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

August 1, 2012

Mike Perito
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 NUMBER 05000416/2012003

Dear Mr. Perito:

On June 22, 2012, 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 June 26, 2012, 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. Further, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

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 Agency wide 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/

Vincent Gaddy, Chief
Project Branch C
Division of Reactor Projects

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

Enclosure: Inspection Report 05000416/2012003
w/ Attachment: Supplemental Information

cc w/ encl: Electronic Distribution

DISTRIBUTION:

Regional Administrator (Elmo.Collins@nrc.gov)
Deputy Regional Administrator (Art.Howell@nrc.gov)
DRP Director (Kriss.Kennedy@nrc.gov)
DRP Deputy Director, Acting (Allan.Howe@nrc.gov)
DRS Director, Acting (Tom.Blount @nrc.gov)
DRS Deputy Director, Acting (Patrick.Louden@nrc.gov)
Senior Resident Inspector (Rich.Smith@nrc.gov)
Resident Inspector (Blake.Rice@nrc.gov)
Branch Chief, DRP/C (Vincent.Gaddy@nrc.gov)
Senior Project Engineer, DRP/C (Bob.Hagar@nrc.gov)
Project Engineer, DRP/C (Rayomand.Kumana@nrc.gov)
GG Administrative Assistant (Alley.Farrell@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Public Affairs Officer (Lara.Uselding@nrc.gov)
Project Manager (Alan.Wang@nrc.gov)
DRS/TSB (Dale.Powers@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
TSB Technical Assistant (Loretta.Williams@nrc.gov)
Regional Counsel (Karla.Fuller@nrc.gov)
Congressional Affairs Officer (Jenny.Weil@nrc.gov)
OEMail Resource
RIV/ETA: OEDO (Silas.Kennedy@nrc.gov)

R:_REACTORS_GG\2012\GG 2012003- RP-RLS.docx

SUNSI Rev Compl.	✓Yes ☐ No	ADAMS	✓Yes ☐ No	Reviewer Initials	VGG
Publicly Avail.	✓Yes ☐ No	Sensitive	☐Yes ✓ No	Sens. Type Initials	VGG

SRI:DRP/X	RI:DRP/X	SPE:DRP/X	C:DRS/EB1	C:DRS/EB2	C:DRS/OB
RLSmith	BBRice	BHagar	TRFarnholtz	GMiller	MHaire
/RA/VGG for	***/RA/VGG for***	***/RA/***	***/RA/***	***/RA/ JMateychick for***	***/RA/***
7/27/12	7/27/12	7/31/12	7/20/12	7/20/12	7/23/12
C:DRS/PSB1	C:DRS/PSB2	C:DRS/TSB	BC:DRP/C		
MHay	GEWerner	DPowers	VGaddy		
/RA/	***/RA/JDrake for***	***/RA/TFarnholtz for***	***/RA/***		
7/20/12	7/23/12	7/20/12	8/1/12		

OFFICIAL RECORD COPY

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	05000416
License:	NPF-29
Report:	05000416/2012003
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station, Unit 1
Location:	7003 Baldhill Road Port Gibson, MS 39150
Dates:	March 24 through June 22, 2012
Inspectors:	R. Smith, Senior Resident Inspector B. Rice, Resident Inspector G. Apger, Operations Engineer A. Barrett, Resident Inspector, River Bend J. Braisted, Reactor Inspector J. Drake, Senior Reactor Inspector A. Fairbanks, Reactor Inspector J. Laughlin, Emergency Preparedness Inspector, NSIR R. Kumana, Project Engineer
Approved By:	Vincent Gaddy, Chief Reactor Project Branch C Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000416/2012003; 03/24/2012 – 06/22/2012; GRAND GULF NUCLEAR STATION, UNIT 1, Integrated Resident and Regional Report; Adverse Weather Protection, Inservice Inspection Activities, Maintenance Risk Assessments and Emergent Work Control, Post-Maintenance Testing, Refueling and Other Outage Activities, and 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 non-cited violation of Technical Specifications 5.4.1(a), for failure of the hot-work fire watch to follow procedural requirements, which resulted in a fire in main condenser A. On April 11, 2012, at 6:11 p.m., hot-work was in progress inside the condenser A in the upper southeast corner at 150 foot elevation. Cutting was being performed by contract boilermakers using an oxy-acetylene torch, with ventilation exhaust and supply provided by nearby HEPA hoses. The torch cutting operation produced hot slag, which exited the barrier provided by the fire blankets and ignited the nearby HEPA hoses, air conditioning hoses, and eventually the acetylene hoses. Contract pipefitters in the area were able to extinguish the fire. The main control room was informed of the fire inside condenser A and dispatched the fire brigade to the scene. The operations shift manager declared a notice of unusual event at 6:26 p.m. due to a fire in the protected area lasting longer than 15 minutes. Members of the fire brigade entered the condenser bay at 6:42 p.m. and reported to the control room there was no fire present, only smoke. The notice of unusual event was exited at 7:00 p.m. Short term corrective actions included site management placing a stop work order on all hot-work until a complete investigation of the event could be performed. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2012-05418.

