licensee counted those as radioactive material shipments and not solid radioactive waste released from GGN. Consequently, the licensee failed to fully report in the 2012 ARERR the type of waste shipped offsite, estimate of major nuclides composition in waste, and number of solid waste shipments offsite.

This violation was determined to be of very low safety significance and was entered into the corrective action program as CR-GGN-2012-03991. The finding was being treated as a non-cited violation, consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000416/2013004-06, Failure to Include Some Solid Radwaste Released in the 2012 Regulatory Guide 1.21 Annual Effluent Report.

4. OTHER ACTIVITIES

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

40A1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the second Quarter 2013 performance indicators for any obvious

inconsistencies prior to its public release in accordance with Inspection Manual Chapter 0608, "Performance Indicator Program."

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

b. Findings

No findings were identified.

.2 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill and Exercise Performance, performance indicator for the period July 2012 through June 2013. The inspectors used the definitions and guidance of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, to determine the accuracy of performance indicator data reported to the NRC by the licensee. The inspectors reviewed the licensee's performance indicator records to verify that the licensee accurately reported the indicator in accordance with relevant procedures and Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator; assessments of performance indicator opportunities during predesignated control room simulator training sessions, performance during the 2013 biennial exercise, and performance during other drills. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the drill/exercise performance sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors sampled licensee submittals for the Emergency Response Organization Drill Participation performance indicator for the period July 2012 through June 2013. The inspectors used the definitions and guidance of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, to determine the accuracy of performance indicator data reported to the NRC by the licensee. The inspectors reviewed the licensee's performance indicator records to verify that the licensee accurately reported the indicator in accordance with relevant procedures and Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing

opportunities for the performance indicator, rosters of personnel assigned to key emergency response organization positions, and exercise participation records. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the emergency response organization drill participation sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Alert and Notification System (EP03)

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System performance indicator for the period July 2012 through June 2013. The inspectors used the definitions and guidance of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6, to determine the accuracy of performance indicator data reported to the NRC by the licensee. The inspectors reviewed the licensee's performance indicator records to verify that the licensee accurately reported the indicator in accordance with relevant procedures and Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator and the results of periodic alert notification system operability tests. The specific documents reviewed are described in the attachment to this report.

These activities constitute completion of the alert and notification system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

40A2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As part of the various baseline inspection procedures discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action program at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. The inspectors reviewed attributes that included the complete and accurate identification of the problem; the timely correction, commensurate with the safety significance; the evaluation and disposition of performance issues, generic implications,

common causes, contributing factors, root causes, extent of condition reviews, and previous occurrences reviews; and the classification, prioritization, focus, and timeliness of corrective actions. Minor issues entered into the licensee's corrective action program because of the inspectors' observations are included in the attached list of documents reviewed.

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of January 1, 2013, through June 30, 2013, although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments.

The inspectors focused their inspection on Condition Report CR-GGN-2013-3639 because it documented a root cause evaluation (RCE) the licensee performed to evaluate a negative trend in the areas of human performance and problem identification and resolution associated with six areas with cross-cutting themes that have three NRC findings over the last year. The inspectors determined that the licensee has developed a comprehensive corrective action plan to resolve the identified issues. Due to the corrective actions only being implemented over the last two months, the inspectors will continue to monitor the licensee's actions to resolve these issues.

These activities constitute completion of one semi-annual trend inspection sample, as defined in Inspection Procedure 71152-05.

b. Findings

No findings were identified.

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

.1 Unplanned Down Power to 70 Percent due to Loss of Cooling to A Main Transformer

a. Inspection Scope

On July 12, 2013, at 11:44 p.m., the control room received a "MAIN TRANSFORMER PHASE 'A' TROUBLE" alarm. The control room dispatched an operator to the main transformer panel A to determine the cause of the trouble alarm. Upon arrival, the operator discovered that three of the five cooler group fans were not running. During the initial investigation of the control cabinet to main transformer A, the operator noticed breaker 52C3 was in the tripped position. This breaker is the power source to cooling group 2, which contains three cooling banks. Due to this loss of cooling to main transformer A, operations began lowering power to 70 percent rated thermal power at 12:20 a.m. on July 13, 2013, per alarm response instruction. The shift manager called the resident inspectors and informed them of the plant conditions, and they determined the plant was in stable condition. The inspectors monitored troubleshooting activities, and the licensee determined that an electrical ground was located on the pressure switch wiring for one of the main transformer oil pumps. The licensee determined this pressure switch provided alarm information only. The licensee removed the grounded condition by placing a jumper around the circuit and began a power increase back to 100 percent rated thermal power. The inspectors reviewed the licensee's apparent cause evaluation and determined that this was a first time occurrence of this type of issue.

These activities constitute completion of one event follow-up as defined in Inspection Procedure 71153-05.

b. Findings

No findings were identified.

.2 Unplanned Reactor Scram due to Turbine Stress Evaluator (TSE) Failed Circuit Card

a. Inspection Scope

On July 30, 2013, the Grand Gulf Nuclear Station experienced an unplanned reactor scram from 100 percent rated thermal power due to high reactor pressure. The inspectors responded to the control room and verified that the plant systems responded as designed and that the operators stabilized the plant in accordance with station procedures. The cause of the scram was due to a failure of the B turbine stress evaluator (TSE) transmitter, which caused turbine load demand to decrease, which then caused the turbine control valves to close and the bypass valves to open. When the bypass valves reached maximum capacity and the turbine control valves continued to close, reactor pressure increased, and the reactor scrambled on high reactor pressure of 1065 psig. The licensee took corrective actions for the scram and put corrective actions in place to prior to startup.

These activities constitute completion of one event follow-up as defined in Inspection Procedure 71153-05.

b. Findings

Introduction. The inspectors reviewed a Green self-revealing finding for the failure to follow Procedure 04-1-02-1H13-P680-9A, "TSE INFL OFF," Revision 36; in that operations personnel did not verify steps were followed per this alarm response procedure prior to returning the turbine thermal stress evaluator (TSE) to service following maintenance activities. The failure to follow alarm response procedure then resulted in an automatic reactor scram on July 30, 2013.

Description. On July 30, 2013, at 2:32 p.m., while operating at 100 percent rated thermal power, the Grand Gulf Nuclear Station experienced an automatic reactor scram after restoring the TSE to service following maintenance. Site personnel determined that the scram was caused by high reactor pressure resulting from the turbine unloading beyond the capability of the bypass valves. Their investigation revealed that operations personnel did not following alarm response procedure steps for restoration of the TSE following maintenance.

