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

May 15, 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 05000416/2013002

Dear Mr. Mulligan:

On April 6, 2013, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Grand Gulf Nuclear Station, Unit 1. The enclosed inspection report documents the inspection results, which were discussed on April 11, 2013, with you and other members of your staff.

The inspections examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Five NRC-identified and three self-revealing findings of very low safety significance (Green) were identified during this inspection. Six of these findings were determined to involve violations of NRC requirements.

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

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

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's Agencywide Document Access and Management System (ADAMS). ADAMS is

accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

David L. Proulx, Acting Chief
Project Branch C
Division of Reactor Projects

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

Enclosure: Inspection Report 05000416/2013002
w/ Attachment: Supplemental Information

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

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

SRI:DRP/C	RI:DRP/C	SPE:DRP/C	C:DRS/EB1	C:DRS/EB2	C:DRS/OB
RLSmith	BBRice	BHagar	TRFarnholtz	GMiller	VGaddy
/RA/	/RA/	/RA/	/RA/GGeorge for	/RA/	/RA/COsterholtz for
5/14/13	5/14/13	5/8/13	4/30/13	4/29/13	4/29/13
C:DRS/PSB1	C:DRS/PSB2	C:DRS/TSB	ABC:DRP/C		
MHaire	JDrake	RKellar	DProulx		
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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000416
License:	NPF-29
Report:	05000416/2013002
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station, Unit 1
Location:	7003 Baldhill Road Port Gibson, MS 39150
Dates:	January 1 through April 6, 2013
Inspectors:	R. Smith, Senior Resident Inspector B. Rice, Resident Inspector S. Achen, Reactor Inspector J. Braisted, Reactor Inspector S. Hedger, Operations Engineer J. Laughlin, Emergency Preparedness Inspector, NSIR S. Makor, Reactor Inspector
Approved By:	David L. Proulx, Acting Branch Chief Reactor Projects Branch C Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000416/2013002; 01/01/2013 – 04/06/2013; Grand Gulf Nuclear Station, Unit 1, Integrated Resident and Regional Report; Flood Protection Measures, Maintenance Risk Assessments and Emergent Work Control, Operability Evaluations and Functionality Assessments, Surveillance Testing, Followup of Events and Notices of Enforcement Discretion.

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by region-based inspectors. Six Green non-cited violations and two Green findings 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 self-revealing finding for the failure to ensure the current transformer structure, the neutral bus housing, and the associated mounting hardware were installed with adequate clearance to accommodate thermal expansion. This failure resulted in an automatic reactor scram on December 29, 2012, and a subsequent scram on January 4, 2013. Following the second scram on January 4, 2012, the licensee determined the cause of the scram was a trip of the phase A unit differential relay because of a ground fault on the A phase of the generator neutral current transformer, due to inadequate clearances. Immediate corrective actions included removing the damaged current transformer and modifying the neutral bus housing. The plant scrams were entered into the corrective action program as Condition Reports CR-GGN-2012-13290 and CR-GGN-2013-00083.

  The failure to install micarta plate bolts in accordance with manufacturer specifications and ensure that the current transformer structure, the neutral bus housing, and the associated mounting hardware had adequate clearance is a performance deficiency. This finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and 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 very low safety significance (Green) because it caused only a reactor trip and did not

cause a loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding has a cross-cutting aspect in the human performance area associated with the resources component because the licensee failed to provide adequate work instructions [H.2(c)] (Section 4OA3).

- Green. The inspectors reviewed a self-revealing non-cited violation of 10 CFR 50 Appendix B Criterion V, for the failure to provide adequate instructions to remove foreign material from the exhaust port of relief valve 1B21F047A. As a result, the valve failed to close at its reset setpoint following a reactor scram on December 29, 2012. The valve failed to close at its reset setpoint of 1013 psig and remained open until pressure fell to approximately 675 psig. The immediate corrective actions were to remove the foreign material exclusion plug from the exhaust port of valve 1B21-F047A and to ensure no plug was installed in any other safety relief valve. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2013-00100.

  The failure to provide adequate instructions to remove foreign material from the exhaust port of relief valve 1B21F047A is a performance deficiency. This finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as 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 very low safety significance (Green) because after a reasonable assessment of the degradation, the finding could not result in exceeding the reactor coolant leak rate for a small loss of coolant accident because the configuration of the safety relief valve was such that it would close at approximately 675 psig. Also the finding did not affect other systems used to mitigate a loss of coolant accident resulting in a total loss of their function. The finding has a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee did not use a systematic process to make a safety-significant decision. [H.1(a)] (Section 4OA3).

- Green. The inspectors reviewed a self-revealing finding for the failure to identify a degraded isophase bus duct view port window, which allowed water to intrude into the duct and caused an automatic reactor scram on January 14, 2013. The licensee took corrective action to stop the water intrusion into the isophase bus duct and to electrically isolate the spare transformer from the energized transformers. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2013-00319.

  The failure to identify a degraded isophase bus duct view port window is a performance deficiency. The finding is more than minor 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 caused only 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 finding has a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee did not use conservative assumptions in decision-making [H.1(b)] (Section 4OA3).

- Green. The inspectors identified a non-cited violation of Technical Specification 5.4.1.a, for the failure to revise the scram procedure after temporarily modifying the division-2 circuits that sense first-stage turbine pressure. Specifically, after a steam sensing line failed, the licensee had introduced a dummy signal into the subject circuits to comply with technical specifications; however, they failed to revise Procedure 05-1-02-I-1, “Reactor Scram,” Revision 117, to reflect this temporary modification. This resulted in additional scrams during scram recovery for the scrams on December 29, 2012, and January 4, 2013. Immediate corrective actions included modifying the scram procedure to require the operators to turn off the units that provide the dummy signal to the division-2 circuits that sense first-stage turbine pressure following a reactor scram, allowing the operators to reset the full scram promptly. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2013-001259.

  The failure to revise Procedure 05-1-02-I-1 following a temporary modification to the division-2 circuits that sense first-stage turbine pressure is a performance deficiency. The finding is more than minor because it is associated with the Initiating Events Cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as 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 very low safety significance (Green) because it only caused a reactor trip and did not cause the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding has a cross-cutting aspect in the area of human performance associated with the work practices component because licensee personnel failed to ensure that procedures impacted by a temporary modification were properly revised to compensate for the installed modification [H.4(b)] (Section 4OA3).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a non-cited violation of License Condition 2.C(41), "Fire Protection Program," involving the failure to ensure that manhole MH01 was properly sealed to prevent entry of flammable liquid. Specifically, on February 20, 2013, four manhole covers had between one to three loose bolts and evidence of water seepage. These vaults contain safety related cables for standby service water trains A and B. Immediate corrective actions included cleaning and tapping the bolt holes to ensure proper thread engagement, adding work instructions to the preventative maintenance procedure to clean the manhole bolt holes, and verifying that the other manholes containing safety-related cables did not have similar issues with loose bolts on the manhole covers. The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2013-01348.

  This finding is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the inspectors determined that the issue affected the Mitigating Systems Cornerstone and required the use of Inspection Manual Chapter 0609, Attachment 4, Appendix F, "Fire Protection Significance Determination Process." However, an NRC senior reactor analyst determined that the unique nature of this performance deficiency did not lend itself to analysis by the methods provided in Appendix F. Therefore, a Phase 3 analysis was performed. Based on a bounding analysis, the analyst determined that the change in core damage frequency was approximately 1.5E-7/yr. The result was low because of the relatively short periods of time that fuel was actually being transferred, the low probability of transfer system failures, and the low likelihood that a loss of normal service water initiator would occur following a fire in the subject manholes. The finding has a cross-cutting aspect in the human performance area associated with the resources component because the licensee did not provide adequate work packages [H.2(c)] (Section 1R06).

- Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion V, for the licensee's failure to monitor for ice accumulation on the standby service water cooling towers in accordance with station procedures. On January 17, 2013, the plant experienced a winter storm but operators did not implement Standby Service Water System Operating Instruction, 04-1-01-P41-1, Revision 137, Section 6.2, "Cold Weather Operation," which directed the licensee to monitor the standby service water cooling tower for ice accumulation when weather conditions existed that could have resulted in icing of the cooling tower fill material and missile grating. The licensee entered this issue into their corrective action program as Condition Report CR-GGNS-2013-00426.

The failure to monitor for ice accumulation in accordance with station procedures is a performance deficiency. The finding is more than minor because if left uncorrected, it could lead to a more significant safety concern. Specifically, the occurrence of ice accumulation on the standby service water cooling towers, if unmonitored, could cause damage to the fill material and/or the tower missile gratings, which would render the standby service water system inoperable. 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 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 allow 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 finding has a cross-cutting aspect in the human performance area associated with the work control component because the licensee failed to appropriately plan work activities based on environmental conditions that may impact plant structures, systems and components [H.3(a)] (Section 1R13).

- Green. The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion III, “Design Control,” for the failure of the licensee to maintain design control, incorporate, verify, and check new instrument drift values, and translate the design basis requirements for multiple allowable values and trip setpoints described in the technical specifications into setpoint calculations. During the review of condition reports associated with an operability review of the licensee’s transition from an 18- to 24-month operating cycle in August 2012, inspectors identified that the licensee failed to maintain design control of multiple setpoint calculations. In response to NRC inspector questioning, a licensee review of the calculations identified that three of the 14 calculations reviewed contained calculated allowable values that differed from the values contained in the Technical Specifications associated with Level 8 Narrow Range, Reactor Scram on High SDVP Water Level, and HPCS & RCIC Pump Suction Transfer on High Suppression Pool Level. An assessment of the calculations also determined that one other calculation contained an error that was introduced during the replacement of the high-pressure turbine rotor in a recent refueling outage, which would require a license amendment request. The licensee entered this condition in their corrective action program as CR-GGN-2013-00371.

  The failure to maintain design control, incorporate, verify, and check new instrument drift values, and translate the design basis requirements into multiple allowable values and trip setpoints described in the technical specifications into facility setpoint calculations is a performance deficiency. This finding is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of design control and affected the cornerstone objective of ensuring the

capability of the safety-related system to respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the issue was determined to affect the Mitigating Systems Cornerstone. Using Inspection Manual Chapter 0609, Appendix A, “The Significance Determination Process (SDP) for Findings at Power,” the inspectors determined the finding was of very low safety significance (Green) because it was a design deficiency confirmed not to result in a loss of the offsite power supply operability or functionality. This finding has a cross-cutting aspect in the area of human performance decision-making because the licensee did not use a systematic decision making process and did not obtain interdisciplinary input on a risk significant decision [H.1(a)] (Section 1R15).

- Green. The inspectors identified a non-cited violation of License Condition 2.C(41), “Fire Protection Program,” for the failure to identify and correct a condition adverse to fire protection. Specifically, the licensee failed to ensure that fire brigade members had sufficient access through a scaffold built in the diesel generator building hallway into the division-1 diesel generator room. The immediate corrective actions included removing the scaffold in the diesel generator building hallway. The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2013-01679.

  The failure to take prompt corrective action to ensure adequate access for fire brigade members through installed scaffolding in the diesel generator building hallway to the division-1 diesel generator room is a performance deficiency. The finding is more than because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, the inability for fire brigade members to gain access to safety related equipment in timely manner could result in preventing prompt extinguishing of fires. 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 the finding involved a risk-significant fire area that had an automatic fire suppression system. The inspectors determined the apparent cause of this finding was that the licensee did not implement the corrective action program with a low threshold for identifying scaffolding that could impede fire brigade member response during a fire. Therefore the finding had a cross-cutting aspect in the problem identification and resolution area associated with the corrective action program component because the licensee failed to identify conditions adverse to fire protection [P.1(a)] (Section 1R22).

B. Licensee-Identified Violations

None

REPORT DETAILS

Summary of Plant Status

Grand Gulf Nuclear Station (GGNS) began the inspection period starting up from a reactor scram on December 29, 2012. Subsequently:

- On January 1, 2013, the licensees tied to the grid and proceeded with power accession.

- On January 4, 2013, at 11:37 p.m., during power accession, the reactor scrammed from 94 percent rated thermal power due to a phase A unit differential signal resulting in a main generator/turbine trip with a reactor scram. The licensee determined the apparent cause of the scram and commenced startup activities on January 8, 2013, and reached 100 percent rated thermal power on January 11, 2013.

- On January 14, 2013, at 6:05 p.m., the reactor scrammed from 100 percent rated thermal power due to a turbine generator trip caused by a generator neutral time overcurrent relay tripping. The licensee placed the plant in cold shutdown condition and conducted an investigation of the event. The licensee determined the apparent cause of the scram and commenced startup activities on January 27, 2013, and achieved 100 percent rated thermal power on February 6, 2013.

- On April 5, 2013, the operators reduced power to 65 percent rated thermal power to conduct rod pattern adjustment, control rod exercise, channel bow testing and turbine testing. The operators returned the plant to 100 percent rated thermal power on April 6, 2013.

The plant remained at 100 percent rated thermal power for the remainder of the quarter.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection (71111.01)

.1 Readiness for Seasonal Extreme Weather Conditions

a. Inspection Scope

The inspectors performed a review of the adverse weather procedures for seasonal extremes (e.g., extreme high temperatures, extreme low temperatures, or hurricane season preparations). The inspectors verified that weather-related equipment deficiencies identified during the previous year were corrected prior to the onset of seasonal extremes and evaluated the implementation of the adverse weather preparation procedures and compensatory measures for the affected conditions before the onset of, and during, the adverse weather conditions.

During the inspection, the inspectors focused on plant-specific design features and the procedures used by plant personnel to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that plant personnel were identifying adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Standby service water pump house and valve nest rooms
- Fire water pump house
- Division 1, 2, and 3 diesel generator building breezeway
- Plant service water system well switchgear room and plant service water pump houses

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

b. Findings

No findings were identified.