  The finding is more than minor because it is associated with the protection against external factors attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events

that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors reviewed Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," that states in the Assumptions and Limitations section, “The Fire Protection SDP focuses on risks due to degraded conditions of the fire protection program during full power operation of a nuclear power plant. This tool does not address the potential risk significance of fire protection inspection findings in the context of other modes of plant operation (i.e., low power or shutdown).” Therefore, the senior reactor analyst evaluated the finding in accordance with Manual Chapter 0609, Appendix G, Attachment 1, “Shutdown Operations Significance Determination Process Phase 1 Operational Checklists for both PWRs and BWRs.” The finding did not require a quantitative assessment because adequate mitigating equipment remained available; the finding did not increase the likelihood of a loss of reactor coolant system inventory; the finding did not degrade the ability to terminate a leak path or add reactor coolant system inventory; and the finding did not degrade the ability to recover decay heat removal if lost. Therefore, the finding screened as Green, having very low safety significance. The inspectors determined that the apparent cause of this finding was that site management did not ensure that hot-work supervisors were engaged in ensuring compliance with procedural requirements. This finding had a cross-cutting aspect in the area of human performance associated with work practices component because the licensee failed to ensure supervisory oversight of hot-work activities is performed within procedural requirements such that nuclear safety is supported [H.4(c)] (Section 40A3).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a finding for the licensee’s failure to ensure that materials or equipment were not stored under energized lines or near energized equipment in accordance with station procedures. On May 21, 2012, the inspectors were performing a grid stability inspection and toured the 500 KV switchyard with the system switchyard engineer. During the tour, the inspectors identified numerous cylindrical shaped items stored under a 500 KV power line, which posed a missile hazard to the offsite source of power. The licensee determined that the items in question were bushing sleeves that were left in the switchyard following 500 KV breaker maintenance. The inspectors researched station procedures and determined that the cylindrical items stored under the energized 500 KV power line did not meet procedure requirements for the storage of materials and equipment. Immediate corrective actions included having the items removed from the switchyard. The licensee entered this issue into their corrective action program as Condition Report CR-GGNS-2012-07362.

  The finding is more than minor because it is associated with the protection against external factors attribute of the Mitigation Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors reviewed Manual Chapter 0609, Attachment A,

"Phase 1 – Initial Screening and Characterization of Findings." Attachment A, Table 4.a, states that a Phase 3 is required if the finding is potentially risk significant due to external initiating event core damage accident sequences. The inspectors determined that the failure to properly store the bushing sleeves in the switchyard could have resulted in a loss of offsite power during a severe weather initiating event. Therefore, the senior reactor analyst evaluated the finding to determine its significance using hand calculations and the site-specific SPAR model. The analyst determined that the probability of having straight-line winds or winds generated by hurricanes or tornados that were strong enough to throw the bushing sleeves into switchyard electrical equipment was between 2.5×10^{-1} and 2.0×10^{-2} /year. The analyst also determined that the conditional probability that bushing sleeves thrown by winds would result in a loss of offsite power was between 1.2×10^{-1} and 1.1×10^{-7}. Finally, the SPAR model calculated that the conditional core damage probability for a loss of offsite power initiated in the switchyard was 5.3×10^{-5}. Using these values, under all scenarios evaluated by the analyst, the change in core damage frequency caused by the subject performance deficiency was below 1×10^{-6}. Therefore, the finding was of very low safety significance (Green). The inspectors determined the finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not implement the corrective action program with a low threshold for identifying materials improperly stored in the 500 KV switchyard [P.1(a)] (Section 1R01).

- Green. The inspectors identified a non-cited violation of very low safety significance of 10 CFR Appendix B, Criterion XVI, "Corrective Action," for failure to implement adequate corrective actions for a previous NRC-identified non-cited violation. The previous finding involved a failure to maintain configuration control of various systems in the plant. In response to the previous finding, the licensee performed an apparent cause evaluation and developed actions to address the causes and extent of condition. However, the inspector identified that the actions pertaining to the extent of condition were not properly implemented and, as a result, the deficiency identified by the inspector was not fully resolved. The licensee failed to identify brass compression fittings installed on drain tailpieces of the standby service water system instead of stainless steel fittings as required by design documents. Furthermore, the licensee failed to update applicable design drawings allowing sacrificial compression fittings to be installed. The licensee performed corrective actions to restore configuration control. This issue was entered into the licensee's corrective action program as Condition Reports CR-GGN-2012-04003, CR-GGN-2012-4180, and CR-GGN-2012-04233.

  The issue is more than minor because, if left uncorrected, it could become a more significant safety concern. Specifically, the issues identified by the inspector impacted the licensee's ability to establish and maintain configuration control for equipment relied on for safe operation of the plant. The design control attribute of the Mitigating Systems Cornerstone and the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating

events to prevent undesirable consequences were affected. Until the issues are fully resolved, the licensee continues to be vulnerable to gaps in their system configuration control. The finding was determined to be of very low safety significance (Green) using Attachment 4 to IMC 0609, "Significance Determination Process," because it did not result in an actual loss of safety function. The inspectors also determined that the finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee did not provide adequate training of personnel so that the inappropriately installed fittings could be identified during system walkdowns [H.2(b)] (Section 1R08).

- Green. The inspectors reviewed a self-revealing finding for the licensee's failure to identify that de-energizing non-safety electrical bus 13BD1 and 13BD2 would cause the reactor water clean-up pumps A and B to trip on a low suction flow signal. On April 24, 2012, the plant was shut down for refueling outage 18, the residual heat removal system B was in service, and the reactor water clean-up system was in standby mode as the alternate shutdown cooling system. In this configuration, the plant was in yellow risk due to having two available systems for decay heat removal. At 10:00 a.m., both reactor water clean-up pumps tripped on low pump suction flow, causing the plant to enter an unplanned orange risk configuration for only having one system available for decay heat removal. The licensee determined the reactor water pumps tripped while opening the feeder breaker for the 13BD1 and 13BD2 buses (breaker 152-1305) for scheduled maintenance. When breaker 152-1305 was opened, optical isolator AT12 caused the pump low suction flow trip control contacts to close, which initiated the low suction flow alarm and caused the pumps to trip. Immediate corrective actions included restoring reactor water clean-up as the alternative source of decay heat removal by closing breaker 152-1305 and re-energizing the 13BD1 and 13BD2 buses. The licensee entered this issue into their corrective action program as Condition Reports CR-GGN-2012-06092 and CR-GGN-2012-06105.