On July 26, 2013, at 5:44 p.m., the control room received an alarm "TSE-STU CAB FAIL." The operators determined that all parameters associated with the turbine were stable and the cause of the alarm was thought to be a result of a degraded/cracked terminal board on the A transmitter feeding the TSE. This was a known condition based on maintenance performed earlier that day on the A transmitter. The licensee elected to replace the degraded/cracked terminal board for the A transmitter. However, the actual cause of the alarm on July 26, 2013, was the B transmitter that failed downscale to a low temperature of 32°F. The licensee failed to determine the correct cause of the alarm due to inadequate troubleshooting. Therefore, when the maintenance was completed licensee did not follow the alarm response procedure steps for restoring the TSE to service. This resulted in the turbine starting to unload due to a maximum differential

temperature between the A and B transmitters that resulted in high pressure reactor scram.

The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2013-04943. The corrective actions included determining the cause of the scram and taking actions to restore equipment prior to plant startup. The licensee performed a root cause evaluation to determine corrective actions to prevent recurrence.

Analysis. The failure to following alarm response steps to restore the TSE following maintenance is a performance deficiency. Specifically, Procedure 04-1-02-1H13-P680-9A, "TSE INFL OFF," Revision 36, step 4.1 requires operational personnel to ensure that the TSE is functioning correctly following maintenance prior to restoring to service. The performance deficiency is more than minor, and therefore a finding, because it is associated with the Initiating Events Cornerstone attribute of human performance and adversely affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and that challenge critical safety functions during power operations. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the inspectors determined that the issue affected the Initiating Events Cornerstone. In accordance with NRC Inspection Manual Chapter 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power," the inspectors determined that the issue has a very low safety significance (Green) because it only caused a reactor trip and did not cause a loss of mitigating equipment relied on to transition the plant from the onset of a trip to a stable shutdown condition. The inspectors determined that the apparent cause of the finding was that the licensee did not troubleshoot to validate the cause for alarm "TSE STU Cab Failure" in accordance with station troubleshooting procedures. Therefore, the finding has a cross-cutting aspect in the area of human performance associated with the work practices component because the licensee did not use troubleshooting process effectively [H.4(b)].

Enforcement. This finding does not involve enforcement action because no violation of a regulatory requirement was identified. This finding was entered into the licensee's corrective action program as Condition Report CR-GGN-2013-04943. This finding does not involve a violation and is of very low safety significance: FIN 05000416/2013004-07, Failure to Follow Alarm Response Steps to Restore the TSE Following Maintenance.

.3 Potential Security Threat to Site during a Hostage Situation in St. Joseph, LA

On August 13, 2013, the resident inspectors responded to a potential security threat to the site due to a hostage situation in St. Joseph, LA. The site took action to verify no suspicious activity had been observed prior to this event, and the licensee increased its security posture to a state of heightened awareness. The site also communicated with external organizations and verified the threat to the site was not valid. The inspectors verified the licensee took appropriate actions in accordance with station procedures and the site's security plan. The event concluded the evening of August 13, 2013, with no impact to plant security or safe operation.

These activities constitute completion of one event follow-up as defined in Inspection Procedure 71153-05.

c. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On June 20, 2013, the inspectors presented the results of the radiation safety inspections to Mr. J. Miller, General Manager Plant Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary and a proprietary document was identified. On September 13, 2013, the inspectors presented the results of the review of additional information to Mr. C. Robinson, Manager, Licensing, and other members of the licensee staff.

On August 1, 2013, the inspectors presented the results of the in-office review of the preliminary exercise scenario to Mr. C. Lewis, Manager, Emergency Preparedness, and other members of the licensee's staff. The licensee acknowledged the issues presented.

On September 13, 2013, the inspectors presented the results of the onsite inspection of the licensee's biennial emergency preparedness exercise to Mr. K. Mulligan, Vice President, Operations, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On October 15, 2013, the inspectors presented the inspection results to Kevin Mulligan, Site Vice President, Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements, which meets the criteria of the NRC Enforcement Policy for being repositioned as a Non-Cited Violation.

Title 10 CFR 50.54(q) requires, in part, that licensees follow and maintain the effectiveness of an emergency plan that meets the requirements in the planning standards of 50.47(b). Title 10 CFR 50.47(b)(4) requires a standard emergency classification and action level scheme is in use by the nuclear facility licensee. Contrary to the above, the licensee failed to use the emergency classification and action level scheme to classify an event. Specifically, the licensee incorrectly used the emergency classification and action level scheme on May 12, 2013, by declaring a Notice of

Unusual Event (NOUE) when an electrical transformer was thought to be on fire. The licensee, during a subsequent investigation, determined that the event was not a fire. This finding was more than minor because over classification potentially puts the public at risk and affected the Emergency Preparedness Cornerstone attribute of emergency response organization performance. The finding was evaluated by the Emergency Preparedness Significance Determination Process and determined to be of very low safety significance (Green) because it was a failure to comply with the NRC requirements and was not a loss of planning standard function. The planning standard function was not lost because the emergency classification and action level scheme basis has not changed. This finding was entered into the licensee's corrective action program as Condition Report CR-GGN-2013-4156.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

R. Benson, Supervisor, Radiation Protection
C. Beschett, Manager, Nuclear Analyst
C. Brooks, Licensing
R. Collins, Superintendent, Simulator Support and Training
P. Donahue, Entergy Fleet Manager, Environmental Protection
J. Dorsey, Security Manager
H. Farris, Assistant Operations Manager
J. Gerard, Manager, Operations
J. Giles, Manager, Training
J. Lassetter, Contractor, Chemistry
C. Lewis, Manager, Emergency Preparedness
J. Miller, General Manager Plant Operations
R. Miller, Manager, Radiation Protection
K. Mulligan, Site Vice President
J. Mulvey, Contractor, Chemistry
C. Perino, Director, Nuclear Safety Assurance
S. Petzel, Senior Engineer, Licensing
W. Renz, Director, Emergency Preparedness, EOI
C. Robinson, Manager, Licensing
M. Runion, Manager, Maintenance
J. Shaw, Manager, System Engineering
P. Stokes, Specialist, Radiation Protection
J. Tarnabine, HP/Chemistry Specialist, Chemistry
T. Thornton, Manager, Design Engineering
D. Wahl, Consultant, Chemistry
D. Wiles, Director, Engineering
C. Williams, Supervisor, Design Engineering

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000416/2013004-01	NCV	Failure to Follow Procedure Results in Inadequate Operability Determination (Section 1R15)
05000416/2013004-02	NCV	Failure to Obtain NRC Approval for a Change in Method of Evaluation for Determining Reactor Vessel Fluence (Section 1R17)
05000416/2013004-03	NCV	Failure to Review Temporary Modifications by Operations Personnel During Turnover (Section 1R18.1)