.2 Readiness for Impending Adverse Weather Conditions

a. Inspection Scope

Since thunderstorms with potential tornados and high winds were forecast in the vicinity of the facility for January 10, 2013, the inspectors reviewed the plant personnel's overall preparations/protection for the expected weather conditions. On January 9, 2013, the inspectors walked down the standby service water basins, the safety related transformers, and emergency diesel generators because their safety-related functions could be affected, or required, as a result of high winds, tornado-generated missiles, or the loss of offsite power. The inspectors evaluated the plant staff's preparations against the site's procedures and determined that the staff's actions were adequate. During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to respond to specified adverse weather conditions. The inspectors also toured the plant grounds to look for any loose debris that could become missiles during a tornado. The inspectors' evaluated operator staffing and accessibility of controls and indications for those systems required to control the plant. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report and performance requirements for the systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. The inspectors also reviewed a sample of corrective action program items to verify that the licensee-identified adverse weather issues at an appropriate threshold and dispositioned them

through the corrective action program in accordance with station corrective action procedures. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

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 following return from shutdown cooling after FO-19-04
- Reactor core isolation cooling following surveillance
- Low pressure core spray following a surveillance
- Standby gas treatment A with B standby gas treatment out of service for maintenance
- Reactor protection system A with B reactor protection system out of service for maintenance

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

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

c. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On April 2, 2013, the inspectors performed a complete system alignment inspection of the low-pressure core spray system to verify the functional capability of the system. The inspectors selected this system because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors 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 Procedure71111.04-05.

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:

- Electrical penetration room 1A407, 166 foot elevation, auxiliary building
- Equipment area 1A417, 166 foot elevation, auxiliary building
- Equipment area 1A424, 1A428, 1A434, 166 foot elevation, auxiliary building

- Equipment area 1A403 & 1A420, 166 foot elevation, auxiliary building
- Electrical penetration room 1A410, 166 foot elevation, auxiliary building

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

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

b. Findings

No findings were identified.

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On February 12, 2013, the inspectors observed a fire brigade activation for a simulated fire in a non-safety related motor control center on the 139 foot elevation of the auxiliary building. The observation evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies, openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of preplanned strategies; (9) adherence to the preplanned drill scenario; and (10) drill objectives.

These activities constitute completion of one annual fire-protection inspection sample as defined in Inspection Procedure 71111.05-05.

b. Findings

No findings were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, the flooding analysis, and plant procedures to assess susceptibilities involving internal flooding; reviewed the corrective action program to determine if licensee personnel identified and corrected flooding problems; inspected underground bunkers/manholes to verify the adequacy of sump pumps, level alarm circuits, cable splices subject to submergence, and drainage for bunkers/manholes; and verified that operator actions for coping with flooding can reasonably achieve the desired outcomes. The inspectors also inspected the manholes/vaults listed below. Specific documents reviewed during this inspection are listed in the attachment.

- January/February 2013, manholes/vaults 1, 2, 3, 20, and 21

These activities constitute completion of one bunker/manhole samples as defined in Inspection Procedure 71111.06-05.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of License Condition 2.C(41), "Fire Protection Program," involving the failure to properly seal manhole MH01 to prevent entry of flammable liquid.

Description. On February 20, 2013, during the manhole/vault inspection of manhole MH01, the licensee inspected all four compartments associated with manhole MH01. At the inspectors' request, the licensee removed the three additional manhole covers that are not normally removed for the monthly inspection. During the removal of the manhole covers, the licensee and inspectors discovered that each manhole cover had between one to three loose bolts. The inspectors noted evidence of water seepage past these loose bolts, which was contrary to the requirements of Grand Gulf Nuclear Station's license bases documents for manhole MH01. This manhole contains safety related cables for standby service water trains A and B. In Section 9.A.5.59 of the Fire Hazard Analysis for Fire Area 59, "the yard area," it is required to seal manhole MH01 with pressure type water-, gas-, and steam-tight bolted lids, with rubber gaskets, to prevent the potential entry of any flammable liquid.

The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2013-01348. Immediate corrective actions included cleaning and tapping the bolt holes to ensure proper thread engagement, adding work instructions to the preventative maintenance procedure to clean the manhole bolt holes, and verifying that the other manholes containing safety related cables did not have similar issues with

loose bolts on the manhole covers. Long term corrective actions include the licensee adding instructions to their work order to check bolts for tightness for all safety related manholes each month.

Analysis. The failure to properly seal safety-related manholes to prevent the introduction of flammable liquid is a performance deficiency. The performance deficiency is more than minor because it is associated with the Mitigating Systems Cornerstone attribute of protection against external factors and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the inspectors determined that the issue affected the Mitigating Systems Cornerstone and required the use of Inspection Manual Chapter 0609, Attachment 4, Appendix F, "Fire Protection Significance Determination Process." However, an NRC senior reactor analyst determined that the unique nature of this performance deficiency did not lend itself to analysis by the methods provided in Appendix F. Therefore, a Phase 3 analysis was performed. Based on a bounding analysis, the analyst determined that the change in core damage frequency was approximately 1.5E-7/yr. The result was low because of the relatively short periods of time that fuel was actually being transferred, the low probability of transfer system failures, and the low likelihood that a loss of normal service water initiator would occur following a fire in the subject manholes. The inspectors determined the apparent cause of this finding was inadequate work instructions to ensure manhole cover bolting is securely fastened. Therefore the finding has a cross-cutting aspect in the human performance area associated with the resources component because the licensee did not provide adequate work packages [H.2(c)].

Enforcement. License Condition 2.C(41), "Fire Protection Program," states, in part, that the plant "shall implement and maintain in effect all provisions of the Fire Protection Program as described in the Updated Final Safety Analysis Report." Updated Final Safety Analysis Report Section 9A.5.59, "Fire Area 59," Section 9A.5.59.3.a, required that manhole MH01 be properly sealed with pressure type water-, gas-, and steam-tight bolted lids, with rubber gaskets, to prevent the potential entry of any flammable liquid. Contrary to this, on or before February 20, 2013, the licensee did not properly seal manhole MH01 in accordance with the fire hazard analysis. The licensee restored compliance by cleaning and tapping the bolt holes to ensure proper bolt thread engagement. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee's corrective action program as Condition Report CR-GGN-2013-01348. (NCV 05000461/2013002-01, "Failure to Properly Seal Safety-related Manholes")

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed licensee programs to verify heat exchanger performance and operability for the following heat exchangers:

- Division 3 standby diesel generator jacket water coolers

- Residual heat removal pump B seal cooler
- Standby service water system pump B motor bearing oil cooler

The inspectors verified that testing, inspection, maintenance, and chemistry control programs are adequate to ensure proper heat transfer. The inspectors verified that the periodic testing and monitoring methods, as outlined in commitments to NRC Generic Letter 89-13, utilized proper industry heat exchanger guidance. Additionally, the inspectors verified that the licensee's chemistry program ensured that biological fouling was properly controlled between tests. The inspectors reviewed previous maintenance records of the heat exchangers to verify that the licensee's heat exchanger inspections adequately addressed structural integrity and cleanliness of their tubes. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of three triennial heat sink inspection samples as defined in Inspection Procedure 71111.07-05.

b. Findings

No findings were identified.

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

.1 Annual Inspection [Licensed Operator Requalification (71111.11A)]

The licensed operator requalification program involves two training cycles that are conducted over a 2-year period. In the first cycle, the annual cycle, the operators are administered an operating test consisting of job performance measures and simulator scenarios. In the second part of the training cycle, the biennial cycle, operators are administered an operating test and a comprehensive written examination. For this annual inspection requirement the licensee was in the first part of the training cycle.

a. Inspection Scope

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

On December 20, 2012, the licensee informed the lead inspector of the following results:

- 7 of 7 crews passed the simulator portion of the operating test
- 41 of 41 licensed operators passed the simulator portion of the operating test
- 40 of 41 licensed operators passed the Job Performance Measure portion of the examination

The licensed operator that did not pass the Job Performance Measure portion of the examination has been unable to complete this portion due to medical issues. When the licensed operator returns from medical leave, then the examination will be completed.

The inspector completed one inspection sample of the annual licensed operator requalification program.

b. Findings

No findings were identified.

.2 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

On March 11, 2013, the inspectors observed a crew of licensed operators in the plant's simulator during requalification "as found" evaluation. 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.

.3 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On January 2, 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 resuming power ascension following the reactor scram on December 29, 2012. The inspectors observed the operators' performance of the following activities:

- Pre-job brief

- Increasing power by withdrawing control rods
- Procedural compliance in responding to control room alarms
- Technical specifications compliance while moving a control rod that had previously been by-passed

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 systems:

- High pressure core spray diesel generator (P81)
- Condenser air removal and offgas systems (N62/N64)

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

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)

- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance through preventive maintenance, as described in 10 CFR 50.65(a)(2), or as requiring the establishment of appropriate and adequate goals and corrective actions for systems classified as not having adequate performance, as described in 10 CFR 50.65(a)(1)

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

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

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- The week of January 7, 2013, during emergent severe weather in the area
- The weeks of January 14 and 21, 2013, an assessment of outage risk during shutdown for FO-19-04
- The week of February 4, 2013, during service transformer 11 outage
- The week of February 11, 2013, during service transformer 11 outage and emergent severe weather in the area requiring the licensee to enter orange risk
- The week of March 18, 2013, during emergent severe weather in the area requiring the licensee to enter yellow risk

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

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion V, for the licensee's failure to monitor for ice accumulation on the standby service water cooling towers in accordance with station procedures.

Description. On January 17, 2013, the plant experienced a winter storm in which frozen precipitation was observed in the area. Standby Service Water System Operating Instruction, 04-1-01-P41-1, Revision 137, Section 6.2, "Cold Weather Operation," directed the licensee to monitor the standby service water cooling tower fill material and missile grating for ice accumulation when weather conditions exist that could result in icing of the cooling tower fill material and missile grating. Ice formation on fan blades, fan shafts, and missile gratings during periods of frozen precipitation could result in fan blade/shaft damage or destruction and/or blockage of the fan discharge flow path. On January 18, 2013, the inspectors asked about the results of the monitoring effort and whether any actions were necessary to mitigate ice accumulation. During discussions with the shift manager, the inspectors learned that the operations department had directed the outage control center to perform the procedurally required inspections, but the inspections were not performed.

The licensee entered this issue into their corrective action program as Condition Report CR-GGNS-2013-00426. Because the inspectors' questions occurred after the ambient temperature had risen well above freezing, there were no immediate safety concerns.

Analysis. The failure to monitor for ice accumulation in accordance with station procedures is a performance deficiency. The performance deficiency is more than minor and therefore a finding because if left uncorrected, it could lead to a more significant safety concern. Specifically, the occurrence of ice accumulation on the standby service water cooling towers, if unmonitored, could cause damage to the fill material and/or the tower missile gratings, which would render the standby service water system inoperable. 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 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 allow 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 finding had a cross-cutting aspect in the human performance area associated with the work control component because the licensee failed to appropriately plan work activities based on environmental conditions that may impact plant structures, systems and components [H.3(a)].

Enforcement. Title 10 CFR 50, Appendix B, Criterion V states, in part, that activities affecting quality shall be accomplished in accordance with procedures. Contrary to the above, an activity affecting quality was not accomplished in accordance with procedures. Specifically, Procedure 04-1-01-P41-1, "Standby Service Water System," Revision 137, required the licensee to monitor the standby service water cooling tower for icing when conditions existed that could have resulted in icing of standby service water cooling tower missile grating and fill material. Contrary to the above, on January 17, 2013, the licensee failed to monitor for icing on the standby service water cooling tower when conditions existed that could have resulted in icing of the standby service water cooling tower fans and fill material. This issue is not an immediate safety concern because the ambient temperatures rapidly rose above freezing that same day. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee's corrective action program as Condition Report CR-GGN-2013-00426. (NCV 05000416/2013002-02, "Failure to Monitor for Ice on Standby Service Water Towers")

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- Safety relief valve did not close following the December 29, 2012, reactor scram, CR-GGN-2012-13293
- Standby service water pump house temperature, CR-GGN-2013-00220
- Division 3 emergency diesel generator air start system, CR-GGN-2013-00318
- Division 1 and 2 diesel generator lube oil pressure low, CR-GGN-2013-00810 and CR-GGN-2013-00812
- Standby service water heat removal, CR-GGN-2013-000957
- Emergency safety features room cooler evaluation for the operability of standby service water system train B and division 2 diesel generator
- Non-conservative Tech Spec allowable values, CR-GGN-2012-09971

The inspectors selected these operability and functionality assessments based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure technical specification operability was properly justified and to verify the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications

and Updated Final Safety Analysis Report 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 six operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05. The seventh bulleted item was counted in Grand Gulf Nuclear Station's 2012005 quarterly inspection report, but the finding is documented in this inspection report.

b. Findings

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 50, Appendix B, Criterion III, "Design Control," for the failure to maintain design control, incorporate, verify, and check new instrument drift values, and translate the design basis requirements for multiple allowable values and trip setpoints described in the technical specifications into setpoint calculations.

Description. During the review of condition reports associated with an operability review of the licensee's transition from an 18- to 24-month operating cycle in August 2012, inspectors identified that the licensee failed to maintain design control of multiple setpoint calculations. The inspectors questioned whether the licensee had incorporated all of the existing outstanding calculation changes and numerous allowable values and trip setpoints described in the GGNS technical specifications. Inspectors also questioned whether the calculations and values were supported by the plant design. In response, the licensee investigated and identified the following:

1. CR-GGN-2004-00021 originally identified that the technical specification allowable value was non-conservative and the analytical limit was protected for nine instrument setpoint calculations. The licensee also indicated that at that time it was possible to revise the calculations to show that the existing allowable values are conservative.

2. April 2003, the licensee cancelled the procedure EDP-32 that supported these particular calculations, but failed to update the affected calculations to reflect this change that was still referenced in other calculations.

3. CR-GGN-2012-11939 stated that "No open CR has been found that tracks the need to revise these calculations and the associated procedures to correct the problems originally identified in CR-2004-00021."

   Additionally, the licensee performed an investigation that assessed each calculation of concern to determine if the current Nominal Trip Setpoint value(s) and/or Allowable Value(s) specified in their Technical Specifications were conservative with respect to the associated calculations.

4. During the review of the calculations, the licensee identified that three of the 14 calculations reviewed contained calculated Allowable Values that differed from the values contained in the Technical Specifications. Specifically:

   - JC-Q1B21-N683-1, Rev. 0, “Level 8 Narrow Range”

   - JC-Q1C11-N601-1, Rev. 1, “Instrument Uncertainty and Setpoint Determination for System C71 Loop N601 – Scram Reactor on High SDVP Water Level”

   - JC-Q1E22-N655-1, Rev. 1, “Instrument Uncertainty and Setpoint Determination for Instrument Loops 1E22-N655, 1E22-N636-HPCS & RCIC Pump Suction Transfer on High Suppression Pool Level”

   The licensee determined that safety functions associated with the affected Allowable Values remained Operable due to conservatisms in the Nominal Trip Setpoints and that current Technical Specification values were conservative with respect to the new calculated values. The licensee re-performed the calculations to reflect available margin improvement and captured the identified conditions in their corrective action program.