  The finding is more than minor because it is associated with the configuration control attribute of the Mitigating Systems Cornerstone and it affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors determined that the finding was of very low safety significance (Green) because the finding did not represent a loss of a system safety function. The inspectors determined that the cause of this finding was a latent issue; therefore no cross-cutting aspect was assigned (Section 1R13).

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50.36, "Technical Specifications," involving the failure to implement a surveillance requirement to assure that the limiting conditions for operation of the ultimate heat sink will be met. Technical Specifications requires two cooling towers and two cooling basins, with the volume of the two basins constituting the entire inventory of the ultimate heat sink. Therefore, an interconnecting siphon line is

installed to transfer water between the two cooling tower basins. That siphon line has the safety-related function of ensuring the availability of enough cooling water to satisfy ultimate heat sink requirements. Technical Specification 3.7.1 includes Surveillance Requirement 3.7.1.1, which verifies the water level in each cooling tower basin every 24 hours, and Surveillance Requirement 3.7.1.2, which verifies each cooling tower fan every 31 days. However, the inspectors identified that Technical Specification 3.7.1 does not include a surveillance requirement to verify that the interconnecting siphon line will perform its safety-related function. On May 20, 2012, the licensee performed an operability test for the siphon line and determined that it was operable. The licensee is currently performing a preventative maintenance task as a compensatory action to ensure operability of the siphon line until a license amendment can be submitted to the NRC that establishes a surveillance requirement. The licensee documented this violation in Condition Reports CR-GGN-2012-08257 and CR-GGN-2012-08537.

The violation is more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, without a surveillance requirement that verifies the interconnecting siphon line can perform its safety-related function, the licensee cannot ensure that sufficient cooling water is available following an accident. The inspectors evaluated the finding using Inspection Manual Chapter (IMC) 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings" and determined that the finding was of very low safety significance (Green) because the finding was a design or qualification deficiency confirmed not to result in a loss of operability or function; did not represent a loss of safety system function; did not represent actual loss of safety function of a single train for greater than its technical specification allowed outage time; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding had a cross-cutting aspect in the human performance area associated with the resources component because the licensee did not ensure that equipment was adequate to assure nuclear safety, in that the licensee had recently reviewed documentation associated with a modification to the siphon line but failed to identify that operability of the UHS could not be established without a technical specification surveillance requirement to ensure operability of the siphon line [H.2(c)] (Section 1R19).

- Green. The inspectors identified a non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the licensee's failure to follow a post-modification test procedure for the interconnecting siphon line between the two standby service water system cooling tower basins. Operability of the ultimate heat sink is based on a minimum water level in the two standby service water cooling tower basins, an operable interconnecting siphon between the basins, and four operable cooling tower fans (two per basin). At extended power uprate conditions, the configuration of the basins and the original siphon line would not support 30 days of operation of both trains of the standby service water system and the high

pressure core spray service water systems without makeup, so the licensee performed a modification (EC 25649), which involved replacing the original siphon line with a new siphon line in order to transfer water from one basin to the other. On March 28, 2012, after completing the modification, the licensee performed post-modification testing to determine the piping friction loss coefficient of the modified siphon line and to evaluate its acceptability against the worst-case friction loss coefficient documented in EC 25649. The licensee deviated from the test procedure, as-written, and performed the test with an inadequate pressure gauge instead of the specified gauge. After inspectors challenged the validity of these test results, the licensee performed another test of the siphon line with a different method that did not require the use of a pressure gauge to measure the piping friction loss coefficient. The inspectors reviewed the subsequent test data and found the test results to be satisfactory. The licensee documented this concern in Condition Report CR-GGN-2012-05260.

The finding is more than minor because it is associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the use of an unqualified gauge invalidated the test results, and a different test method had to be developed to determine the piping friction loss coefficient for the siphon line. The inspectors evaluated this finding using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green) because the finding was not a design or qualification deficiency confirmed to result in loss of operability or function; did not represent a loss of safety system function; did not represent actual loss of safety function of a single train for greater than its technical specification allowed outage time; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding had a cross-cutting aspect in the human performance area associated with work practices component because licensee personnel proceeded in the face of uncertainty or unexpected circumstances. Specifically, the licensee proceeded with the test without verifying that the pressure gauge was suitable for the test conditions after observing unexpected measurements with the gauge [H.1(a)] (Section 1R19).

Cornerstone: Barrier Integrity

- Green. The inspectors reviewed a self-revealing non-cited violation of Technical Specifications 5.4.1(a), involving a loss of decay heat removal in the spent fuel pool due to station personnel failing to correctly follow operation of pool gate seal air supply procedure. On April 17, 2012, Grand Gulf Nuclear Station was preparing to drain the reactor cavity to reinstall the vessel head after the completion of refueling activities. In preparation, the upper containment pool to the reactor cavity gate was installed by General Electric-Hitachi technicians with Entergy oversight. Technicians were directed by procedure to verify that all supply isolation toggle valves to the gate seals were open and secured in place.