Opened and Closed

05000416/2013004-04	NCV	Failure to Maintain Design Control of the Power Supplies for the Emergency Switchgear and Battery Room Fire Dampers (Section 1R18.2)
05000416/2013004-05	NCV	Failure to Implement the Offsite Dose Calculation Manual (Section 2RS6)
05000416/2013004-06	NCV	Failure to Include Some Solid Radwaste Released in the 2012 Regulatory Guide 1.21 Annual Effluent Report (Section 2RS8)
05000416/2013004-07	FIN	Failure to Follow Alarm Response Steps to Restore the TSE Following Maintenance (Section 4OA3.2)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
04-1-01-T48-1	System Operating Instruction: Standby Gas Treatment	34
04-1-01-E12-1	System Operating Instruction: Residual Heat Removal A	144
04-1-01-E30-1	System Operating Instruction: Suppression Pool Makeup System	25
06-OP-1T48-M-0001	Standby Gas Treatment System A Operability	105
04-1-01-E12-1	System Operating Instruction: Residual Heat Removal C	144

CALCULCATIONS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
M 3.9.8	Standby Gas Treatment System Drawdown Time Calculation	5
Q 3.9.11	Standby Gas Treatment System Air Receiver	February 23, 1982
Bethel Calculation 3.9.3	Standby Gas Treatment System Sizing	1
M3.9.12	SGTS Infiltration Due to Pipe Breaks	5
MC-Q1T46-95018	Auxiliary Building Room Temperatures During a LOCA with LOP	3

CALCULCATIONS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
EC-Q1T48-94029	Qualified life and Accident Profile Envelopment of SGTS Filter Train Heaters and Controls	1
JC-Q1T48-N014-1	Instrument Loop Uncertainty and Setpoint Determination for System T48 Loop N014, N018 SGTS Heater High Temperature Cutoff	0
MC-Q1T48-04013	Standby Gas Treatment System Filter Housing Stress Evaluation	0
XC-Q1C84-92009	Short-term (Accident) Diffusion x/Q	3
XC-Q1T48-11001	180-day and 30-day Post-LOCA EPU Dose vs. Distance from the SGTS Filters	1

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
05-1593	Standby gas Treatment System T48	1
ER NO.: 96/0600	Primary System T48/Z51	0
ER NO.: 1999-0216	Primary System T48, M41, Z51	0
ER-GG-2006-0091-000	SGTS Surveillance Testing Improvements	0
GIN-2002/00314	Evaluation of Updated Dispersion and Deposition Factors	May 6, 2002
GIN-2002/00718	Historical ODCM Meteorological and Recirculation Factor Calculation Analysis	October 15, 2002
373	Weather Data and Design Conditions	

CONDITION REPORTS

CR-GGN-2006-00587	CR-GGN-2013-02030	CR-GGN-2013-03292
CR-GGN-1997-01071	CR-GGN-2011-04687	CR-GGN-2008-00913
CR-GGN-1997-01433	CR-GGN-2011-05473	CR-GGN-2008-02206
CR-GGN-1998-00423	CR-GGN-2011-05499	CR-GGN-2009-00252

CR-GGN-1998-01098	CR-GGN-2011-05504	CR-GGN-2009-00380
CR-GGN-1999-00924	CR-GGN-2011-05635	CR-GGN-2009-01497
CR-GGN-2000-00446	CR-GGN-2011-06209	CR-GGN-2009-01681
CR-GGN-2000-00840	CR-GGN-2011-09051	CR-GGN-2009-03263
CR-GGN-2000-01043	CR-GGN-2011-09334	CR-GGN-2009-04301
CR-GGN-2001-00137	CR-GGN-2012-00090	CR-GGN-2010-00486
CR-GGN-2001-00321	CR-GGN-2012-03483	CR-GGN-2010-01792
CR-GGN-2001-01932	CR-GGN-2012-05945	CR-GGN-2010-03408
CR-GGN-2002-00053	CR-GGN-2012-06157	CR-GGN-2010-06641
CR-GGN-2002-00942	CR-GGN-2012-06629	CR-GGN-2010-06742
CR-GGN-2002-02520	CR-GGN-2012-08605	CR-GGN-2010-06971
CR-GGN-2004-00305	CR-GGN-2012-08750	CR-GGN-2011-00110
CR-GGN-2004-02783	CR-GGN-2012-09008	CR-GGN-2011-00698
CR-GGN-2004-03439	CR-GGN-2012-09141	CR-GGN-2011-00996
CR-GGN-2004-03759	CR-GGN-2012-09327	CR-GGN-2011-01445
CR-GGN-2005-00379	CR-GGN-2012-09437	CR-GGN-2011-01570
CR-GGN-2005-00475	CR-GGN-2012-10335	CR-GGN-2011-01792
CR-GGN-2005-01621	CR-GGN-2012-10501	CR-GGN-2011-02439
CR-GGN-2005-03663	CR-GGN-2012-10525	CR-GGN-2011-03128
CR-GGN-2005-05050	CR-GGN-2012-11321	CR-GGN-2011-03794
CR-GGN-2006-00051	CR-GGN-2012-12516	CR-GGN-2006-04127
CR-GGN-2006-00367	CR-GGN-2012-13143	CR-GGN-2007-03454
CR-GGN-2006-00498	CR-GGN-2013-01153	CR-GGN-2013-02650
CR-GGN-2006-00672	CR-GGN-2013-01914	

WORK ORDERS

WO 00081083 01
 WO 52458386 01

WO 00082301 01

WO 52234355 01

Section 1R05: Fire Protection

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
Fire Pre-Plan C-06	DIV III SWGR & Battery Room, OC210 and OC209, Area 25, Elevation 111'	3
Fire Pre-Plan C-03	Division I SWGR Area & Battery Room, OC202 and OC207, Area 25A, Elevation 111'	4
Fire Pre-Plan C-07-1	Division II Switchgear Room and Battery Room, OC211 and OC215, Area 25A, Elevation 111'	4
Fire Pre-Plan C-04	DIV I Remote Shutdown, OC208, Area 25, Elevation 111'	3
Fire Pre-Plan C-05	DIV II Remote Shutdown Panel, OC208A, Area 25, Elevation 111'	2

CONDITION REPORTS

CR-GGN-2013-04683 CR-GGN-2013-04687 CR-GGN-2013-04717

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-MA-121	Fluid Sealing Technology Program	5
EN-TQ-114	Licensed Operator Requalification Training Program Description	8
14-S-02-17	Training Section Instruction Administration of Annual Exam	7
EN-LI-100	Process Applicability Determination, Change/Revision #7, 14-S-02-17	8
GSMS-LOR-AEX09	Load Reject and Bypass Control Valve Failure/ATWS/Steam Leak with PSP Exceeded	12
GSMS-LOR-AEX11	Spurious RCIC Isolation/RFPT A Trip/Condensate System Trip/LOCA	10
GSMS-LOR-AEX20	Control Rod Drift/ESF 11 Trip/Main Turbine Trip/ATWS Without Bypass Valves	11