5. The licensee’s assessment of the calculations also determined that one calculation JC-Q1E31-N685, Revision 0, contained an error. The error was determined to have been introduced during the replacement of the high-pressure turbine rotor in a recent refueling outage. The licensee determined that the current Nominal Trip Setpoint value and allowable value were conservative relative to the new calculated Nominal Trip Setpoint.

   The licensee has submitted a License Amendment Request to the NRC to revise the allowable value associated with this calculation.

6. The inspectors also reviewed the procedure EN-DC-166, “Key Calculation Identification and Improvement Program,” dated July 5, 2012, which identifies a group of “key calculations” that will be reviewed by the licensee for accuracy and consistency with station design and maintained at a higher priority than other site calculations. Since the condition is associated with non-conservative technical specification Allowable Values, it also required that an engineering evaluation be performed. At this time, the licensee’s engineering change and associated 50.59 is still in process.

   The inspectors reviewed all fourteen calculations that were of concern, as well as the new calculations for the four calculations that were determined to have discrepancies. The inspectors also assessed how the licensee ensured the new conservative Allowable Values were protected and reviewed the spurious trip avoidance methodology that was used. The inspectors determined that the available margin between the original calculations and the revised calculations for the three calculations was maintained within limits specified in procedures.

The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2013-00371. The immediate corrective actions were that the licensee determined that safety functions associated with the affected Allowable Values remained Operable due to conservatisms in the Nominal Trip Setpoints and that current Technical Specification values were conservative with respect to the new calculated values. The licensee re-performed the calculations to reflect available margin improvement and captured the identified conditions in their corrective action program.

Analysis. The failure to maintain design control, incorporate, verify, and check new instrument drift values, and translate the design basis requirements into multiple allowable values and trip setpoints described in the technical specifications into facility setpoint calculations is a performance deficiency. Using Inspection Manual Chapter 0612, the inspectors determined this finding is more than minor because it was associated with the Mitigating Systems Cornerstone attribute of design control and affected the cornerstone objective of ensuring the capability of the safety-related system to respond to initiating events to prevent undesirable consequences. In accordance with NRC Inspection Manual Chapter 0609, Attachment 4, "Initial Characterization of Findings," the issue was determined to affect 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 the finding was of very low safety significance (Green) because it was a design deficiency confirmed not to result in a loss of the offsite power supply operability or functionality. This finding has a cross-cutting aspect in the area of human performance decision-making because the licensee did not use a systematic decision-making process and did not obtain interdisciplinary input on a risk significant decision [H.1(a)].

Enforcement. Title 10 CFR 50, Appendix B, Criterion III, “Design Control,” the design basis for structures, systems, and components will be translated into specifications, drawings, procedures, and instructions and design control measures shall provide for verifying or checking the adequacy of design, such as by the performance of design reviews, by the use of simplified methods, or by performance of a suitable testing program. Contrary to the above, from April 2003 to October 2012, the licensee failed to adequately translate design basis information into specifications, drawings, procedures, and instructions, and verify the adequacy of the design by the performance of design reviews. Specifically, the licensee failed to maintain design control for Calculations JC-Q1B21-N683-1, JC-Q1C11-N60101, JC-Q1E22-N655-1 that differed from the values contained in the Technical Specifications, and Calculation JC-Q1E31-N685 contained an error introduced by the replacement of the high-pressure turbine rotor. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee’s corrective action program as Condition Report CR-GGN-2013-0037. (NCV 05000416/2013002-03 “Failure to Maintain Design Control of Setpoint Calculations”)

1R18 Plant Modifications (71111.18)

.1 Temporary Modifications

a. Inspection Scope

The inspectors reviewed key affected 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 listed below.

- EC-41836 – 'A' Phase Unit Differential Neutral CT Swap with 'A' Phase Generator Differential CT

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.

This activity constitutes completion of one sample for temporary modification review as defined in Inspection Procedure 71111.18-05.

b. Findings

No findings were identified.

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:

- Source range monitor B following corrective maintenance
- Intermediate range monitor E following corrective maintenance
- Source range monitors E and F following corrective maintenance
- Reactor water cleanup containment isolation valve 1G33-F028 following corrective maintenance

- Reactor core isolation cooling exhaust check valve following corrective maintenance
- Service transformer 11 following periodic maintenance
- Engineered safety features transformer 11 following periodic maintenance
- Division 2 diesel generator following corrective maintenance
- Reactor protection system B following corrective maintenance

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

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

The inspectors evaluated the activities against the technical specifications, the Updated Final Safety Analysis Report, 10 CFR 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 nine post-maintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the forced outage, conducted January 14, 2013 through January 27, 2013, to confirm that licensee personnel had appropriately considered risk, industry experience, and previous site-specific problems in developing and implementing a plan that assured maintenance of defense in depth. During the forced outage, the inspectors observed post scram actions and monitored licensee controls over the outage activities listed below.

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

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

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

b. Findings

No findings were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, procedure requirements, and technical specifications to ensure that the surveillance activities listed below demonstrated that the systems, structures, and/or components tested were capable of performing their intended safety functions. The inspectors either witnessed or reviewed test data to verify that the significant surveillance test attributes were adequate to address the following:

- 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.

- January 3, 2013, division 3 diesel generator 24-hour run and quick restart
- January 14, 2013, reactor coolant system leakage surveillance
- January 30, 2013, reactor core isolation cooling inservice testing
- February 16, 2013, engineers safety features transformer 11 full flow sprinkler test
- February 26, 2013, division 2 diesel generator surveillance
- February 27, 2013, local leak rate test for isolation valve 1E12-F406
- March 6, 2013, division 1 emergency diesel generator 24-hour run and quick restart
- March 20, 2013, average power range monitor flow bias calibration
- April 6, 2013, channel bow testing

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

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

b. Findings

Introduction. The inspectors identified a Green non-cited violation of License Condition 2.C(41), “Fire Protection Program,” for the failure to correct a condition adverse to quality with respect to fire protection. Specifically, after the licensee installed a scaffold in the hallway near the doorway into the division-1 diesel generator room that interfered with access into that room, the licensee failed to correct that condition for approximately 2 months.

Description. During January, 2013, the licensee installed a scaffold in the diesel generator building, to enable workers to access a component for scheduled maintenance. On March 6, 2013, during a surveillance inspection of the 24-hour run of the division-1 diesel generator, the inspectors noted that the licensee had placed the scaffold in the hallway near the access door for the division-1 diesel generator. They also experienced difficulty transiting through the scaffolding poles to reach the door of the generator room. After the inspectors told the control room supervisor of this issue, the licensee determined that the scaffold would adversely affect response of fire brigade members to a fire in the division-1 diesel generator room, and immediately removed the scaffold. Through an extent-of-condition review, the licensee determined that two other scaffolds in the auxiliary building south stairwell above and below the 166 foot elevation were also blocking fire brigade access. The licensee established alternate routes for the fire brigade to access areas blocked by these scaffolds. On March 11, 2013, the licensee removed one scaffold from the south stairwell and modified the other to allow fire brigade access.

The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2013-01679. The short-term corrective actions included removing the scaffold in the diesel generator building hallway. The licensee also removed a scaffold and modified an additional scaffold in the auxiliary building south stairwell. The maintenance support superintendent told the inspectors that he had directed scaffolding personnel to maintain a minimum 36-inch spacing for future scaffolds constructed on site, and that he plans to work with his fleet peers to implement a change to the fleet procedure to ensure scaffolds are properly constructed with respect to fire brigade access.

Analysis. The failure to take prompt corrective action to ensure adequate access for fire brigade members through installed scaffolding in the diesel generator building hallway to the division-1 diesel generator room is a performance deficiency. This performance deficiency is more than minor and is therefore a finding because if left uncorrected, it would have the potential to lead to a more significant safety concern. Specifically, continued inability for fire brigade members to gain access to safety related equipment in timely manner could result in preventing promptly extinguishing fires. 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 the finding involved a

risk-significant fire area that had an automatic fire suppression system. The inspectors determined the apparent cause of this finding was that the licensee did not implement the corrective action program with a low threshold for identifying scaffolding that could impede fire brigade member response during a fire. Therefore the finding had a cross-cutting aspect in the problem identification and resolution area associated with the corrective action program component because the licensee failed to identify conditions adverse to fire protection [P.1(a)].

Enforcement. License Condition 2.C(41), "Fire Protection Program," states, in part, that the plant "shall implement and maintain in effect all provisions of the Fire Protection Program as described in the Updated Final Safety Analysis Report." Updated Final Safety Analysis Report Section 9B.2.1.9.c required, in part, that prompt and effective corrective actions are taken to correct conditions adverse to the Fire Protection Program. Contrary to this, on or before March 6, 2013, the licensee did not take prompt and effective actions to correct a condition adverse to the Fire Protection Program. Specifically, during January, 2013, the licensee installed a scaffold in a diesel generator building hallway that interfered with fire-brigade access into the diesel generator room, the licensee did not take action to correct that condition until the inspectors questioned the scaffold configuration on March 6, 2013. As an immediate corrective action, the licensee removed the scaffold in the diesel generator building hallway on March 6. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee's corrective action program as Condition Report CR-GGN-2013-01679. (NCV 05000416/2013002-04, "Failure to Correct a Scaffold Affecting Fire Brigade Access")

Cornerstone: Emergency Preparedness

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

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revisions of various Emergency Plan Implementing Procedures (EPIPs) and the Emergency Plan located under ADAMS accession numbers ML12345A425, ML12355A106 and ML130230023 as listed in the Attachment.

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

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

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 March 5, 2013, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator control room and the emergency offsite facility 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 sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings were identified.

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.2 Unplanned Scrams per 7000 Critical Hours (IE01)

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned scrams per 7000 critical hours performance indicator for the period from the first quarter 2012 through the fourth quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, event reports, and NRC integrated inspection reports for the period of January 2012 through December 2012, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned scrams per 7000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspectors sampled licensee submittals for the unplanned power changes per 7000 critical hours performance indicator for the period from the first quarter 2012 through the fourth quarter 2012. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, issue reports, maintenance rule records, event reports, and NRC integrated inspection reports for the period of January 2012 through December 2012, to validate the accuracy of the submittals. The inspectors also reviewed the licensee's condition report database to determine if any problems had been identified with the performance indicator data collected or transmitted for this indicator and none were identified. Specific documents reviewed are described in the attachment to this report.

These activities constitute completion of one unplanned transients per 7000 critical hours sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Unplanned Scrams with Complications (IE04)

a. Inspection Scope

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

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

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

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

.1 Reactor Scram Due to Unit Differential Relay Trip

a. Inspection Scope

On January 4, 2013, Grand Gulf Nuclear Station experienced and unexpected reactor scram from 94 percent rated thermal power the scram was due to a phase A unit differential relay tripping, causing the generator lockouts to trip, resulting in a turbine trip and reactor scram due to being greater than 35 percent power. The inspectors responded to the plant and verified the site systems responded as designed and that the operators stabilized the plant in accordance with station procedures. The licensee determined a ground condition had occurred on the A phase of the generator neutral current transformer. The ground condition was caused by inadequate spacing between the current transformer and support bolts. During power operations, thermal expansion and relative vibration allow the support bolts to make contact with the current transformer and damage the insulation and cause a ground condition resulting in a main generator trip and plant scram. The licensee took corrective action to remove the damaged current transformer and corrected any other bolting issues prior to startup.

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

b. Findings

1. Automatic Reactor Scram Caused by Ground Condition on the A Phase Neutral Current Transformer

Introduction. The inspectors reviewed a Green self-revealing finding for the failure to ensure the current transformer structure, the neutral bus housing, and the associated mounting hardware were installed with adequate clearance to accommodate thermal expansion. This failure resulted in an automatic reactor scram on December 29, 2012, and a subsequent scram on January 4, 2013.

Description. On December 29, 2012, while operating at 100 percent rated thermal power, the plant experienced an automatic reactor scram. Site personnel determined the scram was caused by a trip of the phase A unit differential relay, which caused the generator lockouts to trip and resulted in a turbine trip and reactor scram.

The licensee determined that the potential causes of the phase A unit differential relay trip were either a spurious actuation of the differential relay, a fault in the current transformer relay circuitry, or an internal fault of a current transformer (CT). Because the license's testing and inspection activities did not identify a definite failure mode, the licensee determined that an intermittent failure of the phase A unit differential relay was the most-likely cause of the relay trip. The licensee replaced the unit differential relays for all three phases (A, B, and C), and returned the plant to online operations on January 1, 2013. The licensee had installed monitoring equipment prior to restart, and the monitoring equipment did not detect a phase-differential fault while the licensee brought the generator online.

On January 4, 2012, while operating at 94 percent rated thermal power, the plant experienced an automatic reactor scram. The licensee determined the cause of the scram was a trip of the phase A unit differential relay, which caused the generator lockouts to trip and resulted in a turbine trip and reactor scram. The monitoring equipment installed following the initial scram indicated a ground condition occurred on the A phase of the generator neutral CT. The licensee assembled a failure modes analysis team to inspect the non-accessible areas of the main generator A phase neutral CT. This team used a boroscope to identify the source of the ground condition. The boroscope inspection showed that micarta plate bolts on the isophase bus transition box below the CTs had not been installed according to manufacturer specifications. As a result, clearance within the bus transition box was not adequate to accommodate the thermal expansion of the CT structure, the neutral bus housing, and the associated mounting hardware. Thus, during power operations, thermal expansion and relative vibration between these components allowed a micarta plate bolt to make contact with the A phase neutral CT, damage the insulation, and cause a ground condition. The result was a main generator trip and plant scram.

The licensee entered the plant scrams into their corrective action process as Condition Reports CR-GGN-2012-13290 and CR-GGN-2013-00083. Immediate corrective actions included removing the damaged CT and modifying the micarta plate bolts to conform to manufacturer specifications. The licensee also performed a root-cause analysis to address recurrence.

Analysis. The failure to install micarta plate bolts in accordance with manufacturer specifications and ensure that the current transformer structure, the neutral bus housing, and the associated mounting hardware had adequate clearance is a performance

deficiency. The performance deficiency is more than minor and therefore is a finding because it is associated with the Initiating Events Cornerstone attribute of human performance and adversely affected the cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown and 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 very low safety significance (Green) because it caused only a reactor trip and did not cause a loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. Therefore the finding has a cross-cutting aspect in the human performance area associated with the resources component because the licensee failed to provide adequate work instructions [H.2(c)].