However, technicians failed to complete this action correctly and the control room was informed that all prerequisites were completed and began the cavity drain down. The control room immediately noticed the fuel pool drain tank level was decreasing and attempted to makeup to the tank via the normal makeup valve. When the fuel pool drain tank level reached 17 percent full, both fuel pool cooling and cleanup pumps tripped as expected, resulting in loss of decay heat removal to the spent fuel pool. The main control room entered the off-normal event procedure for inadequate decay heat removal, and they secured the drain down evolution. Approximately 47 minutes later, spent fuel pool cooling was re-established. During this event, the spent fuel pool temperature did not exceed the limits required by Technical Requirements Manual Section 6.7.4 (140°F). Short term corrective actions included restoring decay heat removal to the spent fuel pool and conducting a human performance review of the event. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2012-05756.

The finding is more than minor because it is associated with the human performance attribute of the Barrier Integrity Cornerstone and adversely affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors determined that the finding was of very low safety significance (Green) because the finding only represented a loss of spent fuel pool cooling that would not preclude restoration of cooling to the spent fuel pool prior to pool boiling. This finding has a cross-cutting aspect in the area of human performance associated with the work practices component because licensee personnel failed to use adequate self- and peer-checking techniques to ensure gate seals were properly inflated prior to cavity drain down [H.4(a)] (Section 1R20).

Cornerstone: Miscellaneous

- Green. The inspectors identified a non-cited violation of 10 CFR 26, Subpart I, "Managing Fatigue," Subsection 207, "Waivers and Exceptions," when the licensee inappropriately used waivers to allow workers to exceed the minimum day off rule. While reviewing condition reports, the inspectors noted the use of work hour waivers for a large number of staff. The circumstances for the use of waivers were the refueling outage lasting more than 60 days, contract expiration leading to 14 layoffs, and the loss of 4 workers via voluntary resignation. Due to these circumstances, work hours and fatigue of waivered individuals would have to be assessed daily. The assessment is required because the work hour limit of these individuals exceeded the minimum day off rule, therefore requiring daily monitoring until the end of the cycle. The waivered individuals averaged two days off per six-week period compared to the required three days off. Title 10 CFR 26.207 (a)(2) allows the granting of waivers only to address circumstances that could not have been reasonably controlled. The inspectors determined that the licensee was aware of the circumstances of an extended refueling outage and contract renewal deadline well in advance of the need to grant waivers, and a

reasonable amount of time was available for the licensee to develop and execute contingency plans to negate the need to use waivers. Corrective actions included initiating assessments and waivers for exceeding minimum days off requirements for shift personnel for the six-week period ending May 27, 2012, and returning to the normal on-line work schedule in which adequate manpower is available to meet the requirements of the rule. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2012-7348.

The finding is more than minor because it is associated with the access authorization attribute of the Security Cornerstone, and affected the cornerstone objective to provide assurance that the licensee's security system and material control and accounting program use a defense in-depth approach and can protect against (1) the design basis threat of radiological sabotage from external and internal threats, and (2) the theft or loss of radiological materials. Using the Inspection Manual Chapter 0609, Appendix E, "Baseline Security Significance Determination Process for Power Reactors," Figures 5 and 6, the finding was determined to have very low security significance because the calculated point total did not exceed the threshold value for a Green non-cited violation. The cumulative total for this finding was zero points, which was calculated by factoring the one impact area (vital areas) against Tier III Element 08.02.08, security force work hours, of the access authorization attribute, which resulted in a total of zero points within this attribute. The finding was determined to have a cross-cutting aspect in the area of human performance associated with the decision making component in that the licensee failed to use conservative assumptions in developing staff schedules for the duration of refueling outage 18 and for allowing an employment contract to expire that led to 14 individuals being laid off without realizing the impact these decisions would have on the licensee's ability to meet the requirements of the rule [H.1(b)] (Section 1R20).

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

- Grand Gulf Nuclear Station began the inspection period in a shutdown condition due to refueling outage 18.
- On June 6, 2012, start up commenced after refueling outage 18 was completed.
- On June 16, 2012, operators synchronized to the grid at 18 percent thermal power.
- On June 18, 2012, operators removed the plant from service at 15 percent power due to a steam leak on the first stage sensing line.
- On June 19, 2012, when the steam leak was repaired, operators re-synchronized to the grid at 18 percent thermal power and continued to increase power.
- At the end of the inspection period, Grand Gulf Nuclear Station was at approximately 73 percent thermal power and was continuing to increase power to reach full capacity.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, and Emergency Preparedness

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate-AC Power

a. Inspection Scope

The inspectors performed a review of preparations for summer weather for selected systems, including conditions that could lead to a loss of offsite power and conditions that could result from high temperatures. The inspectors reviewed the procedures affecting these areas and the communications protocols between the transmission system operator and the plant to verify that the appropriate information was being exchanged when issues arose that could affect the offsite power system. Examples of aspects considered in the inspectors' review included:

- The coordination between the transmission system operator and the plant's operations personnel during off-normal or emergency events
- The explanations for the events

- The estimates of when the offsite power system would be returned to a normal state

- The notifications from the transmission system operator to the plant when the offsite power system was returned to normal

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 they 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 the licensee was 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:

- 500 KV Switchyard

- 115 KV Switchyard

These activities constitute completion of one readiness for summer weather affect on offsite and alternate-ac power sample as defined in Inspection Procedure 71111.01-05.

b. Findings

Introduction. The inspectors identified a Green finding for the licensee's failure to ensure that materials or equipment were not stored under energized lines or near energized equipment in accordance with station procedures.

Description. On May 21, 2012, the inspectors were performing a grid stability inspection for summer seasonal readiness. As part of the inspection effort, the inspectors toured the 500 KV switchyard with the system engineer. During the tour, the inspectors identified numerous cylindrical shaped items stored under 500 KV power lines, which posed potential missile hazards to the offsite source of power. The licensee determined that the items in question were bushing sleeves from a 500 KV breaker that were left in the switchyard following breaker maintenance. The inspectors researched station procedures and determined that the busing sleeves stored under the energized 500 KV power line did not meet procedure requirements for the storage of materials and equipment. The inspectors brought this procedural requirement to the attention of site personnel.