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Control Room Walkdown, Modifications to the TREX Load	March 9, 2013
	2013 Cycle 10 Licensed Operator Requal Simulator Training Plan Simulator Differences	2
TQF-114- AOESIM	Annual Operating Exam Simulator Scenario Set Quality Checklist	5
Information Memo	Summary of September 28, 2006, Meeting with Industry Focus Group on Operator Licensing Issues	October 23, 2006
	Principles and Practices for Licensed Operator Requalification Examinations	

CONDITION REPORTS

CR-GGN-2009-04336 CR-GGN-2009-04578 CR-GGN-2013-05139
CR-GGN-2013-05149

Section 1R12: Maintenance Effectiveness

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-DC-204	Maintenance Rule Scope and Basis	2
EN-DC-203	Maintenance Rule Program	1
EN-DC-205	Maintenance Rule Monitoring	4
EN-LI-102	Corrective Action Process	21
EN-DC-207	Maintenance Rule Periodic Assessment	2
EN-DC-150	Condition Monitoring of Maintenance Rule Structures	4
EN-DC-206	Maintenance Rule (a)(1) Process	2
EN-LI-104	Self-Assessment and Benchmark Process	9

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
460003500	Operation and Maintenance Instructions for Source Range Monitor 368X101BBG5	February 21, 1998
	C51 (a)(1) Action Plan	
	System Health Report, C51 Neutron Monitoring	July 17, 2013
LO-GLO-2012-00059	Manager's Focused Assessment Grand Gulf Maintenance Rule Program	July 24, 2013
	Expert Panel Meeting Minutes	July 18, 2013

CONDITION REPORTS

CR-GGN-2012-01787	CR-GGN-2012-08023	CR-GGN-2013-00111
CR-GGN-2012-01910	CR-GGN-2012-08061	CR-GGN-2013-00163
CR-GGN-2012-01922	CR-GGN-2012-08129	CR-GGN-2013-00386
CR-GGN-2012-05897	CR-GGN-2012-12866	CR-GGN-2013-00645
CR-GGN-2012-06561	CR-GGN-2012-13320	CR-GGN-2013-00649
CR-GGN-2012-07965	CR-GGN-2013-00084	CR-GGN-2013-01977
CR-GGN-2012-07978	CR-GGN-2013-00085	CR-GGN-2013-00022
CR-GGN-2008-00198	CR-GGN-2010-04510	CR-GGN-2009-00436
CR-GGN-2008-00407	CR-GGN-2010-04813	CR-GGN-2009-00549
CR-GGN-2008-00946	CR-GGN-2010-05405	CR-GGN-2009-01689
CR-GGN-2008-01016	CR-GGN-2010-05977	CR-GGN-2009-04276
CR-GGN-2008-01843	CR-GGN-2010-07672	CR-GGN-2009-06623
CR-GGN-2008-02384	CR-GGN-2010-08433	CR-GGN-2009-06733
CR-GGN-2008-02732	CR-GGN-2011-00134	CR-GGN-2010-01065
CR-GGN-2008-03043	CR-GGN-2011-01154	CR-GGN-2010-01452
CR-GGN-2008-04678	CR-GGN-2011-01749	CR-GGN-2010-01511
CR-GGN-2008-06145	CR-GGN-2011-02446	CR-GGN-2010-03374
CR-GGN-2008-06196	CR-GGN-2011-03862	CR-GGN-2010-03413

CR-GGN-2008-06245	CR-GGN-2011-05478	CR-GGN-2010-03673
CR-GGN-2008-07131	CR-GGN-2011-05903	CR-GGN-2010-04042
CR-GGN-2010-04077	CR-GGN-2010-04481	CR-GGN-2012-08013

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 52487696	July 12, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 52208674	July 10, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 245185	July 10, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 355757	July 8, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 354876-03 and 356018-01	July 8, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 353465	July 8, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 52482072-01	July 8, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 52486918-01, 52486919-01, 52486920-01, and 52486921-01	July 11, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, WO# 52487697-01, 52487698-01, 52487700-01, and 52487701-01	July 11, 2013
05-1-02-VI-2	Hurricanes, Tornados, and Severe Weather, July 14, 2013	125
05-1-02-VI-2	Hurricanes, Tornados, and Severe Weather, July 11, 2013	125
05-1-02-VI-2	Hurricanes, Tornados, and Severe Weather, July 17, 2013	125
06-OP-1R20-W-0001	Plant AC and DC Electrical Power Distribution Weekly Lineup	109

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	EOOS Overview July 8, 2013 – July 14, 2013 **Div 1 (Week 1327)**	July 8, 2013
	Integrated Risk Summary Week of July 8, 2013	July 8, 2013
	DIV 1 Work Week by System July 8, 2013 – July 14, 2013	July 8, 2013
	Shutdown Condition 1, Time to 200° F .18 hours	July 31, 2013 at 11:00 am
	Shutdown Condition 1, Time to 200° F .19 hours	July 31, 2013 at 5:30 pm
	Shutdown Condition 1, Time to 200° F .19 hours	July 31, 2013 at 8:48 pm
	Shutdown Condition 1, Time to 200° F .4 hours	August 1, 2013 at 5:30 pm
	Shutdown Condition 1, Time to 200° F .4 hours	August 2, 2013 at 4:30 am
	Shutdown Condition 1, Time to 200° F .42 hours	August 12, 2013 at 7:08 am
	Shutdown Condition 1, Time to 200° F .25 hours	August 2, 2013 at 2:45 pm
RSAW Job: 22151	Red Stick Armature Works, Inc. Service Report	September 26, 2013

Section 1R15: Operability Evaluations

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
04-1-01-P41-1	Standby Service Water System	138
EN-OP-104	Operability Determination Process	6

CALCULATION

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
MC-Q1P44- 13001	Evaluate the 24"-HBC-226 Plant Service Water (PSW) piping between valves Q1P44F118 and Q1P44F119 for structural integrity	0

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>
GFIG-OPS-P4447	Plant Service Water System Figure 1b

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
GLP-OPS-P4447	Plant Service Water/Radial Well System – P44/47	14
LCOTR NO.: 1-TS-13-0303	P44	August 20, 2013
EN-CS-S-008-MULTI	Pipe Wall Thinning Structural Evaluation	0
ASME OM-2012	Inservice Testing of Pumps in Light-Water Reactor Nuclear Power Plants-Pre-2000 Plants	
ASME Case N-513-3	Evaluation Criteria for Temporary Acceptance of Flaws in Moderate Energy Class 2 or 3 Piping Section XI, Division 1	January 26, 2009