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 Reports CR-GGN-2012-13290 and CR-GGN-2013-00083. Because this finding does not involve a violation and is of very low safety significance, it is identified as a finding (FIN 05000416/2013002-06, "Reactor Scram Due to Ground Fault")

2. Failure to Provide Instructions to Remove Foreign Material from Safety Relief Valve 1B21-F047A Exhaust Port Resulting in the Valve Failing Open Beyond its Reset Setpoint

Introduction. The inspectors reviewed a Green self-revealing non-cited violation of 10 CFR 50 Appendix B Criterion V, for the failure to provide instructions to remove a foreign material exclusion plug from the exhaust port of safety relief valve 1B21-F047A, which resulted in the valve's failure to close at its reset setpoint following a reactor scram on December 29, 2012.

Description. On December 29, 2012, while operating at 100 percent rated thermal power, the plant experienced an automatic reactor scram due to a turbine trip. Following the turbine trip/reactor scram and in response to the resulting pressure transient, 11 safety relief valves opened. Those valves opened on their mechanical relief setpoint, which requires air to open the valves against spring pressure. The valves normally close when the reset pressure is reached by exhausting air pressure off the valve and allowing spring pressure to shut the valve. However, on December 29, safety relief valve 1B21-F047A failed to close at its reset setpoint of 1013 psig, and remained open until steam pressure dropped to approximately 675 psig. The licensee determined that the valve was still operable for its safety relief function and its alternate depressurization function, but inoperable for its mechanical relief function. Based on analysis that the valve was operable for its safety functions, the licensee left the valve switch in the "closed" position instead of the "auto" position for plant startup. After the plant scrammed again on January 4, 2013, the licensee made a drywell/containment entry and determined by physical examination of the valve, that a foreign material exclusion (FME) plug had been left in the exhaust port of valve 1B21-F047A.

Through an extent-of-condition review, the licensee verified that no FME plug was inserted into the exhaust port of any other safety relief valve. Through an investigation, they determined that a lack of work instructions directing the removal of FME plugs was the reason why the FME plug had been left in the exhaust port of valve 1B21-F047A .

Further review determined that although the licensee had refurbished safety relief valves themselves in the past, the licensee had recently sent valve 1B21-F047A and several other valves to a vendor for refurbishment and testing. Further review also revealed that the vendor's processes for completing this work differed from the licensee's processes in at least one noteworthy way: while the licensee had used tape to provide FME covers over exhaust ports, the vendor installed FME plugs into those ports. The inspectors considered that when the licensee made the decision to use a vendor to refurbish the subject valves, they apparently did not recognize this difference, and consequently did not develop instructions to remove the subject plugs.

The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2013-00100. The immediate corrective actions were to remove the FME plug from the exhaust port of valve 1B21-F047A and ensure no other safety relief valves had FME plugs installed. The licensee has developed long-term corrective actions to establish detailed work instructions to ensure that no FME plug is left in any safety relief valve.

Analysis. The failure to provide instructions to remove a foreign material exclusion plug from the exhaust port of relief valve 1B21F047A is a performance deficiency. 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 cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown as well as 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 very low safety significance (Green) because after a reasonable assessment of the degradation, the finding could not result in exceeding the reactor coolant leak rate for a small loss of coolant accident because the configuration of the safety relief valve was such that it would close at approximately 675 psig. Also the finding did not affect other systems used to mitigate a loss of coolant accident resulting in a total loss of their function. The licensee determined that the apparent cause of the finding was that when they decided to ask a vendor to refurbish safety-relief valves, they did not realize that the vendor would install FME plugs into the valves' exhaust ports, and therefore did not develop instructions to remove those plugs. Because that decision affected the mechanical relief function of a safety relief valve, the inspectors considered that decision to be safety-significant. Therefore, this finding had a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee did not use a systematic process to make a safety-significant decision. [H.1(a)]

Enforcement. Title 10 CFR 50, Appendix B, Criterion V, states, in part that activities affecting quality shall be prescribed by procedures appropriate to the circumstances. Contrary to this requirement, on or before April 18, 2012, an activity affecting quality was not prescribed by procedures appropriate to the circumstances. Specifically, Procedure 07-S-15-4,"Main Steam Safety/Relief Valve Removal and Installation," Revision 16, Step 7.15, did not include instructions to remove FME plugs from the exhaust port air control block of safety relief valves. The licensee has developed corrective actions to establish detailed work instructions to ensure that no FME plug is left in any safety relief valve. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee's corrective action program as Condition Report CR-GGN-2013-00100. (NCV 05000416/2013002-06, "Inadequate Procedure for Removal of a Foreign Material Exclusion Plug")

.2 Reactor Scram Due to Neutral Time Overcurrent Relay Trip

a. Inspection Scope

On January 14, 2013, the plant experienced an automatic reactor scram from 100 percent rated thermal power. The scram was due to a neutral time overcurrent relay tripping, causing a generator lockouts to trip, resulting in a turbine trip and reactor scram due to being greater than 35 percent power. The inspectors responded to the site and verified the plant systems responded as designed, and that the operators stabilized the plant in accordance with station procedures. The licensee determined that the ground that was detected on the bus was caused by water intruding the isophase bus duct through a degraded viewing port on top of the isophase bus duct and accumulating in the vertical sections of the duct, collecting on a seal-off bushing which served as a barrier in bus ducts to re-direct air flow to the spare transformer. The collection of water on the seal-off bushings resulted in grounding of the main conductor to the duct wall that in turn resulted in the neutral time overcurrent relay to pick up, which resulted in the turbine generator trip. The licensee took corrective measures to stop the water intrusion into the isophase bus duct and to electrically isolate the spare transformer from the energized transformers prior to startup.

b. Findings

1. Failure to Identify a Degraded Isophase Bus Duct Resulting in Automatic Reactor Scram

Introduction. The inspectors reviewed a Green self-revealing finding for the failure to identify a degraded isophase bus duct view port window which allowed water to intrude into the isophase bus duct, and caused an automatic reactor scram on January 14, 2013.

Description. On October 2, 2012, the licensee generated condition report CR-GGN-2012-11250 documenting cracked isophase bus duct viewing port windows. They closed this condition report to condition report CR-GGN-2012-11188, in which they were performing an apparent cause evaluation (ACE) for a degraded viewing-port window. Procedure EN-LI-119, "Apparent Cause Evaluation Process," Revision 16, requires that the extent-of-condition review identify the total population of items that have or may have

the same problem as the one being evaluated. However, for the CR-GGN-2012-11188 ACE, the licensee limited the extent-of-condition review to only those viewing ports that they could see from the ground. The licensee specifically did not identify the view ports on top of the bus ducts as being susceptible to the same issues identified in the two condition reports. This resulted in missing an opportunity to identify degraded viewing ports on top of the isophase bus ducting.

On January 14, 2013, at 6:05 p.m., while operating at 100 percent rated thermal power, the plant experienced an automatic reactor scram. Site personnel determined that the scram was caused by a turbine generator trip resulting from tripping a generator neutral time overcurrent relay. Their investigation detected a ground on the bus. They determined that the cause of the grounded condition was water entering the isophase bus duct through a degraded viewing port on top of the isophase bus duct. This water accumulated in the vertical sections of the duct and collected on a seal-off bushing, which served as a barrier in the bus ducts to re-direct air flow to the spare transformer. The collection of water on the seal-off bushings resulted in the grounding of the main conductor to the duct wall. This then resulted in the neutral time overcurrent relay picking up and caused the turbine generator trip. The licensee took corrective measures to stop the water intrusion into the isophase bus duct and to electrically isolate the spare transformer from the energized transformers.

The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2013-00319. The corrective actions included adding a design change to stop water intrusion into the isophase bus duct by replacing the viewing ports on top of the duct with bolted down metal plates and gaskets. The licensee also performed a root-cause analysis to address recurrence.

Analysis. The failure to identify a degraded isophase bus duct view port window is a performance deficiency. This performance deficiency is more than minor and therefore is 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 most-significant contributing cause to the performance deficiency was that the licensee had decided to not inspect the viewing ports on the top side of the isophase bus duct because they had assumed that those ports were not degraded. Therefore, the finding has a cross-cutting aspect in the area of human performance associated with the decision-making component because the licensee did not use conservative assumptions in decision-making [H.1(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-2013-00319. Because this finding does not involve a violation and is of very low safety significance, it is identified as a finding. (FIN 05000416/2013002-07, "Reactor Scram Due to Moisture in Isophase Bus Duct ")

2. Failure to Revise the Scram Procedure After Temporarily Modifying the Division-2 Circuits that Sense First-Stage Turbine Pressure

Introduction. The inspectors identified a Green non-cited violation of Technical Specification 5.4.1.a, for the failure to revise the scram procedure after temporarily modifying the division-2 circuits that sense first-stage turbine pressure. Specifically, due to a failed steam sensing line, the licensee had introduced a dummy signal into the subject circuits to comply with technical specifications; however, they had failed to revise the scram procedure to reflect this temporary modification. This resulted in additional scrams during scram recovery for the scrams on December 29, 2012, and January 4, 2013.

Description. On February 16, 2013, during follow up interviews for reactor scrams that occurred on December 29, 2012, January 4, 2013, and January 14, 2013, the inspectors questioned the cause of the repeat scrams following the original scrams, and discussed issues with controlling reactor water level. The operators referenced Procedure 05-1-02-I-1, "Reactor Scram," Revision 117, that allowed them to reset the scram and then insert the intermediate-range power detectors into the core one channel at a time to avoid a full scram. However, with dummy signals applied to the division-2 circuits that sense first-stage turbine pressure, they could reset only the division-1 side of the scram. The licensee had temporarily installed this dummy signal to ensure that a reactor scram circuit would actuate a reactor scram following a turbine trip with reactor power greater than 35 percent rated thermal power. However, with power below 35 percent rated thermal power and the signal applied, the dummy signal would not allow operators to reset the half-scram on the division 2 side. Consequently, when the operators complied with the scram procedure and inserted the intermediate-range power detectors into the core on the division-1 side, they received intermittent spikes on division-1 instruments, resulting in full scrams. Also, with the inability to reset the scram due to this alignment of the first stage sensing circuits on the division 2 side, control rod drive system injection added water to the reactor vessel, which complicated reactor water level control.

The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2013-001259. The short-term corrective actions included modifying the scram procedure to require the operators to turn off the units that provide the dummy signal to the division-2 circuits that sense first-stage turbine pressure following a reactor scram, allowing the operators to reset the full scram promptly.

Analysis. The failure to revise Procedure 05-1-02-I-1 following a temporary modification to the division-2 circuits that sense first-stage turbine pressure is a performance deficiency. This 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 cornerstone objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown

as well as 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 very low safety significance (Green) because it only caused a reactor trip and did not cause the loss of mitigating equipment relied upon to transition the plant from the onset of the trip to a stable shutdown condition. The finding had a cross-cutting aspect in the area of human performance associated with the work practices component because licensee personnel failed to ensure that procedures impacted by a temporary modification were properly revised to compensate for the installed modification [H.4(b)].

Enforcement. Technical Specification 5.4.1.a requires that written procedures be established, implemented, and maintained as recommended by NRC Regulatory Guide 1.33, “Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Appendix A, Section 1j recommends procedures for “Bypass of Safety Functions and Jumper Control.” Procedure EN-DC-136, “Temporary Modifications,” Revision 8, Step 4.4[1], implements this requirement and states, in part, that the operations manager, “Ensures development of new or revision of existing Operations procedures required to reflect the configuration as affected by the Temporary Modification Package.” Contrary to the above, a procedure recommended by Regulatory Guide 1.33 was not implemented. Specifically, on June 21, 2012, the operations manager did not ensure the development of a new or revisions of existing operations procedures required to reflect the configuration as affected by the Temporary Modification Package. Specifically, on June 21, 2012, after the licensee implemented a temporary modification that inserted a dummy signal into the division-2 circuits that sense first-stage turbine pressure due to a failed steam sensing line to comply with technical specifications, but the operations manager did not ensure that Procedure 05-1-02-I-1, “Reactor Scram,” Revision 117 was revised to reflect the temporary modification. As an immediate corrective action, the licensee revised that procedure to require the operators to turn off the units that provide the dummy signal to the subject circuits following a reactor scram. This violation is being treated as an NCV, consistent with Section 2.3.2.a of the Enforcement Policy. The violation was entered into the licensee’s corrective action program as Condition Report CR-GGN-2013-01259. (NCV 05000416/2013002-08, “Failure to Revise the Scram Procedure After Temporary Modification”)

4OA5 Other Activities

.1 Temporary Instruction 2515/182 – Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks

a. Inspection Scope

The inspectors reviewed the licensee’s programs for buried pipe and underground piping and tanks to ensure that the attributes recommended in NEI 09-14 Rev. 1 are contained in the licensee’s program. These attributes are listed in sections 3.3 A and 3.3 B of NEI 09-14 Rev. 1. The inspectors also reviewed the licensee’s programs for buried piping

and tanks to ensure the completion dates recommended by NEI 09-14 Rev. 1 are contained in the licensee's program. Furthermore, the inspectors reviewed the licensee's program to ensure that activities which correspond to specified completion dates which have passed, have been completed.

The licensee's buried piping and underground piping and tanks program was inspected in accordance with paragraphs 03.01.a through 03.01.c (Phase 1) of the TI and was found to meet all applicable aspects of NEI 09-14 Rev. 1, as set forth in Table 1 of the TI.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On January 16, 2012, the inspector presented inspection results to Mr. B. Ford, Senior Licensing Manager (Corporate), 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. Any proprietary documentation that was reviewed during the inspection was returned to the licensee or disposed of appropriately.

The lead inspector obtained the final annual examination results and telephonically exited with Mr. R. Collins, Superintendent, Simulator Support and Training, on February 6, 2013. The inspector did not review any proprietary information during this inspection.

On March 1, 2013, the inspectors presented the final inspection results for the tri-annual heat exchanger inspection, to Jay Miller, General Manager, Plant 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.