The licensee entered this issue in their corrective action program as Condition Report CR-GGNS-2012-07362. Immediate corrective actions included removing the items from the switchyard.

Analysis. Storing loose parts and materials under 500 KV power lines, which posed potential missile hazards to the offsite source of power, is a performance deficiency. Specifically, Procedure EN-IS-111, "General Industrial Safety Requirements," Revision 11, states, no materials or equipment shall be stored under energized buses, energized lines, or near energized equipment if it is practical to store them elsewhere. Contrary to the above, the licensee failed to ensure that materials or equipment were not stored under energized buses, energized lines, or near energized equipment. Specifically, the licensee failed to ensure bushing sleeves associated with 500 KV breaker maintenance were not stored under the energized 500 KV power lines in the switchyard. The finding is more than minor because it is associated with the protection against external factors attribute of the Mitigation Systems Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The inspectors reviewed Manual Chapter 0609, Attachment A, "Phase 1 – Initial Screening and Characterization of Findings. Attachment A, Table 4.a, states that a Phase 3 is required if the finding is potentially risk significant due to external initiating event core damage accident sequences. The inspectors determined that the failure to properly store the bushing sleeves in the switchyard could have resulted in a loss of offsite power during a severe weather initiating event. Therefore, the senior reactor analyst evaluated the finding to determine its significance using hand calculations and the site-specific SPAR model. The analyst determined that the probability of having straight-line winds or winds generated by hurricanes or tornados that were strong enough to throw the bushing sleeves into switchyard electrical equipment was between 2.5×10^{-1} and 2.0×10^{-2}/year. The analyst also determined that the conditional probability that bushing sleeves thrown by winds would result in a loss of offsite power was between 1.2×10^{-1} and 1.1×10^{-7}. Finally, the SPAR model calculated that the conditional core damage probability for a loss of offsite power initiated in the switchyard was 5.3×10^{-5}. Using these values, under all scenarios evaluated by the analyst, the change in core damage frequency caused by the subject performance deficiency was below 1×10^{-6}. Therefore, the finding was of very low safety significance (Green). The inspectors determined the finding has a cross-cutting aspect in the area of problem identification and resolution associated with the corrective action program component because the licensee did not implement the corrective action program with a low threshold for identifying materials improperly stored in the 500 KV switchyard [P.1(a)].

Enforcement. This finding does not involve enforcement action because no regulatory requirement violation was identified. This finding was entered into the licensee's corrective action program as Condition Report CR-GGN-2012-07362 and is identified as FIN 05000416/2012003-01, "Failure to Ensure Materials are Stored Properly in the 500 KV Switchyard."

.2 Readiness to Cope with External Flooding

a. Inspection Scope

The inspectors evaluated the design, material condition, and procedures for coping with the design basis probable maximum flood. The evaluation included a review to check for deviations from the descriptions provided in the Updated Final Safety Analysis Report

for features intended to mitigate the potential for flooding from external factors. As part of this evaluation, the inspectors checked for obstructions that could prevent draining, checked that the roofs did not contain obvious loose items that could clog drains in the event of heavy precipitation, and determined that barriers required to mitigate the flood were in place and operable. Additionally, the inspectors performed an inspection of the protected area to identify any modification to the site that would inhibit site drainage during a probable maximum precipitation event or allow water ingress past a barrier. The inspectors also reviewed the abnormal operating procedure for mitigating the design basis flood to ensure it could be implemented as written. Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one external flooding sample as defined in Inspection Procedure 71111.01-05.

b. Findings

No findings were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walk down

a. Inspection Scope

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

- Fuel pool cooling and cleanup following heat exchanger replacement
- Control room air conditioning following a surveillance

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 two partial system walk down samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

.2 Complete Walk down

a. Inspection Scope

On April 30, 2012, the inspectors performed a complete system alignment inspection of the standby service water 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 walk down sample as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

1R05 Fire Protection (71111.05)

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

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

- Division I switchgear room 1A309
- Division II switchgear room 1A308

- Residual heat removal B pipe penetration room 1A306
- Division I engineered safety features electrical penetration room 1A320
- Division II engineered safety features electrical penetration room 1A318

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.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed licensee programs, verified performance against industry standards, and reviewed critical operating parameters and maintenance records for the residual heat removal system A heat exchangers 1E12B001A and 1E12B002A. The inspectors verified that performance tests were satisfactorily conducted for heat exchangers/heat sinks and reviewed for problems or errors; the licensee utilized the periodic maintenance method outlined in EPRI Report NP 7552, "Heat Exchanger Performance Monitoring Guidelines"; the licensee properly utilized biofouling controls; the licensee's heat exchanger inspections adequately assessed the state of cleanliness of their tubes; and the heat exchanger was correctly categorized under 10 CFR 50.65, "Requirements for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants." Specific documents reviewed during this inspection are listed in the attachment.

These activities constitute completion of one heat sink inspection sample as defined in Inspection Procedure 71111.07-05.

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08)

Completion of Sections .1 and .5, below, constitutes completion of one sample as defined in Inspection Procedure 71111.08-05.

.1 Inspection Activities Other Than Steam Generator Tube Inspection, Pressurized Water Reactor Vessel Upper Head Penetration Inspections, and Boric Acid Corrosion Control (71111.08-02.01)

a. Inspection Scope

The inspectors observed four nondestructive examination activities and reviewed five nondestructive examination activities that included four types of examinations. The licensee did not identify any relevant indications accepted for continued service during the nondestructive examinations.