CONDITION REPORTS

CR-GGN-2011-09154	CR-GGN-2013-02201	CR-GGN-2013-04417
CR-GGN-2013-05604	CR-GGN-2013-05610	CR-GGN-2013-05611
CR-GGN-2013-05687	CR-GGN-2013-05687	CR-GGN-2013-05416
CR-GGN-2013-05604	CR-GGN-2013-05611	

WORK ORDERS

WO 00319077	WO 00347848 01
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ENGINEERING CHANGES

EC# 0000039471	EC# 46405
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Section 1R17: Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications

CONDITION REPORTS

CR-GGN-2013-04743

Section 1R18: Plant Modifications

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-DC-136	Temporary Modifications	8
EN-LI-100	Process Applicability Determination, Evaluation EC39310 & Procedure 07-S-73-58	11
07-S-73-58	Special Process Instruction Radial Well System	7
EN-DC-313	Procurement Engineering Process	8
EN-DC-115	Engineering Change Process	15
EN-DC-320	Identification and Processing of Obsolete Items	6
02-S-01-4	Shift Relief and Turnover	42
EN-WM-105	Planning	8

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
00083491	Power Supply, 120/240 Volts AC Input, 0-35 Volts Output, 30 AMP	October 11, 2010
460002623	Model FAD35-30L Regulated DC Power Supply Operations and Service Manual	March 28, 1985
00083231	Procurement Engineering Evaluation: Power Supply, 120/240 Volts AC, 0-35 Volts Output, 30 AMP	October 4, 2010

CONDITION REPORTS

CR-GGN-2013-04481 CR-GGN-2013-03827 CR-GGN-2013-05955

WORK ORDERS

WO 00344109 01 WO 00194803 01 WO 00195799 01

WO 00353559 01

ENGINEERING CHANGES

EC# 00000025324

Section 1R19: Post-Maintenance Testing

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
06-OP-1E30-Q-0001	Suppression Pool Makeup Valve Operability Test	104
06-OP-1P75-M-0001	Standby Diesel Generator 11 Functional Test	135

CONDITION REPORTS

CR-GGN-2013-04802

WORK ORDERS

WO 52400041 01 WO 00285942 01 WO 00351117 01
WO 00351095 01 WO 52497204 01

Section 1R22: Surveillance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
01-S-02-3	Main Steam Line Low Pressure (MSLIS) Functional Test, Directive 06-1C-1B21-Q-2005	119
06-IC-1E12-Q-0006	Low Pressure Coolant Injection Discharge Flow Low Bypass Functional Test	107
04-1-01-P41-1	Standby Service Water System	138
06-OP-1C41-Q-0001, Attachment III	Standby Liquid Control B Functional Test	125
06-OP-SC85-Q-0001, Attachment I	Seismic Monitoring System Functional Test	104
06-OP-1P81-R-	HPCS Diesel Generator Functional Test – Test No. 1 –	122

Section 1R22: Surveillance Testing

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0001, Attachment I	HPCS DG Trips, Response to ECCS Initiation Signal and 100% Load Reject	

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
13-0006	Standing Order 13-0006	April 19, 2013
	Plant Leak Rate Report by Systems Designator	June 4, 2013
	Plant Leak Rate Report by Systems Designator	August 6, 2013
	SSW Basin Cross Tie	July Test

CONDITION REPORTS

CR-GGN-2013-02201 CR-GGN-2013-05902

WORK ORDERS

WO 52487694 01	WO 52487699 01	WO 52487695 01
WO 52498563 01	WO 52498368 01	WO 52489088 01
WO 52498361 01	WO 524993997 01	WO 52493094 01

Section 1EP1: Exercise Evaluation

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
01-S-10-4	Emergency Preparedness Drills and Exercises	12
07-S-12-119	Maintenance Instruction – Inspection and Testing of Visual Evacuation Alarms	2
10-S-01-6	Notification of Offsite Agencies and Plant On-Call Emergency Personnel	5
10-S-01-20	Administration of Thyroid Blocking Agents	19
10-S-01-12	Radiological Assessment and Protective Action Recommendations	41

Section 1EP1: Exercise Evaluation

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
10-S-01-17	Emergency Personnel Exposure Control	19
10-S-01-29	Operations Support Center (OSC) Operations	24
10-S-01-30	Technical Support Center Operations	20
10-S-01-39	Grand Gulf Equipment Important to Emergency Preparedness	1
EN-EP-306	Drills & Exercises	4
EN-LI-100	Process Applicability Determination for 10-S-01-19. Personnel Injury	19
Emergency Plan	Grand Gulf Nuclear Station Emergency Plan	69
	Assessed the declared emergency action levels in drill scenarios dated:	September 9, 2009 November 1, 2011 December 8, 2011 8/28/2012 October 16, 2012 December 4, 2012 March 5, 2013 July 17, 2013 August 27, 2013 September 10, 2013
	Completed drill reports for the exercises dated:	September 9, 2009 November 1, 2011 December 8, 2011 August 28, 2012 October 16, 2012 December 4, 2012 March 5, 2013 July 17, 2013 August 27, 2013 September 10, 2013

CONDITION REPORTS

CR-GGN-2011-7798	CR-GGN-2011-7801	CR-GGN-2011-7804
CR-GGN-2011-7811	CR-GGN-2011-7827	CR-GGN-2011-7832
CR-GGN-2011-8212	CR-GGN-2011-8454	CR-GGN-2011-9013