On April 11, 2013, the inspectors presented the inspection results to Kevin Mulligan, Site Vice President of 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

None.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

W. Barlow, Heat Exchanger System Engineer
M. Causey, Senior Lead Technical Specialist
D. Chipley, Electrical Design Engineer
R. Collins, Superintendent, Simulator Support and Training
J. Dorsey, Security Manager
W. Drinkard, RHR System Engineer
H. Farris, Assistant Operations Manager
J. Gerard, Interim Operations Manager
J. Giles, Manager, Training
D. Jones, Chief Engineer
C. Justiss, Licensing
V. Kirk, SSW System Engineer
C. Lewis, Manager, Emergency Preparedness
J. Miller, General Plant Manager
R. Miller, Manager, Radiation Protection
K. Mulligan, Site Vice President Operations
L. Patterson, Manager, Program Engineering
C. Perino, Director, Nuclear Safety Assurance
R. Scarbrough, Specialist and Lead Offsite Liaison, Licensing
J. Seiter, Licensing
J. Shaw, Manager, System Engineering
T. Thurmon, Supervisor, Design Engineering-Mechanical
D. Wiles, Engineering Director

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000416/2013002-01	NCV	Failure to Properly Seal Safety-related Manholes (Section 1R06.b)
05000416/2013002-02	NCV	Failure to Monitor for Ice on Standby Service Water Towers (Section 1R13.b)
05000416/2013002-03	NCV	Failure to Maintain Design Control for Setpoint Calculations (Section 1R15.b)
05000416/2013002-04	NCV	Failure to Correct a Scaffold Affecting Fire Brigade Access (Section 1R22.b)
05000416/2013002-05	FIN	Automatic Reactor Scram Caused by Ground Condition on the A Phase Neutral Current Transformer (Section 4OA3.1.b)
05000416/2013002-06	NCV	Inadequate Procedure for Removal of a Foreign Material Exclusion Plug (Section 4OA3.1.b)
05000416/2013002-07	FIN	Reactor Scram Due to Moisture in Isophase Bus Duct (Section 4OA3.2.b)
05000416/2013002-08	NCV	Failure to Revise the Scram Procedure After Temporary Modification (Section 4OA3.2.b)

Discussed

Temporary Instruction 2515/182	TI	Review of the Implementation of the Industry Initiative to Control Degradation of Underground Piping and Tanks

LIST OF DOCUMENTS REVIEWED

Section 1R01: Adverse Weather Protection

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-N71-3	System Operating Instruction Auxiliary Cooling Tower System	19
EN-IS-119	Emergency Evacuation	3
06-TE-1000-V-0001	Culvert No. 1 Embankment Stability Inspection/Survey	100
05-1-02-VI-2	Off Normal Event Procedure Hurricanes, Tornados, and Severe Weather	120
04-1-03-A30-1	Equipment Performance Instruction, Cold Weather Protection	23
04-1-01-P41-1	Standby Service Water System	136

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
96/1022-00	Engineering Request Form, GGCR 1996-0553-00, GNRI 97/00074	2

CONDITION REPORTS

CR-GGN-2012-00143	CR-GGN-2012-04068	CR-GGN-2012-09928
CR-GGN-2012-00180	CR-GGN-2012-04644	CR-GGN-2012-09929
CR-GGN-2012-00188	CR-GGN-2012-05679	CR-GGN-2012-10158
CR-GGN-2012-00236	CR-GGN-2012-06941	CR-GGN-2012-10167
CR-GGN-2012-00251	CR-GGN-2012-08978	CR-GGN-2012-10174
CR-GGN-2012-00489	CR-GGN-2012-09113	CR-GGN-2012-10804
CR-GGN-2012-00493	CR-GGN-2012-09235	CR-GGN-2012-11203
CR-GGN-2012-01673	CR-GGN-2012-09454	CR-GGN-2012-12145
CR-GGN-2012-02744	CR-GGN-2012-09807	CR-GGN-2012-12564
CR-GGN-2012-03201	CR-GGN-2012-09921	CR-GGN-2013-00233

CR-GGN-2013-00426	CR-GGN-2012-00361	CR-GGN-2013-00758
CR-GGN-2013-00717	CR-GGN-2013-00426	

WORK ORDERS

WO 52377825 01

Section 1R04: Equipment Alignment

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-E51-1	System Operating Instruction, Reactor Core Isolation Cooling	131
04-1-01-E12-1	System Operating Instruction, Residual Heat Removal A	142
EN-MA-132	Housekeeping/Facility and Grounds Maintenance	3
01-S-07-9	Industrial Safety and Housekeeping Inspections	29
04-1-01-T48-1	System Operating Instruction: Standby Gas Treatment	34
04-1-01-E21-1	System Operating Instruction: Low Pressure Core Spray	38
01-S-07-43	Control of Loose Items, Temporary Electrical Power, and Access to Equipment	6
EN-IS-111	General Industrial Safety Requirements	12
EN-MA-133	Control of Scaffolding	9
04-1-01-C71-1	System Operating Instruction: Reactor Protector System	33

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
	System Health Report: E21- Low Pressure Core Spray	April 3, 2013
GLP-OPS-E2100	Operator Training: Low Pressure Core Spray (LPCS) System – E21	10
GFIG-OPS-E2100	Figure 4, LPCS Pump and Valve Control Logic	
GFIG-OPS-E2100	Figure 1, Low Pressure Core Spray (LPCS) System	
	E21 Low Pressure Core Spray System Power Point Presentation	

CONDITION REPORTS

CR-GGN-2013-00656	CR-GGN-2013-00729	CR-GGN-2013-00740
CR-GGN-2009-02069	CR-GGN-2009-05418	CR-GGN-2009-05763
CR-GGN-2009-02073	CR-GGN-2009-05419	CR-GGN-2009-05764
CR-GGN-2009-02085	CR-GGN-2009-05422	CR-GGN-2009-05766
CR-GGN-2009-02131	CR-GGN-2009-05425	CR-GGN-2009-05771
CR-GGN-2009-02682	CR-GGN-2009-05426	CR-GGN-2009-05772
CR-GGN-2009-03291	CR-GGN-2009-05440	CR-GGN-2009-05777
CR-GGN-2009-04468	CR-GGN-2009-05441	CR-GGN-2009-05778
CR-GGN-2009-04543	CR-GGN-2009-05444	CR-GGN-2009-05779
CR-GGN-2009-04855	CR-GGN-2009-05452	CR-GGN-2009-05780
CR-GGN-2009-04886	CR-GGN-2009-05474	CR-GGN-2009-05804
CR-GGN-2009-04901	CR-GGN-2009-05485	CR-GGN-2009-05806
CR-GGN-2009-04902	CR-GGN-2009-05487	CR-GGN-2009-05818
CR-GGN-2009-04919	CR-GGN-2009-05515	CR-GGN-2009-05822
CR-GGN-2009-04930	CR-GGN-2009-05521	CR-GGN-2010-00187
CR-GGN-2009-04951	CR-GGN-2009-05541	CR-GGN-2010-01240
CR-GGN-2009-04956	CR-GGN-2009-05544	CR-GGN-2010-05456
CR-GGN-2009-04959	CR-GGN-2009-05601	CR-GGN-2010-05991
CR-GGN-2009-04964	CR-GGN-2009-05612	CR-GGN-2011-00237
CR-GGN-2009-04965	CR-GGN-2009-05613	CR-GGN-2011-01275
CR-GGN-2009-04971	CR-GGN-2009-05620	CR-GGN-2011-03259
CR-GGN-2009-04983	CR-GGN-2009-05621	CR-GGN-2011-04014
CR-GGN-2009-04985	CR-GGN-2009-05622	CR-GGN-2011-05888
CR-GGN-2009-04987	CR-GGN-2009-05632	CR-GGN-2011-05889
CR-GGN-2009-04991	CR-GGN-2009-05635	CR-GGN-2011-06174
CR-GGN-2009-04994	CR-GGN-2009-05638	CR-GGN-2012-03280

CR-GGN-2009-04995	CR-GGN-2009-05655	CR-GGN-2012-03840
CR-GGN-2009-04998	CR-GGN-2009-05658	CR-GGN-2012-05363
CR-GGN-2009-05033	CR-GGN-2009-05659	CR-GGN-2012-05370
CR-GGN-2009-05084	CR-GGN-2009-05660	CR-GGN-2012-05455
CR-GGN-2009-05101	CR-GGN-2009-05680	CR-GGN-2012-05524
CR-GGN-2009-05114	CR-GGN-2009-05681	CR-GGN-2012-05536
CR-GGN-2009-05136	CR-GGN-2009-05708	CR-GGN-2012-05799
CR-GGN-2009-05158	CR-GGN-2009-05713	CR-GGN-2012-06454
CR-GGN-2009-05206	CR-GGN-2009-05721	CR-GGN-2012-06699
CR-GGN-2009-05244	CR-GGN-2009-05749	CR-GGN-2012-09264
CR-GGN-2009-05263	CR-GGN-2009-05751	CR-GGN-2012-09896
CR-GGN-2009-05343	CR-GGN-2009-05753	CR-GGN-2012-10030
CR-GGN-2009-05350	CR-GGN-2009-05756	CR-GGN-2012-10053
CR-GGN-2009-05353	CR-GGN-2009-05757	CR-GGN-2012-10148
CR-GGN-2009-05361	CR-GGN-2009-05758	CR-GGN-2012-11652
CR-GGN-2009-05415	CR-GGN-2009-05759	CR-GGN-2013-00985
CR-GGN-2013-01881	CR-GGN-2013-02300	

ENGINEERING CHANGES

EC No.: 26182, Rev 0	EC No.: 28897, Rev 0	EC No.: 25801, Rev 0

WORK ORDERS

WO 00284166 01

Section 1R05: Fire Protection

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-SP64-M-0047	Unit I Fire Hose Station and Fire Extinguisher Maintenance	115
Fire Pre-Plan A-	Set Down Are Passage – 1A424, Spent Fuel Cask Handling	1

Section 1R05: Fire Protection

PROCEDURES

NUMBER	TITLE	REVISION
35	Area – 1A427, Set Down Area Passage – 1A428, Water Sampling Station – 1A429, Set Down Area Passage – 1A434	
Fire Pre-Plan A-31	Misc Equip Area Passages 1A403 & 1A420 Area 7 Elevation 166	0
Fire Pre-Plan A-33	Motor Control Center Room 1A410 Area 7 Elevation 166	0
Fire Pre-Plan A-32	Motor Control Center Room 1A407 Area 8 Elevation 166	0
Fire Pre-Plan A-29	Passage Area – 1A401, Misc Equip Area – 1A417, Area Elevation 166	1
EN-TQ-125	Fire Brigade Drills, February 12, 2013	1

DRAWINGS

NUMBER	TITLE	REVISION
M-7103	Hose Station and Fire EXT. Locations Auxiliary Building and Containment Plan at Elevation 161'-10" and 166'-0" Unit 1	1

CONDITION REPORTS

CR-GGN-2013-00932	CR-GGN-2013-00994	CR-GGN-2013-00974
CR-GGN-2013-01348	CR-GGN-2013-01371	

Section 1R06: Flood Protection Measures

OTHER DOCUMENTS

NUMBER	TITLE
9645-E-029.0	Technical Specification for 9,000-volt Power Cable

CONDITION REPORTS

CR-GGN-2013-00406	CR-GGN-2013-00403	CR-GGN-2012-12482
CR-GGN-2012-05620	CR-GGN-2013-00520	CR-GGN-2013-01348

CR-GGN-2013-01364

WORK ORDERS

WO 52425152 01	WO 52425153 01	WO 52462227 01
WO 52463541 01	WO 52464573 01	WO 00322812 01
WO 00308173 01	WO 00307759 01	WO 00303319 01
WO 00342828 01	WO 00342829 01	WO 00264016 01

Section 1R07: Heat Sink Performance

PROCEDURES

NUMBER	TITLE	REVISION
04-1-03-P41-2	SSW “B” Chemical Addition Run	6
04-1-03-P41-3	SSW “C” Chemical Addition Run	2
06-OP-1P41-M-0001	HPCS Service Water Operability Check	101
06-OP-1P41-M-0004	Standby Service Water (SSW) Loop A Operability Check	109
06-OP-1P41-M-0005	Standby Service Water (SSW) Loop B Operability Check	112
06-OP-1P41-Q-0004	Standby Service Water Loop A Valve and Pump Operability Test	121
06-OP-1P41-Q-0006	HPCS Service Water System Valve and Pump Operability Test	113
08-S-03-10	Chemistry Sampling Program	49

Section 1R07: Heat Sink Performance

PROCEDURES

NUMBER	TITLE	REVISION
17-S-03-29	GL-89-13 Thermal Performance Data Collection and Analysis	6
17-S-06-22	SSW "A" Performance	12
EN-DC-316	Heat Exchanger Performance and Condition Monitoring	4
EN-DC-325	Component Performance Monitoring	7
EN-EP-S-039-G	Testing Standard for Safety-Related Heat Exchangers Cooled by Standby Service Water	2

CALCULATIONS

NUMBER	TITLE	REVISION
8.9.2-N	Alternate Shutdown Cooling	1
MC-Q1P41-09008	Tornado, Seismic and Thermal Performance Analysis of the Stainless Steel Fill Replacement for SSW Cooling Towers	0
MC-Q1P41-11001	GGNS Standby Service Water Ultimate Heat Sink Thirty Day Performance at EPU	0
MC-Q1P41-86007	Standby Service Water Ultimate Heat Sink Performance	0
MC-Q1P41-97020	Determination of Minimum Allowable SSW Flows (LOCA Lineup) to Safety Related Heat Exchangers	9
MC-Q1P81-97034	Division 3 Engine Heat Rejection Rate	0

DRAWINGS

NUMBER	TITLE	REVISION
105D5106	Interface Control Pump & Motor First Made for Residual Heat Removal System	
5-046-12-102-004	Engine Jacket Water Cooler #12102 “CPK”	1
M-087.0-Q1P41C001A-A-1.1-004	Outline Induction Motor	0
M-92200	CCW Heat Exchanger	6
VPF-KA3636-013	Heat Exchanger Specification Sheet - Jacket Water Cooler	A

OTHER DOCUMENTS

NUMBER	TITLE	REVISION/ DATE
	1E12C002B - RHR B Seal Cooler Flow Rate	February 22, 2013
	1P41C001B - SSW B Pump Motor Cooler Flow Rate	February 22, 2013
	Heat Exchanger Program Health Report	February 5, 2013
	List of Generic Letter 89-13 Heat Exchanger Baseline Eddy Current Testing Dates and Work Orders	February 28, 2013
	PM Basis for Heat Exchangers	2
	Service Water System Health Report	February 5, 2013