The inspectors directly observed the following nondestructive examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Reactor Recirculation	1B33C001B-C5	PT
Feedwater	1B21G030-18-1	UT
Feedwater	1B21G230-02-10	UT
Feedwater	1B21G230-02-15	UT

The inspectors reviewed records for the following nondestructive examinations:

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Feedwater	1N23A001 Base Metal Repair	MT

SYSTEM	WELD IDENTIFICATION	EXAMINATION TYPE
Feedwater	1B21G026W39	UT
Main Steam	1N11F026A-D	UT
Main Steam	1N11F026A-F	UT
Drywell/Containment	P-1091-13	VT

During the review and observation of each examination, the inspectors verified that activities were performed in accordance with the ASME Code requirements and applicable procedures. The inspectors also verified the qualifications of all nondestructive examination technicians performing the inspections were current.

The inspectors observed three welds on the steam jet air ejector piping. No welds on the reactor coolant system pressure boundary were observed.

The inspectors directly observed a portion of the following welding activities:

SYSTEM	WELD IDENTIFICATION	WELD TYPE
1X77B001B	Repair Bracket for EDG 12 Cooling Unit	Shielded Metal Arc Welding
Steam Dryer	Lower Ring Splice Welds 242-1 and 242-2	Tungsten Inert Gas Welding
Steam Dryer	Splice Bar Adjusting Sleeves Welds 8000-1, 8000-2, 8000-3, 8000-4	Tungsten Inert Gas Welding

The inspectors verified, by review, that the welding procedure specifications and the welders had been properly qualified in accordance with ASME Code, Section IX, requirements. The inspectors also verified, through observation and record review, that essential variables for the welding process were identified, recorded in the procedure qualification record, and formed the bases for qualification of the welding procedure specifications. Specific documents reviewed during this inspection are listed in the attachment.

These actions constitute completion of the requirements for Section 02.01.

b. Findings

No findings were identified.

.5 Identification and Resolution of Problems (71111.08-02.05)

a. Inspection Scope

The inspectors reviewed 10 condition reports, which dealt with inservice inspection activities, and found the corrective actions for inservice inspection issues were appropriate. The specific condition reports reviewed are listed in the documents reviewed section. From this review, the inspectors concluded that the licensee has an appropriate threshold for entering inservice inspection issues into the corrective action program and has procedures that direct a root cause evaluation when necessary. The licensee also has an effective program for applying industry inservice inspection operating experience. Specific documents reviewed during this inspection are listed in the attachment.

These actions constitute completion of the requirements of Section 02.05.

b. Findings

Failure to Assure Configuration Control of Safety Related Systems

Introduction. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," for failure to implement adequate corrective actions for a previous NRC-identified non-cited violation. Specifically, the finding involved a failure to maintain configuration control of various systems in the plant.

Description. NRC Integrated Inspection report 2011003 identified a Green non-cited violation of 10CFR 50, Appendix B, Criterion III, “Design Control.” The violation, as characterized in the report, was the failure to review the suitability of test fittings left on reactor coolant system flow transmitter equalizing block drain ports instead of manifold plugs as specified by design. Specifically, instrument 1M71-PDT-N001A had a brass fitting installed in a stainless steel valve body. The licensee stated that the extent of condition was bounded by six transmitters, the revision of Procedure 06-IC-1M71-R-0001, and the extent of condition addressed by the actions of the apparent cause evaluation. This issue was entered into the corrective action program as Condition Report CR-GGN-2011-04485. During a subsequent NRC walk down, inspectors identified six instances of brass compression fittings installed on drain tailpieces for the plant service water/standby service water system, instead of stainless steel fittings as required by design change document, GGNS-DCS-19, “Installation of Sacrificial Compression Fitting at Tubing Joints Requiring Frequent Remakes,” Revision 0. As a result of further inspector questioning, the licensee discovered that a design configuration nonconformance existed by installing brass fittings and that the design drawings had not been updated as required by GGNS-DCS-19. The licensee failed to perform an adequate extent-of-condition review for the previous NRC-identified non-cited violation before closing the condition report.

This issue was entered into the corrective action program as Condition Reports CR-GGN-2012-4003, CR-GGN-2012-4180, and CR-GGN-2012-04233. The licensee performed corrective actions to restore configuration control.

Analysis: The inspector determined that the failure to implement adequate corrective actions and an adequate extent-of-condition review for a previous NRC-identified non-cited violation was a performance deficiency. This performance deficiency was more than minor because, if left uncorrected, it could become a more significant safety concern because it could impact the licensee's ability to establish and maintain configuration control for equipment relied on for safe operation of the plant. The design control attribute of the Mitigating Systems Cornerstone and the cornerstone's objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences were affected. Until the issues are fully resolved, the licensee continues to be vulnerable to gaps in their system configuration control. The finding was determined to be of very low safety significance (Green) using Attachment 4 to IMC 0609, "Significance Determination Process," because it did not result in an actual loss of safety function. The inspectors also determined that the finding had a cross-cutting aspect in the area of human performance associated with the resources component because the licensee did not provide adequate training of personnel so that the inappropriately installed fittings could be identified during system walk downs [H.2 (b)].

Enforcement: Title 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requires, in part, that measures shall be established to assure that conditions adverse to quality are promptly identified and corrected. Contrary to the above, from July 2011 until March 2012, an identified condition adverse to quality was not corrected. Specifically, for the identified condition of brass compression fittings installed on drain tailpieces instead of stainless steel fittings, the licensee failed to correct at least six examples of that condition. This issue was entered into the licensee's corrective action program as Condition Reports CR-GGN-2012-4003, CR-GGN-2012-4180, and CR-GGN-2012-04233. Because this finding was determined to be of very low safety significance and was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2a of the NRC Enforcement Policy: NCV 05000416/2012003-02, "Inadequate Corrective Actions to Address Configuration Control of Previous Non-Cited Violation."