CR-GGN-2011-9200	CR-GGN-2011-7838	CR-GGN-2011-7806
CR-GGN-2011-9325	CR-GGN-2011-7852	CR-GGN-2011-7808
CR-GGN-2012-477	CR-GGN-2012-900	CR-GGN-2012-2009
CR-GGN-2012-2097	CR-GGN-2012-2202	CR-GGN-2012-3561
CR-GGN-2012-4534	CR-GGN-2012-5479	CR-GGN-2012-6032
CR-GGN-2012-8703	CR-GGN-2012-9207	CR-GGN-2012-9446
CR-GGN-2012-10236	CR-GGN-2012-10297	CR-GGN-2012-10420
CR-GGN-2012-10523	CR-GGN-2012-10593	CR-GGN-2012-10658
CR-GGN-2012-10903	CR-GGN-2012-11034	CR-GGN-2012-11630
CR-GGN-2012-11599	CR-GGN-2012-11626	CR-GGN-2012-11781
CR-GGN-2012-11818	CR-GGN-2012-11946	CR-GGN-2012-12919
CR-GGN-2012-12921	CR-GGN-2012-12923	CR-GGN-2012-12929
CR-GGN-2013-468	CR-GGN-2013-554	CR-GGN-2013-925
CR-GGN-2013-948	CR-GGN-2013-953	CR-GGN-2013-1664
CR-GGN-2013-960	CR-GGN-2013-1441	CR-GGN-2013-1956
CR-GGN-2013-2016	CR-GGN-2013-2874	CR-GGN-2013-2991
CR-GGN-2013-2599	CR-GGN-2013-3238	CR-GGN-2013-3244
CR-GGN-2013-3111	CR-GGN-2013-3589	CR-GGN-2013-3798
CR-GGN-2013-3270	CR-GGN-2013-4410	CR-GGN-2013-4498
CR-GGN-2013-3900	CR-GGN-2013-4156	CR-GGN-2013-4296
CR-GGN-2013-4613	CR-GGN-2013-4649	CR-GGN-2013-4845
CR-GGN-2013-5397	CR-GGN-2013-5407	

Section 1EP6: Drill Evaluation

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	GGN First Dress Rehearsal Graded Exercise	July 16, 2013
7.0	Drill Scenario	

Section 1EP6: Drill Evaluation

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
1373986905	Emergency Notification From	July 16, 2013
GIN: 2013/00174	Emergency Response Organization (ERO) on July 16, 2013	July 30, 2013
	Emergency Preparedness (EP)/Emergency Response Organization (ERO) Improvement Plan, CR-GGN-2013-5407	
	Emergency Facility Log EOF, GGN 2013 Dress Rehearsal #1 July 16 GGN-EP Group	July 16, 2013
	News Release Status, GGN 2013 Dress Rehearsal #1 July 16	July 16, 2013
	Repair and Corrective Action – Admin Status Board, GGN 2013 Dress Rehearsal #1 July 16	July 16, 2013
	Response Team Predispach Requirements	July 16, 2013

CONDITION REPORTS

CR-GGN-2013-04602	CR-GGN-2013-04612	CR-GGN-2013-04626
CR-GGN-2013-04642	CR-GGN-2013-04641	CR-GGN-2013-04627
CR-GGN-2013-04643	CR-GGN-2013-04646	CR-GGN-2013-04647
CR-GGN-2013-04648	CR-GGN-2013-04649	CR-GGN-2013-04650
CR-GGN-2013-04703	CR-GGN-2013-04705	CR-GGN-2013-04709
CR-GGN-2013-04645	CR-GGN-2013-04647	

Section 2RS5: Radiation Monitoring Instrumentation

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-CY-102	Laboratory Analytical Quality Control	4
EN-RP-306	Calibration And Operation Of The Eberline Pm-7	2
EN-RP-307	Operation And Calibration Of The Eberline Personal Contamination Monitors	2

Section 2RS5: Radiation Monitoring Instrumentation

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-RP-308	Operation and Calibration of Gamma Scintillation Tool Monitors	5
EN-RP-311	Electronic Alarming Dosimeters	1
08-S-03-23	Chemistry Quality Control Program	7
08-S-07-83	Operation and Calibration of the ND-9000 Whole Body Counter	9
08-S-10-04	Calibration of Portable Dose Rate Instruments	5

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>TITLE</u>	<u>DATE</u>
Combined Chemistry, Effluent, and Environmental Monitoring Quality Assurance Audit Report	October 18, 2011

CONDITION REPORTS

CR-GGN-2010-07559	CR-GGN-2011-01630	CR-GGN-2011-06199
CR-GGN-2012-12727	CR-GGN-2013-01451	CR-GGN-2012-00602
CR-GGN-2012-06059		

CALIBRATION RECORDS- INSTALLED INSTRUMENTS

<u>WORK ORDER</u>	<u>INSTRUMENT</u>	<u>DATE</u>
52279357	Containment Building Ventilation	May 20, 2011
52344349	Containment Building Ventilation	August 15, 2012
52323970	Fuel Handling Area Ventilation	December 14, 2011
52386985	Fuel Handling Area Ventilation	February 14, 2013
52316470	Turbine Building Ventilation	October 6, 2011
52372992	Turbine Building Ventilation	October 11, 2012

CALIBRATION RECORDS- INSTALLED INSTRUMENTS

<u>WORK ORDER</u>	<u>INSTRUMENT</u>	<u>DATE</u>
52317870	Radwaste Building Ventilation	August 11, 2011
52360854	Radwaste Building Ventilation	August 6, 2012

MISCELLANEOUS DOCUMENTS

<u>TITLE</u>	<u>REVISION/DATE</u>
Grand Gulf Nuclear Station 2011 Annual Radioactive Effluent Release Report	April 30, 2012
Grand Gulf Nuclear Station 2012 Annual Radioactive Effluent Release Report, Revision 1	June 10, 2013
Grand Gulf Nuclear Station Offsite Dose Calculation Manual	37
Quality Control Charts for Counting Room Detectors 2, 3, and 4	September 1, 2012 through June 18, 2013

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-1D17-W-0017	Gaseous Release Points – Iodines, Tritium, and Particulates	106
EN-CY-108	Monitoring of Nonradioactive Systems	5
1-S-02-3	Installed Radiation Monitoring System Alarm Setpoint Determination and Control	114
08-S-03-10	Chemistry Sampling Program	49

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
QA-2-6-2011-GGN-1	Quality Assurance Audit Report: Chemistry	October 18, 2011
2012-00581	NUPIC Audit of Gel Labs	April 16, 2012

CONDITION REPORTS

CR-GGN-2013-04004	CR-GGN-2013-04015	CR-GGN-2012-06059
CR-GGN-2012-06629	CR-GGN-2011-02936	CR-GGN-2013-01451
CR-GGN-2013-00450		

10 CFR 50.75 g CONDITION REPORTS

CR-GGN-2011-02936	CR-GGN-2012-04635	CR-GGN-2012-12861
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RELEASE PERMITS

2013-034	2013-033 (D)	2012-036
2012-100	2012-087	2012-088 (D)
2013-006	2013-043	

(D) – duplicate

SAMPLING AND ANALYSIS RESULTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
GG-RT-1108-00105-P	Routine Air Sample – TB-166'	August 26, 2011
GG-RT-1110-00059-P	Routine Air Sample – TB-166'	October 14, 2011
	RadWaste Building Tritium	April 7, 2013
	Containment Vent Isotopic	April 8, 2013

COMPENSATORY SAMPLING

<u>UNIT</u>	<u>MONITOR</u>	<u>DATE</u>
1	Liquid Effluent Radiation Monitor	April 10, 2012
1	Liquid Effluent Radiation Monitor	April 22, 2012