OTHER DOCUMENTS

NUMBER	TITLE	REVISION/ DATE
AECM-90/0007	Response to Generic Letter 89-13; Service Water System Problems Affecting Safety-Related Equipment	January 29, 1990
Attachment to Spec. No. 9645-M-072.0	Heat Exchanger Data Sheet - Component Cooling Water Heat Exchangers	5
CCE-2006-002	Allow for all Water-to-Water Heat Exchangers to be Maintained through the Preventive Maintenance Program	May 2, 2006
EPRI NP-7552	Heat Exchanger Performance Monitoring	December 1991
EPRI TR-108009	Balance-of-Plant Heat Exchanger Condition Assessment and Inspection Guide	December 1999
EPRI TR-108923	Recommended Cleaning Practices for Service Water Systems	December 1997
GNRI-95/00044	Issuance of Amendment No. 120 to Facility Operating License No. NPF-29 - Grand Gulf Nuclear Station, Unit 1 (TAC No. M88101)	February 21, 1995
NDEN-0250-000-2011	Diesel Jacket Water Cooler - P81B00A - Final Report	January 24, 2012
UFSAR 15.2.6	Loss of AC Power	10
UFSAR 15.6.5	Loss-of-Coolant Accidents (Resulting from Spectrum of Postulated Piping Breaks Within the Reactor Coolant Pressure Boundary - Inside Containment)	LDC 03059
UFSAR 9.2.2	Component Cooling Water System	0
UFSAR 9.5.5	Diesel Generator Cooling Water System	0

OTHER DOCUMENTS

NUMBER	TITLE	REVISION/ DATE
UFSAR Figure 9.2-10	Component Cooling Water System	LDC 03009
UFSAR Figure 9.2-9	Component Cooling Water System	LBDCR 11028
UFSAR Figure 9.5-15	Jacket Water System w/ Heat Exchanger	LDC 03009
UFSAR Table 9.2-4	Standby Service Water System Component Description	LDC 02022
UFSAR Table 9.2-7	Component Cooling Water System Component Description	LDC 01039
UFSAR Table 9.5-3	Diesel Generator Cooling Water System Component Data	LDC 97085

VENDOR DOCUMENTS

NUMBER	TITLE	REVISION
21A9236	Engine-Generator for High Pressure Core Spray System	5
21A9236AN	Engine-Generator for High Pressure Core Spray System	2

CONDITION REPORTS

CR-GGN-2010-00706	CR-GGN-2010-01465	CR-GGN-2010-01852
CR-GGN-2010-02342	CR-GGN-2011-00661	CR-GGN-2011-02384

CR-GGN-2011-05752	CR-GGN-2011-08010	CR-GGN-2011-08030
CR-GGN-2012-03613	CR-GGN-2012-04641	CR-GGN-2012-05501
CR-GGN-2012-09993	CR-GGN-2012-12060	CR-GGN-2012-12320
CR-GGN-2011-05009	CR-GGN-2012-09699	CR-GGN-2013-01491
CR-GGN-2010-04252	CR-GGN-2010-07957	CR-GGN-2011-00508
CR-GGN-2011-03037	CR-GGN-2011-03700	CR-GGN-2011-04951
CR-GGN-2011-08034	CR-GGN-2011-09163	CR-GGN-2012-01802
CR-GGN-2012-05788	CR-GGN-2012-06071	CR-GGN-2012-06676
CR-GGN-2012-12391	CR-GGN-2012-12398	CR-GGN-2010-05825
CR-GGN-2013-01492	CR-GGN-2013-01525	

WORK ORDERS

WO 00310321	WO 50321488	WO 51794365
WO 00282182	WO 00283434	WO 00279043
WO 51512610	WO 00277934	WO 00219937
WO 52232784	WO 52370477	

Section 1R11: Licensed Operator Requalification Program

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	List of Modifications that need to be made on TREX Load per Control Room Walkdown	January 10, 2013

Section 1R11: Licensed Operator Requalification Program

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	2013 Cycle 8 Licensed Operator Requal Simulator Training Plan Simulator Differences	1
	Operating Test Results	December 20, 2012
	Modifications that need to be made to the TREX load for simulator training cycle 9, 2013 per Control Room walkdown	February 25, 2013
	2013 Cycle 9 Licensed Operator Requal Simulator Training Plan Simulator Differences	0
GSMS-LOR-WEX17	APRM Downscale/Loss of Condenser Vacuum/LOCA/Degraded ECCS (EP-2, EP-3)	19
GIN 2013/00050	Simulator Evaluation on March 11, 2013 “D” Shift	March 11, 2013

Section 1R12: Maintenance Effectiveness

PROCEDURES

NUMBER	TITLE	REVISION / DATE
EN-DC-205, Attachment 9.1	Maintenance Rule Functional Failure Evaluation Template, CR-GGN-2011-08669	December 1, 2011
EN-DC-204	Maintenance Rule Scope and Basis	2
EN-DC-150	Condition Monitoring of Maintenance Rule Structures	2
EN-DC-205	Maintenance Rule Monitoring	4
ER-GG-2002-0466-000	Evaluate Division I and II Diesel Generators (P75) to determine if the governor setup complies with Reg. Guide 1	0

CALCULATIONS

NUMBER	TITLE	REVISION
MC-Q1P75-98030	Standby Diesel Jacket Water Operating Parameters	1
MC-Q1111-01005	Determination of Component Design Minimum Wall Thickness for Internal Erosion/Corrosion Program Plan (GGNS-MS-41) and Components Inspected per CR-GGN-2001-0955, CA-006 and 009	1

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
MS-38	Document Revision Notice, 06-566	2
SDC-P75	Document Revision Notice, 05-1803	1
SEP-ISI-102	Program Section for ASME Section XI, Division 1 Inservice Inspection Program	1

ENGINEERING CHANGES

EC # 0000007894

CONDITION REPORTS

CR-GGN-2011-04160	CR-GGN-2011-08686	CR-GGN-2011-09183
CR-GGN-2011-04622	CR-GGN-2011-08716	CR-GGN-2011-09257
CR-GGN-2011-05074	CR-GGN-2011-08725	CR-GGN-2011-09310
CR-GGN-2011-05488	CR-GGN-2011-08728	CR-GGN-2012-00471
CR-GGN-2011-05667	CR-GGN-2011-09096	CR-GGN-2012-00855
CR-GGN-2011-06494	CR-GGN-2011-09115	CR-GGN-2012-06863
CR-GGN-2011-06513	CR-GGN-2011-09155	CR-GGN-2012-07922
CR-GGN-2011-06591	CR-GGN-2011-09156	CR-GGN-2012-07935
CR-GGN-2011-06595	CR-GGN-2011-09166	CR-GGN-2012-08708
CR-GGN-2011-06937	CR-GGN-2011-09168	CR-GGN-2012-09276
CR-GGN-2011-08663	CR-GGN-2011-09169	CR-GGN-2012-09697
CR-GGN-2011-08669	CR-GGN-2011-09181	CR-GGN-2012-10754

CR-GGN-2004-04447	CR-GGN-2008-02177	CR-GGN-2010-00629
CR-GGN-2011-00070	CR-GGN-2011-01868	CR-GGN-2011-08716
CR-GGN-2012-05896	CR-GGN-2012-08708	CR-GGN-2010-00507
CR-GGN-2010-00532	CR-GGN-2010-00641	CR-GGN-2012-10918
CR-GGN-2012-10960	CR-GGN-2011-05211	CR-GGN-2012-07430
CR-GGN-2012-11140	CR-GGN-2011-05414	CR-GGN-2012-07666
CR-GGN-2012-11142	CR-GGN-2011-05747	CR-GGN-2012-07675
CR-GGN-2012-11177	CR-GGN-2011-06018	CR-GGN-2012-07816
CR-GGN-2012-11179	CR-GGN-2011-06530	CR-GGN-2012-08101
CR-GGN-2012-11404	CR-GGN-2011-06533	CR-GGN-2012-08136
CR-GGN-2012-11545	CR-GGN-2011-07559	CR-GGN-2012-08139
CR-GGN-2012-11687	CR-GGN-2011-07670	CR-GGN-2012-08169
CR-GGN-2012-11898	CR-GGN-2011-07735	CR-GGN-2012-08235
CR-GGN-2012-11899	CR-GGN-2011-07884	CR-GGN-2012-08236
CR-GGN-2012-11921	CR-GGN-2011-07909	CR-GGN-2012-08238
CR-GGN-2012-12510	CR-GGN-2011-07912	CR-GGN-2012-08268
CR-GGN-2012-12514	CR-GGN-2011-07958	CR-GGN-2012-08285
CR-GGN-2012-12518	CR-GGN-2011-07968	CR-GGN-2012-08652
CR-GGN-2012-12544	CR-GGN-2011-08079	CR-GGN-2012-08692
CR-GGN-2012-12685	CR-GGN-2011-08404	CR-GGN-2012-08810
CR-GGN-2012-12812	CR-GGN-2011-08750	CR-GGN-2012-09325
CR-GGN-2012-12877	CR-GGN-2011-09354	CR-GGN-2012-09716
CR-GGN-2012-12968	CR-GGN-2011-09371	CR-GGN-2012-09775
CR-GGN-2012-13080	CR-GGN-2012-00057	CR-GGN-2012-09839
CR-GGN-2012-13091	CR-GGN-2012-00072	CR-GGN-2012-09903
CR-GGN-2012-13242	CR-GGN-2012-00074	CR-GGN-2012-09996
CR-GGN-2013-00024	CR-GGN-2012-00145	CR-GGN-2012-09997

CR-GGN-2013-00059	CR-GGN-2012-00652	CR-GGN-2012-10026
CR-GGN-2013-00076	CR-GGN-2012-01156	CR-GGN-2012-10048
CR-GGN-2013-00090	CR-GGN-2012-01833	CR-GGN-2012-10172
CR-GGN-2013-00201	CR-GGN-2012-03913	CR-GGN-2012-10180
CR-GGN-2013-00217	CR-GGN-2012-03958	CR-GGN-2012-10291
CR-GGN-2013-00331	CR-GGN-2012-04050	CR-GGN-2012-10395
CR-GGN-2013-00337	CR-GGN-2012-04194	CR-GGN-2012-10594
CR-GGN-2013-00416	CR-GGN-2012-04424	CR-GGN-2012-10600
CR-GGN-2013-00473	CR-GGN-2012-04441	CR-GGN-2012-10616
CR-GGN-2013-00619	CR-GGN-2012-04845	CR-GGN-2012-10719
CR-GGN-2013-00690	CR-GGN-2012-05411	CR-GGN-2012-10722
CR-GGN-2013-00924	CR-GGN-2012-06723	CR-GGN-2012-10745
CR-GGN-2013-00978	CR-GGN-2012-07236	CR-GGN-2012-10866
CR-GGN-2013-01014	CR-GGN-2012-07371	CR-GGN-2012-10877
CR-GGN-2012-00303		

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION / DATE
EN-WM-101, Attachment 9.1	Online Emergent Work Add/Delete Approval form for the week of January 7, 2013	9
05-1-02-VI-2	Hurricanes, Tornados and Severe Weather, February 10, 2013 Entry	120
01-S-07-43	Control of Loose Items, Temporary Electrical Power, and Access to Equipment	6
EN-EP-302	Severe Weather Response	0
EN-EP-303	Severe Weather Recovery	0
EN-IS-111	General Industrial Safety Requirements	12
EN-IS-123	Electrical Safety	9

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION / DATE
EN-MA-119	Material Handling Programs	15
EN-WM-104	On Line Risk Assessment	7
07-S-05-300	Control and use of Cranes and Hoists	113
06-TE-1000-V-0001	Culvert No. 1 Embankment Stability Inspection\Survey	100
05-1-02-VI-2	Hurricanes, Tornados and Severe Weather, February 12, 2013 Entry	120
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52462497-01	February 7, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52447574-01	February 6, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52369078	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52363905	February 7, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 338638-03	February 6, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52462496	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO Ops SOI	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52449563	February 7, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 340986	February 7, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52323348 01	February 5, 2013

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION / DATE
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52362522	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO Dry Tube Strong Back Shipment	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52370068-01, 00340429-01, 52457198-01, 52457199-01	February 15, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52370068-01, 00340429-01, 52457198-01, 52457199-01, 52457197-01, 52455988-01, 52455987-01	February 15, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52421734-01	February 14, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52452186-01, 52452186-02, 52452186-03, 52452186-04	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52461116-01	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52456138, 52453953, 52453954	February 14, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52459533	February 7, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52340213	February 7, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52453952-01, 52456129-01, 52456130-01	February 14, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52366069	February 13, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 298667	February 13, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-	February 13,

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION / DATE
	Description and Justification, WO 341597-01, 341598-01, 298713	2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 263365	February 11, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 336528	February 5, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, Component ID P41C003C and D	February 12, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 324771	February 13, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52455992, 52456139	February 12, 2013
05-1-02-VI-2	Hurricanes, Tornados and Severe Weather, February 10, 2013 Entry	120
05-1-02-VI-2	Hurricanes, Tornados and Severe Weather, February 21, 2013 Entry	120
05-1-02-VI-2	Hurricanes, Tornados and Severe Weather, February 25, 2013 Entry	120
05-1-02-VI-2	Hurricanes, Tornados and Severe Weather, March 18-19, 2013 Entry	120
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 345315	March 19, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, Various Work Orders	March 19, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 302233	March 19, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52341331	March 20, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 263743	March 20, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-	March 20,

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION / DATE
	Description and Justification, WO 341060 and 341071	2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 51662321-01	March 20, 2013
EN-WM-101	Online Emergent Work Add/Delete Approval Form, Section A-Description and Justification, WO 52472683, 52474315, 52453420-01, 52472679-01, 52472679-02, 52453420-02	March 20, 2013
05-1-02-VI-2	Hurricanes, Tornados and Severe Weather, March 23, 2013 Entry	120
01-S-02-3	Temporary Change Notice, Directive # 01-S-18-6	June 28, 2012
02-S-01-17	Control of Limiting Conditions for Operation	124
01-S-18-6	Qualitative Risk Considerations for External Events, Level 2 SSCs, SSCs not in EOOS, & SSCs not Modeled Appropriately	011
05-1-02-VI-2	Hurricanes, Tornados, and Severe Weather	122

OTHER DOCUMENTS

NUMBER	TITLE	DATE
	Shutdown Condition 1, Time to 200 degrees F, .25 hours: Day 12.5	January 27, 2013, 11:05 am
	Shutdown Condition 1, Time to 200 degrees F, .5 hours: Day 12	January 27, 2013, 5:30 am
	Shutdown Condition 1, Time to 200 degrees F, .85 hours: Day 12	January 26, 2013, 7:15pm
	Shutdown Condition 1, Time to 200 degrees F, .85 hours	January 26, 2013, 1:27 am
	Shutdown Condition 1, Time to 200 degrees F, .8 hours: Day 11	January 25, 2013, 7:05 pm
	Shutdown Condition 1, Time to 200 degrees F, .75 hours	January 24, 2013, 7:42 am
	Shutdown Condition 1, Time to 200 degrees F, .75 hours: Day 9	January 24, 2013, 2:10 am