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

.1 Quarterly Review of Licensed Operator Requalification Program

a. Inspection Scope

During the week of April 16, 2012, a regional operator licensing inspector assessed on-going efforts to implement the changes to the simulator, simulator modeling, and procedures as a result of the power up-rate. Specifically, the initial licensed power level of 3898 MWt authorized by the NRC required changes to be made to simulator modeling and procedural development, which had been intended for 4408 MWt. Upon license amendment approval for 4408 MWt, these changes will need to be reversed and training re-performed. The inspectors assessed the following areas:

- Licensed operator performance in the simulator
- Licensed operator performance on cycle written exams, which pertained to the power up-rate
- The quality of the cycle written exams
- The quality of the training provided in the simulator and classroom
- The modeling and performance of the control room simulator
- The ability of the simulator staff to perform acceptance testing after each change to the simulator model
- Follow-up actions taken by the licensee for identified simulator discrepancies
- The ability to implement and maintain procedures that are affected by the power up-rate and changes to licensed power levels
- The ability to identify training needs following the licensed power level change

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

b. Findings

No findings were identified.

.2 Quarterly Observation of Licensed Operator Performance

a. Inspection Scope

On June 7, 2012, 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 the plant start up following refueling outage 18. The inspectors observed operators' performance of the following activities:

- Achieving reactor criticality after withdrawing control rods
- Performing required surveillance for proper control rod pattern
- Placing source range monitor E in bypass and declaring it inoperable due to it not showing an increase in power during start up

- Verifying that the correct number of source range monitors were available to continue start up

- Placing intermediate range monitor C in bypass and declaring it inoperable due to it not tracking power increase along with other intermediate range monitors, which left three required intermediate range monitors operable in each division

- While the operators were ranging intermediate monitors B and D to range seven, both monitors failed downscale, which required the monitors to be declared inoperable and the operators to enter a technical specification for having less than the required number of intermediate range monitors in each division

- Reducing reactor power by inserting control rods to a subcritical state with one division of intermediate range monitors inoperable per procedure

In addition, the inspectors assessed the operators' adherence to plant procedures, including the 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:

- Residual heat removal system (E12)

- 480 Volt load centers, or motor control centers (R20)

The inspectors reviewed events 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:

- April 2, 2012, severe weather was in the area, which resulted in supply breakers opening in the switchyard and undervoltage condition on the division 3 bus that caused the bus to separate from offsite power and re-energize via the division 3 diesel generator
- April 24, 2012, during the de-energizing of 13BD1 and 13BD2 buses, both reactor water cleanup pumps tripped, resulting in the site entering orange outage risk due to losing an alternate means of decay heat removal

- May 21, 2012, severe weather was in the area, which resulted in the site entering their severe weather off normal procedure and increased risk profile for the site during refueling outage 18

- May 30-June 4, 2012, during schedule maintenance requiring heavy lifts in the area of energized safety related transformers supplying power to shutdown cooling pumps and valves

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 four maintenance risk assessments and emergent work control inspection samples as defined in Inspection Procedure 71111.13-05.

b. Findings

Introduction. The inspectors reviewed a Green self-revealing finding for the licensee's failure to identify that de-energizing non-safety electrical bus 13BD1 and 13BD2 would cause the reactor water clean-up pumps A and B to trip on a low suction flow signal, resulting in a loss of backup decay heat removal during outage.

Description. On April 24, 2012, the unit was shut down for refueling outage 18, in which the residual heat removal system B was in service as the primary shutdown cooling system, and the reactor water clean-up system was in operation and was credited as the alternate shutdown cooling system. In this configuration, the plant was in yellow risk due to having only two available systems for decay heat removal. At 10:00 a.m., both reactor water clean-up pumps tripped on low pump suction flow, causing the plant to enter an unplanned orange risk configuration for only having one system available for decay heat removal. The licensee determined the reactor water pumps had tripped when workers opened the feeder breaker for the 13BD1 and 13BD2 buses (breaker 152-1305) for scheduled maintenance. When breaker 152-1305 was opened, optical isolator AT12 caused the pump low suction flow trip control contacts to close, which initiated the low suction flow alarm and caused the pumps to trip.

This issue was entered into the licensee's corrective action program as Condition Reports CR-GGN-2012-06092 and CR-GGN-2012-06105. Immediate corrective actions included restoring reactor water clean-up as the alternative source of decay heat

removal by closing breaker 152-1305 and re-energizing the 13BD1 and 13BD2 buses. The licensee then developed a temporary modification to allow the 13 bus to be de-energized without impacting the reactor water clean-up pumps, allowing them to complete the bus outage.

Analysis. The inspectors determined that the licensee's failure to identify that de-energizing non-safety electrical bus 13 would cause the reactor water clean-up pumps A and B to trip on a low suction flow is a performance deficiency. Specifically, Procedure EN-WM-105, "Planning," Revision 10, Attachment 9.3, "Operational Impact Form," requires the identification and description of additional effects that the work will have on the plant/system, beyond those identified in the component impact statement. Contrary to the above, the licensee failed to identify and describe additional effects that the work would have on the plant/system, beyond those identified in the component impact statement. Specifically, the licensee failed to identify and describe the impact that removing breaker 152-1305 would have on the operating reactor water clean-up pumps. The finding is more than minor because it is associated with the configuration-control attribute of the Mitigating Systems Cornerstone, and it affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors determined that the finding was of very low safety significance (Green) because the finding did not represent a loss of a system safety function. The inspectors determined that the cause of this finding was a latent issue; therefore no cross-cutting aspect was assigned.