IN-PLACE FILTER TESTING RECORDS

<u>UNIT</u>	<u>SYSTEM</u>	<u>TRAIN</u>	<u>TEST</u>	<u>DATE</u>
1	Standby Gas Treatment	B	HEPA and Charcoal	May 7, 2013
1	Standby Gas Treatment	A	HEPA and Charcoal	October 14, 2011

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
LBDCR 2012-012	Change to ODCM 6.3.9 Conditions D and E	March 15, 2012
1-OTS-11-002	LCOTR: Circulating Water System Secured and Jumper Installed to allow Radwaste discharges using the SG17F355 Operation	May 29, 2012
	Offsite Dose Calculation Manual	39
	2012 Annual Radioactive Effluent Release Report, Rev. 1	June 5, 2013
	2011 Annual Radioactive Effluent Release Report	April 26, 2012
1-OTS-12-0030	LCOTR: Liquid Radwaste Effluent Monitor SG17K606 inop for troubleshooting	April 24, 2012

Section 2RS7: Radiological Environmental Monitoring Program

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
06-EN-S000-A-0003	Interlaboratory Comparison Program	101

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
06-EN-S000-O-0002	Land Use Census	101
06-EN-S000-V-0001	Radiological Environmental Sampling	109
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	144
07-S-53-C84-2	Meteorological Tower Precipitation	10
07-S-53-C84-7	Backup Tower Wind Speed/Direction and Air Temperature Calibration	0

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
GL-QS-B-001	GEL Laboratories, LLC Quality Assurance Plan	26
	2012 Annual Quality Assurance Report or the Radiological Environmental Monitoring Program	February 28, 2013
QA-2/6-2011-RBS-1	QA Audit Report: Combined Chemistry, Effluents, and Environmental Monitoring Programs	October 14, 2011
LO-HQNLO-2011-00153	Focused Self-Assessment Report: Fleet NEI 07-07 Ground Water Protection Initiative Compliance	December 13, 2011

CALIBRATION AND MAINTENANCE RECORDS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
CHEM-001	Air Sampler #7 Calibration Data Sheet	January 23, 2013
CHEM-004	Air Sampler #3 Calibration Data Sheet	January 23, 2013
CHEM-005	Air Sampler #1 Calibration Data Sheet	January 23, 2013

CHEM-001	Air Sampler #7 Calibration Data Sheet	January 30, 2012
CHEM-004	Air Sampler #3 Calibration Data Sheet	January 30, 2012
CHEM-005	Air Sampler #1 Calibration Data Sheet	July 20, 2012
WO 52381060	Calibration for Backup Tower Wind Speed/Direction and Air Temperature	September 25, 2012
WO 52395056	Calibration for Primary Tower Wind Speed/Direction and Air Temperature (T/dT) and Relative Humidity	October 2, 2012
WO 52440602	Calibration for Primary Met Tower Wind Speed/Direction and Air Temperature (T/dT) and Relative Humidity	March 11, 2013

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
	2012 Annual Radiological Environmental Operating Report	May 1, 2013
	2011 Annual Radiological Environmental Operating Report	April 30, 2012
	2012 GGN Land Use Census	April 19, 2013
	GGN Offsite Dose Calculation Manual	35
	Entergy Grand Gulf Nuclear Station 5-Year Hydrogeologic Review	September 4, 2012
96-0036-R00	GGN Unit 1: Changes, Tests or Experiments Safety and Environmental Evaluation Form	July 30, 1996

CONDITION REPORTS

CR-GGN-2010-06775	CR-GGN-2011-00846	CR-GGN-2011-03864
CR-GGN-2011-05861	CR-GGN-2012-04108	CR-GGN-2012-05329
CR-GGN-2011-05779	CR-GGN-2011-05859	CR-GGN-2013-02962
LO-WTHQN-2012-00174		

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

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-RP-121	Radioactive Material Control	7
EN-RW-102	Radioactive Shipping Procedure	10
EN-RW-104	Scaling Factors	3
EN-RW-105	Process Control Program	3
08-S-02-25	Radiation Protection Procedure: Radwaste Resin Transfer – Safety Related	7
08-S-06-71	Radwaste Instructions: Sampling Procedures for Waste Classification – Safety Related	7

AUDITS, SELF-ASSESSMENTS, AND SURVEILLANCES

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
EN-LI-104	Pre-Assessment Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	April 24, 2012
QA-14/15-20011-GGN-1	Quality Assurance Audit Report: Radiation Protection/Radwaste	October 11, 2011

CONDITION REPORTS

CR-GGN-2012-02811	CR-GGN-2011-05871	CR-GGN-2011-05783
CR-GGN-2011-07563	CR-GGN-2012-04823	CR-GGN-2013-03825
CR-GGN-2012-10207	CR-GGN-2011-08584	CR-GGN-2013-00522
CR-GGN-2013-13306	CR-GGN-2013-00305	CR-GGN-2012-12230
CR-GGN-2012-02886	CR-GGN-2013-01194	CR-GGN-2012-07462
CR-GGN-2012-12411		

RADIOACTIVE MATERIAL SHIPMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
GGN-2012-0105	RWCU-A Type-B, Studsvik, Erwin, TN	January 23, 2012
GGN-2012-0107	Radiography Camera, Type-B	January 26, 2012
GGN-2012-0219	Metal Recycle, Impact, Oak Ridge, TN	February 20, 2012
GGN-2012-0220	Metal and Laundry Recycle, Impact, Oak Ridge, TN	February 28, 2012
GGN-2012-0327	Concrete , Impact, Oak Ridge, TN	March 15, 2012
GGN-2012-0433	Metal Recycle, Impact, Oak Ridge, TN	April 30, 2012
GGN-2012-0706	Radiography Camera, Type-B	July, 24, 2012
GGN-2012-0802	CPS-B, LSA-II, Energy Solutions, Oak Ridge, TN	August 13, 2012
GGN-2012-1204	CPS Resin, LSA-II Energy Solutions, Oak Ridge, TN	December 19, 2012
GGN-2011-0810	CPS-B, LSA-II, Studsvik, Erwin, TN	August 24, 2011
GGN-2011-1110	RWCU-A Type-B, Studsvik, Erwin, TN	November 19, 2011
GGN-2011-1202	RWCU-B Type-B, Studsvik, Erwin, TN	December 06, 2011

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION/DATE</u>
UFSAR Chapter 11	GGN Updated Final Safety Analysis Report	LDBCR 11045
UFSAR Chapter 12	GGN Updated Final Safety Analysis Report	LDBCR 12055
	Basic Radioactive Waste Packaging, Transportation, and Disposal Training	February 17, 2012