OTHER DOCUMENTS

NUMBER	TITLE	DATE
	Shutdown Condition 1, Time to 200 degrees F, .7 hours	January 23, 2013, 2:58 pm
	Shutdown Condition 1, Time to 200 degrees F, .7 hours	January 23, 2013, 2:20 am
	Shutdown Condition 1, Time to 200 degrees F, .7 hours	January 22, 2013, 4:43 pm
	Shutdown Condition 1, Time to 200 degrees F, .65 hours	January 22, 2013, 1:00 am
	Shutdown Condition 1, Time to 200 degrees F, .65 hours	January 21, 2013, 1:45 am
	Shutdown Condition 1, Time to 200 degrees F, .65 hours	January 21, 2013, 12:00 pm
	Shutdown Condition 1, Time to 200 degrees F, .6 hours: Day 5	January 20, 2013, 4:00 pm
	Shutdown Condition 1, Time to 200 degrees F, .6 hours	January 20, 2013, 4:30 am
	Shutdown Condition 1, Time to 200 degrees F, .5 hours: Day 3	January 18, 2013, 7:00 am
	Shutdown Condition 1, Time to 200 degrees F, .45 hours: Day 3	January 17, 2013, 5:00 pm
	Shutdown Condition 1, Time to 200 degrees F, .4 hours	January 17, 2013, 5:30 am
	Shutdown Condition 1, Time to 200 degrees F, .3 hours: Day 2	January 16, 2013, 10:00 am
	Shutdown Condition 1, Time to 200 degrees F, .5 hours	January 15, 2013, 8:30 pm
	Shutdown Condition 1, Time to 200 degrees F, .25 hours	January 15, 2013, 9:50 am

CONDITION REPORTS

CR-GGN-2013-01070

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION
EN-OP-104	Operability Determination Process, April 12, 2012	6
06-IC-1B21-Q-1003	REACTOR VESSEL LOW/HIGH WATER LEVEL (RPS) CALIBRATION SAFETY RELATED	106
06-IC-1B21-R-0002	REACTOR VESSEL LOW/HIGH WATER LEVEL CALIBRATION SAFETY RELATED	107
06-IC-1B21-R-0003	SAFETY/RELIEF VALVE HIGH PRESSURE TRIP/LOW LOW RELIEF/ECCS VESSEL PRESSURE INJECTION PERMISSIVE CALIBRATION SAFETY RELATED	107
06-IC-1B21-R-0008	REACTOR VESSEL WATER LEVEL CALIBRATION (ECCS} SAFETY RELATED	107
06-IC-1821-R-0011	REACTOR VESSEL WATER LEVEL (ADS) (RCIC) CALIBRATION SAFETY RELATED	101
06-IC-1B21-R-2005	REACTOR VESSEL WATER LEVEL (LEVELS 1 AND 2) CALIBRATION SAFETY RELATED	105
06-IC-1B21-R-2012	REACTOR VESSEL WATER LEVEL (HPCS) CALIBRATION SAFETY RELATED	104
06-IC-1C11-R-2001	SCRAM DISCHARGE VOLUME HIGH WATER LEVEL (RPS) CALIBRATION SAFETY RELATED	105
06-IC-1E22-R-0003	SUPPRESSION POOL HIGH WATER LEVEL CALIBRATION (HPCS) SAFETY RELATED	102
06-IC-1E22-R-0004	HPCS SYSTEM FLOW RATE LOW (BYPASS) CALIBRATION SAFETY RELATED	104
06-IC-1E31-R-0023	RCIC/RHR AND RCIC STEAM LINE HIGH FLOW (RCIC ISOL) CALIBRATION SAFETY RELATED	104
06-IC-1E31-R-1016	RCIC STEAM SUPPLY LOW PRBSSURE CALIBRATION SAFETY RELATED	103
06·IC-1E51-R-0003	SUPPRESSION POOL HIGH WATER LEVEL (RCIC) CALIBRATION SAFETY RELATED	101

DRAWINGS

NUMBER	TITLE
169C9489	Purchase Part Relay

CALCULATIONS

NUMBER	TITLE	REVISION
MC-Q1P75-91119	Maximum Allowable Leakage From Division I and II Generators Starting Air Storage Tanks	1
3.8.23-0	Standby Service Water Valve Room	0
MC-Q1P75-90194	Lube Oil Requirements for the Division I and II Diesel Generators	1
MC-Q1Y47-09011	SSW Pump House Temperature for Normal and Recirculation Flows	0
MC-Q1Y47-09002	SSW Pump House Temperature During Station Blackout (SBO)	0
MC-Q1T46-95018	Calculations Sheet	2
MC-Q1T46-96037	ESF Switchgear Room Temperatures with the Room Coolers Out of Service	0
JC-Q1B21-N616-1	SAFETY RELIEF LOW/LOW SET SETPOINT CALCULATION	0
JC-Q1B21-N674-1	LEVEL 8 WIDE RANGE HPCS INJECTION VALVE CLOSURE	0
JC-Q1B21-N680-1	LEVEL 3 SETPOINT CALCULATION	0
JC-Q1B21-N681-1	Level 1 Setpoint Calculation (Safety Related Tech. Spec.)	0
JC-Q1B21-N682-1	LEVEL 2, SAFETY RELATED. TECH. SPEC., SETPOINT CALCULATION	0
JC-Q1B21-N683-1	LEVEL 8 NARROW RANGE	0
JC-Q1B21-N683-1	LEVEL 8 NARROW RANGE	1
JC-Q1B21-N693-1	LEVEL 8 NARROW RANGE RCIC TRIP	0

CALCULATIONS

NUMBER	TITLE	REVISION
JC-Q1B21-N697-1	LOW PRESSURE ECCS PRESSURE PERMISSIVE SETPOINT CALCULATION	0
JC-Q1C11-N601-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM C71 LOOP N601 SCRAM REACTOR ON HIGH SDVP WATER LEVEL	1
JC-Q1C11-N601-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM C71 LOOP N601 SCRAM REACTOR ON HIGH SDVP WATER LEVEL	2
JC-Q1E12-N655-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM E12 LOOPS N655 AND N656 RHR PUMP DISCHARGE PRESSURE PERMISSIVE FOR ADS	1
JC-Q1E12-N655-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM E12 LOOPS N655 AND N656 RHR PUMP DISCHARGE PRESSURE PERMISSIVE FOR ADS	2
JC-Q1E22-N651-2	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM lE22 LOOP N65l HPCS PUMP MINIMUM FLOW BYPASS VALVE HI PRESSURE INTERLOCK	1
JC-Q1E22-N655-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR INSTRUMENT LOOPS 1E22-N655, 1E51-N636 HPCS & RCIC PUMP SUCTION TRANSFER ON HI SUPPRESSION POOL LEVEL	1
JC-01E31-N685-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM EJl LOOP N685 RCIC TURBINE ISOLATION ON LOW INLET STEAM PRESSURE	0
JC-01E31-N685-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM EJl LOOP N685 RCIC TURBINE ISOLATION ON LOW INLET STEAM PRESSURE	1
JC-Q1E51-N655-1	INSTRUMENT LOOP UNCERTAINTY AND SETPOINT DETERMINATION FOR SYSTEM E51 LOOP N655 RCIC TURBINE ISOLATION ON EXHAUST DIAPHRAGM FAILURE	0
MC-Q1E22-12001	LEVEL 8 TRIP FOR HPCS AND RCIC	0

CALCULATIONS

NUMBER	TITLE	REVISION
EC-Q1111-88002	Thermal Life of Agastat Relays	1

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
ER No. GGNS-96-0005	Safety Relief Valves Safety Function Lift Setpoint Tolerance Relaxation Summary Report	0
GGNS-SDC-B21	System Design Criteria Nuclear Boiler System	3
460000026	Instructions for Installation and Maintenance Safety Relief Valves for Steam Service	
QDR 0308-90	Quality Deficiency Report form	April 30, 1991
9645-M-616.3	Material Requisition: Electric Unit Heaters	11
GGNS-SDC-Y47	Standby Service Water Pump House Ventilation System (Y47)	1
GGNS-SDC-P75	Standby Diesel Generator System (P75)	1
460000444	Chromalox Forced Air Heater	
Model DSRV-16-4 Diesel Engine/Generator	Associated Publications Manual Volume III, Book 1	
10 CFR 50.59 Evaluation Form	GGNS, EC 42886	9
GGNS-NE-11-00007	Review of IRM AL Basis for 24 Month Fuel Cycle	0
GGNS-NE-11-00006	Review of B21-N679-1 and B21-N697-1 Setpoint Basis for 24 Month Fuel Cycle	0
GGNS-NE-11-00008	Review of E21-N652-1 Setpoint Basis for 24 Month Fuel Cycle	0
GGNS-NE-11-00009	Review of RWCU Differential Flow	0
GGNS-NE-11-00010	Review of E31-N684-1 Setpoint Basis for 24 Month Fuel Cycle	0
GGNS-NE-11-00011	RCIC Turbine Exhaust Vent Line Trip and Low Steam Pressure Trip and Isolation AL Bases for 24 Month Fuel Cycle	0

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
SCN. 98-001	STANDARD/SPECIFICATION CHANGE NOTICE: GGNS-JS-09 Methodology for the Generation of Instrument Loop Uncertainty & Setpoint Calculations	0
GEXI2012-00050	Grand Gulf Cycle 19 – Level 8 Setpoint Analytical Limit Sensitivity	
GNRO-2012/00132	License Amendment Request for Revision of Technical Specification Allowable Value for Primary Containment and Drywell isolation Instrumentation Function 3.c "RCIC Steam Supply Line Pressure – Low."	
NEDC-31336P-A	General Electric Instrument Setpoint Methodology	
GIN 95-03473	Failure Rate of Agastat Relays	December 27, 1995
GGNS-89-0028	Engineering Report on Functionality under High Ambient Conditions of Auxiliary Building ESF Switchgear Room Equipment Important to Safety	2
IEEE Std 323-1974	IEEE Standard for Qualifying Class IE Equipment for Nuclear Power Generating Stations	1971

CONDITION REPORTS

CR-GGN-2013-00318	CR-GGN-2013-00957	CR-GGN-2013-00220
CR-GGN-2013-00810	CR-GGN-2013-00812	CR-GGN-2013-01204
CR-GGN-2013-01019	CR-GGN-2007-05281	CR-GGN-2011-03730
CR-GGN-2012-09971	CR-GGN-2012-11939	CR-GGN-2012-09896
CR-GGN-2012-11841	CR-GGN-2012-09894	CR-GGN-2013-01835

ENGINEERING CHANGES

EC 16428	EC 16989	EC 13993
EC 42886	EC 30652	EC 39574

WORK ORDERS

WO 00345315 01	EC 16989	EC 13993

Section 1R18: Plant Modifications

DRAWINGS

NUMBER	TITLE	REVISION
E-1046	Main Generator and Main Transformer CT Connections	009
E-1040	Plant Protection Logic Diagram	011
E-1045	N41 Three Line Meter & Relay Diagram	026
E-1002	One Line Meter & Relay Diagram	016

CONDITION REPORTS

CR-GGN-2012-13290	CR-GGN-2013-00083

ENGINEERING CHANGES

EC 41836	EC 41840	EC 41846

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-1C51-V-0001, Attachment I	SRM Channel Function Test	110
06-OP-1C51-V-0001, Attachment II	SRM Channel Function Test	110
06-OP-1G33-Q-0001, Attachment II	Reactor Water Cleanup System Valve Operability	108
06-OP-1M61-V-0003	Local Leak Rate Test-Low Pressure Water	1
06-OP-1E51-Q-0003	RCIC System Quarterly Pump Operability Verification	134

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-1C51-V-0002, Attachment I	IRM Functional Test	107
06-OP-1C51-V-0002, Attachment II	IRM Functional Test	107
04-S-04-2	Operation of Electrical Circuit Breakers	56
07-S-02-2	Special Guidance for the Performance of Electrical Activities	5

DRAWINGS

NUMBER	TITLE	REVISION
M-242.0-Q1-1.2-101	20” 150 Pound Swing Check Valve Weld End with Outside Lever and Weight	4

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	SRM and IRM Troubleshooting	
	BWR Owners’ Group Valve Technical Resolution Group, Final Report: Appendix J-Generic Letter 89-10 Correlation	April 30, 1996
0900596	Structural Integrity Associates, Baseline Risk Implementation Analysis: Grand Gulf Nuclear Station	A
	HVA TD Report Summary: ESF-11 Second Test	February 13, 2013
	HVA TD Report Summary: ESF-11 Final Test	February 13, 2013
	Two-winding Transformer, Service Transformer 11	February 6, 2013
	Pre-Maintenance Service Transformer 11	March 9, 2009
	Two-Winding Transformer Data Sheet	
GEK 42296	GE Motor Generator Package Set, Model 6PA4326A103	1

CONDITION REPORTS

CR-GGN-2013-00435	CR-GGN-2013-00440	CR-GGN-2013-00687
CR-GGN-2013-00689	CR-GGN-2013-00692	CR-GGN-2013-00696
CR-GGN-2013-00736	CR-GGN-2013-00738	CR-GGN-2013-00739
CR-GGN-2013-01027	CR-GGN-2013-01020	CR-GGN-2013-01035

WORK ORDERS

WO 00338860 01	WO 00338860 04	WO 319783
WO 52306016 01	WO 00089947 01	WO 00237152 01
WO 00299863 01	WO 00340488 01	WO 00335727 01
WO 00317521 01	WO 00337745 01	WO 00337245 02
WO 52411201 01	WO 52411202 05	WO 00295355 01
WO 00295355 05	WO 00332005 01	WO 00332006 01
WO 52386967 01, 09, 11	WO 00341598 01	WO 00331994 01
WO 00316857 01	WO 52463180 01	WO 00345940 01, 02
WO 00341915 01	WO 00265232 01	WO 52323390 01

ENGINEERING CHANGES

EC 43454

Section 1R20: Refueling and Other Outage Activities

PROCEDURES

NUMBER	TITLE	REVISION
07-S-12-128	Isolated Phase BUS Attachment Sheet General Location, Page 1	2
01-S-06-12	GGNS Surveillance Program	111
03-1-01-1	Cold Shutdown to Generator Carrying Minimum Load	154
EN-OP-115	Conduct of Operations	13
EN-OP-103	Reactivity Management Program	5
07-S-12-128	General Maintenance Instruction, Isolated Phase BUS Attachment Sheet General Location	2
03-1-01-3	Integrated Operating Instruction Plant Shutdown	122

DRAWINGS

NUMBER	TITLE	REVISION
D-7208-11-A2	22KV, 25,600A, 125 KV B11 Existing BUS Layout With 1.P.B Modifications	
T-157102	Assembly of Flexible Disconnect Links & Housing-Links Installed	
	Isophase Air Flow Diagram	
	Isophase Air Flow Simplified Diagram	
E-1045	N41 Three Line Meter & Relay Diagram Generator and Main Transformer	26
	Trouble Shooting Plan, BUS Duct Side	

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	DC HIPOT/MEGGER, ISO-PHASE BUS	January 24, 2013
	Remaining Open Actions and Operability Information for CR's with ODMI Flags	January 24, 2013
	Unassigned CR's	January 24, 2013

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
Cycle 19 Outage, FO-19-04	OPS Cold Shutdown surv review, By Performance (Yes or No)	0
	Remaining Open Actions for Open GGN CR's with Operability Code: OPERABLE DNC or OPERABLE_COMP MEAS	January 24, 2013
	N21F010B Action Plan per 01-S-06-26 step 6.2.7	
	N36F012B Action Plan per 01-S-06-26 step 6.2.7, 6B Feeder/Bleeder trip valve	
	Restart Evaluation for Scram 128	
	Failure Mode Analysis Worksheet Main Generator trip on main generator neutral time over-current relay 1N41M705 (451N/UT11)	
PO 19-01	Shutdown Operations Protection Plan	13
	Forced Outage Cold FO-19-04- Critical Path	January 27, 2013
	Forced Outage Cold FO-19-04- Critical Path	January 22, 2013
	Forced Outage Cold FO-19-04- Critical Path	January 17, 2013
	FO-19-04 Generator Trip Discovery Information	
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 17, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 20, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 21, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 17, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 18, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 19, 2013

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 22, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 23, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 24, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 25, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 26, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 27, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 28, 2013
	Grand Gulf Nuclear Station FO-19-04 Forced Outage Daily Update	January 29, 2013
	GGNS Action Plan for Recovery from FO-12-02	

CONDITION REPORTS

CR-GGN-2013-00339	CR-GGN-2013-00340	CR-GGN-2013-00430
CR-GGN-2013-00432	CR-GGN-2013-00438	CR-GGN-2013-00461
CR-GGN-2013-00464	CR-GGN-2013-00685	

WORK ORDERS

WO 00338868-38

ENGINEERING CHANGES

EC 42136 EC 41836

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-1P81-R-0001	HPCS Diesel Generator 18 Month Functional Test- Test No. 3- 24 Hour Rated Load Test/DG Hot Start Test	121
06-OP-1P81-R-0001	HPCS Diesel Generator 18 Month Functional Test-General Instructions	121
06-OP-1E51-Q-0003	RCIC System Quarterly Pump Operability Verification	134
07-S-24-P75-E001AB-2	Periodic Inspection and Adjustment of Hydraulic Valve Lifters on the DSRV-16-4 Delaval Diesel Engine	10
06-OP-1P75-M-0002, Attachment II	Standby Diesel Generator 12 Functional Test: February 27, 2013, 3:30 am	132
06-OP-1P75-M-0002, Attachment II	Standby Diesel Generator 12 Functional Test: February 26, 2013, 5:34 pm	132
06-OP-1P75-M-0002, Attachment II	Standby Diesel Generator 12 Functional Test: February 26, 2013, 4:22 pm	132
04-1-05-E12-3	Residual Heat Removal Loop C and Pass Return Penetration	000
06-OP-1M61-V-0003	Local Leak Rate Test, Low Pressure Water for 1E12F406 (Failure)	1
06-OP-1M61-V-0003	Local Leak Rate Test, Low Pressure Water for 1E12F406 (Passed)	1
02-S-01-28	Diesel Generator Start Information Sheet, Diesel Generator No: 11, Start No: 1397	4
06-IC-IC51-R-0075	APRM Recirculation Flow Transmitter Calibration	104
17-S-02-4	Performance and System Engineering Instruction Post Refueling Outage Data Collection and Analysis	14
EN-OP-109	Drywell Leakage	2
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-49	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 24-05	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 44-05	14

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 60-29	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 36-05	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 60-45	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 20-61	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 44-61	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 16-57	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 60-21	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 20-05	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 60-41	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 04-45	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-13	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-53	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-13	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 52-57	14
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-53	14

CALCULATIONS

NUMBER	TITLE	DATE
M-1358H	Pipe Anchors Diesel Generator Building	July 19, 1982

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
1P81PT01	Air Start Reliability Test	1
1P75PT01	Air Storage Tank Capacity Test	1
E-236	Emergency Diesel Generator Qualification Test Summary	December 28, 1976
91/1006	Change System P75, Division I and II Low Pressure Lockout Setpoint	0

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	Discussion of Solenoid Valves on Packing Leak-Off Lines	
6.B.4	EDG Hydraulic Lifter Instruction Manual	
GG USFAR	Appendix 9B Fire Protection Program	
Attachment 9.5	Operability Evaluation CR-GGN-2013-01977	6
EN-RE-215	Reactivity Maneuver Plan	2

CONDITION REPORTS

CR-GGN-2013-00218	CR-GGN-2013-00674	CR-GGN-2013-00688
CR-GGN-2013-00710	CR-GGN-2013-01261	CR-GGN-2013-01679
CR-GGN-2013-02013	CR-GGN-2013-02377	

WORK ORDERS

WO 52342314 01	WO 00321520 01	WO 52323349 02
WO 00345315 01	WO 00345315 01	WO 52348931 01

1EP4: Emergency Action Level and Emergency Plan Changes

NUMBER	TITLE	REVISION
10-S-01-1	Activation of the Emergency Plan	122
	Emergency Plan	69
	Evacuation Time Estimate Study Update	

Section 1EP6: Drill Evaluation

OTHER DOCUMENTS

NUMBER	TITLE	DATE
	Emergency Notification Form, Message Number 1	March 5, 2013

Section 1EP6: Drill Evaluation

OTHER DOCUMENTS

NUMBER	TITLE	DATE
	Emergency Notification Form, Message Not Sent	March 5, 2013
	Emergency Notification Form, Message Number 2	March 5, 2013
	Emergency Notification Form, Message Number 3	March 5, 2013
	Emergency Notification Form, Message Number 4	March 5, 2013
	Emergency Notification Form, Message Number 5	March 5, 2013
	Emergency Notification Form, Message Number 6	March 5, 2013
	Emergency Notification Form, Message Number 7	March 5, 2013
	Emergency Notification Form, Message Number 8	March 5, 2013
	GGNS 2013 Green Team Drill, Emergency Facilitator Log EOF	March 5, 2013
	Attachment 2, Objectives/Evaluation Criteria	March 5, 2013
	GGNS 2013 Green Team, Repair and Corrective Action-Admin Status Board	March 5, 2013
	GGNS 2013 Green Team, Emergency Notification (Display)	March 5, 2013

CONDITION REPORTS

CR-GGN-2013-01647	CR-GGN-2013-01655	CR-GGN-2013-01657
CR-GGN-2013-01659	CR-GGN-2013-01662	CR-GGN-2013-01663
CR-GGN-2013-01664	CR-GGN-2013-01667	CR-GGN-2013-01668

Section 4OA1: Performance Indicator Verification

PROCEDURES

NUMBER	TITLE	REVISION
EN-LI-114	Performance Indicator Process, Unit 1, 1st Qtr 2012	5
EN-LI-114	Performance Indicator Process, Unit 1, 2nd Qtr 2012	5
EN-LI-114	Performance Indicator Process, Unit 1, 3rd Qtr 2012	5
EN-LI-114	Performance Indicator Process, Unit 1, 4 h Qtr 2012	6

Section 4OA3: Event Follow-Up

PROCEDURES

NUMBER	TITLE	REVISION / DATE
01-S-06-26	Post-Trip Analysis, GG Unit 1, Scram No. 127	20
EN-LI-119	Apparent Cause Evaluation (ACE) Process	16
EN-LI-118-08, Attachment 9.2	Revised Failure Mode Analysis Worksheet CR-GGN000083	0
EN-LI-118-08, Attachment 9.2	Revised Failure Mode Analysis Worksheet: Main Generator trip on main generator time over-current relay 1N41M705	1
01-S-06-5	Reactor Plant Event Notification Worksheet, EN #48673	110
01-S-06-26	Post-Trip Analysis, GG Unit 1, Scram No. 128	20
01-S-06-26	Post Trip Analysis, Written Statements Format	20
05-1-02-I-1	Off-Normal Event Procedure, Reactor Scram	117
05-1-02-I-1	Off-Normal Event Procedure, Reactor Scram	119
01-S-02-3	Temporary Change Notice, Directive # 07-S-15-4	April 3, 2012
EN-DC-136	Temporary Modifications	8

DRAWINGS

NUMBER	TITLE	REVISION
E-1002	One Line Meter & Relay Diagram Generator and Main Transformer, Unit 1	16
E-1045	NA1 Three Line Meter & Relay Diagram Generator and Main Transformer	26

OTHER DOCUMENTS

NUMBER	TITLE	DATE
NRR	Reactor Operating Events: Event Notification Report 48652	January 5, 2013
	Unit Differential Relay Information	January 4, 2013
	Unit Differential Relay Information	January 7, 2013
	Grand Gulf Nuclear Station FO-19-04 Daily Update	January 15, 2013
	Grand Gulf Nuclear Station FO-19-04 Daily Update	January 16, 2013
	Grand Gulf Nuclear Station FO-19-04 Initial Brief	
	Single Trend Point – C34N004A	January 14, 2013
	Grand Gulf Operations Logs-Days	January 14, 2013
	Grand Gulf Cycle 19, Sequence No 19, 3Dm V6.59.01/P11E10	January 14, 2013
	Sequence of Event Log	January 14, 2013
	Investigation of Cause of the January 14, 2013, SCRAM and Actions Taken to Correct	
	Failure Mode Analysis Worksheet: Main Generator trip on main generator neutral time over-current relay 1N41M705	
Attachment 9.11	Entergy Operations, Grand Gulf Nuclear Station, RCE for Generator Trip and Reactor Scram, CR-GGN-2013-0319	February 15, 2013
	NRC Requested Information for FO47A	

CONDITION REPORTS

CR-GGN-2013-00061	CR-GGN-2013-00062	CR-GGN-2013-00063
CR-GGN-2013-00064	CR-GGN-2013-00065	CR-GGN-2013-00066
CR-GGN-2013-00067	CR-GGN-2013-00068	CR-GGN-2013-00069

CR-GGN-2013-00070	CR-GGN-2013-00071	CR-GGN-2013-00072
CR-GGN-2013-00073	CR-GGN-2013-00074	CR-GGN-2013-00075
CR-GGN-2013-00076	CR-GGN-2013-00077	CR-GGN-2013-00078
CR-GGN-2013-00079	CR-GGN-2013-00080	CR-GGN-2013-00081
CR-GGN-2013-00082	CR-GGN-2013-00083	CR-GGN-2013-00084
CR-GGN-2013-00085	CR-GGN-2013-00086	CR-GGN-2013-00087
CR-GGN-2013-00088	CR-GGN-2013-00089	CR-GGN-2013-00090
CR-GGN-2013-00091	CR-GGN-2013-00092	CR-GGN-2013-00093
CR-GGN-2013-00094	CR-GGN-2013-00095	CR-GGN-2013-00096
CR-GGN-2013-00097	CR-GGN-2013-00098	CR-GGN-2013-00099
CR-GGN-2013-00100	CR-GGN-2013-00101	CR-GGN-2013-00102
CR-GGN-2013-00103	CR-GGN-2013-00104	CR-GGN-2013-00105
CR-GGN-2013-00106	CR-GGN-2013-00107	CR-GGN-2013-00108
CR-GGN-2013-00109	CR-GGN-2013-00110	CR-GGN-2013-00111
CR-GGN-2013-00112	CR-GGN-2013-00113	CR-GGN-2013-00114
CR-GGN-2013-00115	CR-GGN-2013-00116	CR-GGN-2013-00117
CR-GGN-2013-00118	CR-GGN-2013-00119	CR-GGN-2013-00120
CR-GGN-2013-00121	CR-GGN-2013-00122	CR-GGN-2013-00123
CR-GGN-2013-00124	CR-GGN-2013-00125	CR-GGN-2013-00126
CR-GGN-2013-00127	CR-GGN-2013-00128	CR-GGN-2013-00129
CR-GGN-2013-00130	CR-GGN-2013-00131	CR-GGN-2013-00132
CR-GGN-2013-00133	CR-GGN-2013-00134	CR-GGN-2013-00135
CR-GGN-2013-00136	CR-GGN-2013-00137	CR-GGN-2013-00138

CR-GGN-2013-00139	CR-GGN-2013-00140	CR-GGN-2013-00141
CR-GGN-2013-00142	CR-GGN-2013-00143	CR-GGN-2013-00319
CR-GGN-2013-00323	CR-GGN-2013-00322	CR-GGN-2013-00319
CR-GGN-2013-01259	CR-GGN-2013-01678	CR-GGN-2013-00587
CR-GGN-2013-00100	CR-GGN-2013-11250	CR-GGN-2013-11188

WORK ORDERS

WO 52285169 01

TI-182

PROCEDURES

NUMBER	TITLE	REVISION
EN-DC-343	Underground Piping and Tanks Inspection and Monitoring Program	6
EN-DC-105	Configuration Management	3
EN-DC-174	Engineering Program Sections	4

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
NEI 09-14	Guideline for the Management of Underground Piping and Tank Integrity	1
0900596-2	Grand Gulf Nuclear Power Station Native and Interrupted APEC Survey	1
CEP-UPT-0100	Underground Piping and Tanks Inspection and Monitoring	1
	Electric Power Research Institute: BPIRD Data Submission Template, January 14, 2013	0.1
SEP-UIP-GGN	Underground Components Inspection Plan	0
En-ES-S-002-MULTI	Underground Piping and Tanks General Visual Inspection	1
SI Project Number: 0900596	Structural Integrity Associates, Inc Technical Report for Baseline Risk Implementation Analysis, Grand Gulf Nuclear Station	A

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
CEP-UPT-0100	Underground Piping and Tanks Inspection and Monitoring	2
ECH-EP-12-00001	Guidelines for Management of Reasonable Assurance of Integrity for Above and Underground SSCs Containing Radioactive Material	0
FTK-ESPP-G00121	Underground Piping/Tanks Program Owner	5
EC No. 0000042092	Documentation of Buried Pipe and Tanks / Sumps in the GGNS Piping Program	0

CONDITION REPORTS

CR-GGN-2007-04941 CR-GGN-2013-00362