Section 40A2: Identification and Resolution of Problems

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-FAP-OM-016	Performance Management Processes and Practices	0
EN-HR-135	Disciplinary Action	0
EN-PL-100	Nuclear Safety and Management Expectations	2

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	Root Cause Evaluation Report, CR-GGN-2013-3639	July 3, 2013

Section 40A3: Event Follow-Up

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
01-S-07-1	Control of Work on Plant Equipment and Facilities	39
EN-LI-118	Root Cause Evaluation Process	18
EN-WM-100	Work Request Generation, Screening, and Classification	8
04-1-02-1H13- P680-9A-C1	Alarm Response Instruction, 1N31-XS-K623A	36
04-1-02-1H13- P680-9A-B1	Alarm Response Instruction, 1N31-XA-L613	156
04-1-02-1H13- P680-9A-B2	Alarm Response Instruction, 1N32-XA-L618	183
01-S-06-26	Post Trip Analysis, Scram Number 129	July 30, 2013
EN-OM-119	On-Site Safety Review Committee	10
02-S-01-41	On Line Risk Assessment	8
EN-MA-125	Troubleshooting Control of Maintenance Activities	14
EN-WM-104	On Line Risk Assessment	7
EN-WM-105	Planning	11

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
L1883LQ4	1PH 60HZ 550MVA 500/20.9KV Power Control Circuit Diagram (1/2)	11
GFIG-OPS- N3202	EHC Logic Transient #7	
GFIG-OPS- N3202	Figure 3A, Load Control	
GFIG-OPS- N3202	Figure 1A, Initial Pressure Control	

OTHER DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
VM 460000665	Steam Turbine Generator Instruction Manual: Turbine, Volume I	
	FO-19-05 Main Turbine Trip-PDS Trend	July 30, 2013
	Shutdown Condition 1, Time to 200° F: 0.18 Hours	
	GGN Operations Logs, Days	July 30, 2013
	GGN Operations Logs, Nights	July 31, 2013
	TSE Operation Description	
460000437	Cardox Fire Extinguishing Equipment Manual	
EN-LI-118-08 Attachment 9.2	Failure Mode Analysis Worksheet: The Load Demand decreased when TSE influence was restored after maintenance was performed on the 1N30N011A Temperature Transmitter	1
	GGN FO-19-05 Forced Outage Daily Update, Day 1, 3 hours and 30 minutes	July 31, 2013
	GGN FO-19-05 Forced Outage Daily Update, Day 1, 15 hours and 30 minutes	August 1, 2013
	GGN FO-19-05 Forced Outage Daily Update, Day 3, 3 hours and 30 minutes	August 2, 2013
	GGN FO-19-05 Forced Outage Daily Update, day 2, 15 hours and 30 minutes	August 2, 2013
	GGN FO-19-05 Forced Outage Daily Update, Day 0, 15 hours and 30 minutes	July 31, 2013
	GGN FO-19-05 Forced Outage Daily Update, Day 3, 15 hours and 30 minutes	August 3, 2013
	CRs Flagged for Outage Mode Restraints	August 2, 2013
	Review of ODMIs prior to Startup from the July 30, 2013 Scram	
	Review of Operable DNC prior to Startup from the July 30, 2013 Scram	
	Review of Operable Comp Measures prior to Startup from the July 30, 2013 Scram	

OTHER DOCUMENTS

NUMBER

TITLE

REVISION /
DATE

LT-Apparent Cause Evaluation Report, Main Transformer
1R14S001A Control Power Loss

July 12, 2013

CONDITION REPORTS

CR-GGN-2012-12978	CR-GGN-2013-04553	CR-GGN-2013-04560
CR-GGN-2013-04945	CR-GGN-2013-00450	CR-GGN-2013-01344
CR-GGN-2013-03213	CR-GGN-2012-08665	CR-GGN-2012-11414
CR-GGN-2013-04414	CR-GGN-2013-04729	CR-GGN-2012-12594
CR-GGN-2013-01968	CR-GGN-2011-05879	CR-GGN-2012-08644
CR-GGN-2012-09032	CR-GGN-2010-00508	CR-GGN-2012-08314
CR-GGN-2012-09561	CR-GGN-2013-01530	CR-GGN-2013-02201
CR-GGN-2012-08750	CR-GGN-2012-09971	CR-GGN-2012-09699
CR-GGN-2012-12060	CR-GGN-2013-00810	CR-GGN-2013-02929
CR-GGN-2012-13125	CR-GGN-2012-01486	CR-GGN-2012-09889

WORK ORDERS

WO 51040227 01

WO 52186963 01

WO 52313218 01

Section 40A7: Licensee-Identified Violations

CONDITION REPORT

CR-GGN-2013-4156

**The following items are requested for the
Radiation Safety Inspection
at Grand Gulf Nuclear Station
June 17-21, 2013
Integrated Report 2013004**

Inspection areas are listed in the attachments below.

Please provide the requested information on or before May 28, 2013.

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 Larry Ricketson at (817) 200-1165 or Larry.Ricketson@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)

Date of Last Inspection: August 16, 2010

- A. List of contacts and telephone numbers for the following areas:
 - 1. Effluent monitor calibration
 - 2. Radiation protection instrument calibration
 - 3. Installed instrument calibrations
 - 4. 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.
- 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.

6. Radioactive Gaseous And Liquid Effluent Treatment (71124.06)

Date of Last Inspection: August 15, 2011

- 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 absorbers
 - 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.
- G. 2011 and 2012 Annual Radioactive Effluent Release Report
- H. Current Copy of the Offsite Dose Calculation Manual
- I. Copy of the 2011 and 2012 interlaboratory comparison results for laboratory quality control performance of effluent sample analysis
- 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 Dept (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. For technical specification-required air cleaning systems, the most recent surveillance test results of in-place filter testing (of HEPA filters and charcoal absorbers) and laboratory testing (of charcoal efficiency)
- 7. Radiological Environmental Monitoring Program (71124.07)**
Date of Last Inspection: August 15, 2011
- 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.
- 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 2011 and 2012 Annual Radiological Environmental Operating Report and Land Use Census, and current revision of the Offsite Dose Calculation Manual
- J. Copy of the environmental laboratory's interlaboratory comparison program results for 2011 and 2012, 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

8. Radioactive Solid Waste Processing, and Radioactive Material Handling, Storage, and Transportation (71124.08)

Date of Last Inspection: August 15, 2011

- 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/wasteNOTE: The lists should indicate the significance level of each issue and the search criteria used.
- 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 2011 and 2012
- J. Waste classification reports if performed by vendors (such as for irradiated hardware)

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

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