Enforcement. No violation of regulatory requirements occurred. This finding was entered into the licensee's corrective action program as Condition Report CR-GGN-2012-01838 and is identified as FIN 05000416/2012003-03, "Loss of Alternate Method of Decay Heat Removal Due to Reactor Water Clean Up Pumps Tripping on Low Suction Flow Signal."

1R15 Operability Evaluations and Functionality Assessments (71111.15)

a. Inspection Scope

The inspectors reviewed the following assessments:

- Standby service water basin ultimate heat sink water inventory issue with 1P41-F065B relief valve failing to reset, CR-GGN-2012-04872
- Deferring permanent repair of reactor water cleanup heat exchanger 1G33-B001B, EC-35126
- Malfunction of horizontal fuel transfer mechanism resulted in two fuel bundles experiencing sudden upward acceleration, CR-GGN-2012-05464

- Low pressure core spray system not maintaining normal standby pressure of >32 psig due to jockey pump discharge stop check valve sticking, CR-GGN-2012-06454

- Weld indication on residual heat removal system C weld root area on nozzle NO6-KB, CR-GGN-2012-06386

- IST program valve failures of the following safety related valves E21F031, E21F017, and E21F014, CR-GGN-2012-06522

- Control Rod 48-13MC required higher than normal drive pressure to move from the '00' position, CR-GGN-2012-06563

- Two required intermediate range monitors inoperable during start up, CR-GGN-2012-08013

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 the 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 eight operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)

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-21999 – Power Range Neutron Monitoring System Modification

- Replacement Steam Dryer 10 CFR 50.59 Evaluation Review under current thermal power limit (3898 Megawatts Thermal)

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

These activities constitute completion of two samples for permanent plant modifications 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:

- Standby service water pressure relief valve testing following replacement

- Post modification test for the ultimate heat sink siphon piping replacement and extension

- Intermediate range neutron monitoring system H following detector replacement

- Power range neutron monitoring system testing after replacement

- Scram time testing of control rods that had their control rod drive mechanisms replaced or control rod replaced or maintenance on the hydraulic control unit during the refueling outage 18

- Main steam line isolation valve F022A local leak rate testing following valve maintenance

- Reactor core isolation cooling system after maintenance during the refueling outage 18

- Reactor core isolation cooling system after maintenance on failed inverter

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

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

b. Findings

1. Failure to Implement a Surveillance Requirement to Assure that the Limiting Condition for Operation Will be Met

Introduction. The inspectors identified a Green non-cited violation of 10 CFR Part 50.36, "Technical Specifications," involving the failure to implement a surveillance requirement to assure that the limiting conditions for operation of the ultimate heat sink (UHS) will be met.

Description. The inspectors were inspecting a post-modification test of the standby service water siphon line extension modification, which included a review of the technical specification requirements of the UHS. The ultimate heat sink is designed to provide sufficient cooling for at least 30 days without makeup to allow safe shutdown and cool down of the unit, to maintain it in a safe shutdown condition, and to mitigate the effects of an accident. The technical specification requirement of the UHS includes two cooling towers and two cooling tower basins. The combined volume of the two cooling tower basins constitutes the entire UHS water inventory; however, one basin alone does not have sufficient water inventory for all standby service water system post-accident cooling

requirements. Therefore, an interconnecting siphon line is installed to transfer water between the two cooling tower basins. That siphon line has the safety-related function of ensuring the availability of enough cooling water to satisfy UHS requirements.

Technical Specification (TS) 3.7.1 requires that division I and II standby service water subsystems and the ultimate heat sink shall be operable. Operability of the UHS is based on a minimum water level in the two cooling tower basins, four operable cooling tower fans (two per UHS basin), and an operable interconnecting siphon line between the cooling tower basins. Technical Specification 3.7.1 includes Surveillance Requirement (SR) 3.7.1.1, which verifies the water level in each cooling tower basin every 24 hours, and SR 3.7.1.2, which verifies each cooling tower fan every 31 days. However, the inspectors identified that TS 3.7.1 does not include a surveillance requirement to verify that the interconnecting siphon line will perform its safety-related function.

The licensee documented this issue in Condition Reports CR-GGN-2012-08257 and CR-GGN-2012-08537. On May 20, 2012, the licensee performed an operability test for the siphon line and determined that it was operable. The licensee is currently performing a preventative maintenance task as a compensatory action to ensure operability of the siphon line until a license amendment can be submit to the NRC that establishes a surveillance requirement.

Analysis. The licensee's failure to include a surveillance requirement for the interconnecting siphon line in TS 3.7.1 is a performance deficiency. The performance deficiency is more than minor because it is associated with the design-control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, without a surveillance requirement that verifies the interconnecting siphon line can perform its safety-related function, the licensee cannot ensure that sufficient cooling water is available following an accident. The inspectors evaluated the finding using Inspection Manual Chapter (IMC) 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings" and determined that the finding was of very low safety significance (Green) because the finding was not a design or qualification deficiency confirmed not to result in loss of operability or function; did not represent a loss of safety system function; did not represent actual loss of safety function of a single train for greater than its technical specification allowed outage time; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding had a cross-cutting aspect in the human performance area associated with the resources component because the licensee did not ensure that equipment was adequate to assure nuclear safety, in that the licensee had recently reviewed documentation associated with a modification to the siphon line but had failed to identify that operability of the UHS could not be established without a technical specification surveillance requirement to ensure operability of the siphon line [H.2(c)].

Enforcement. Title 10 CFR Part 50.36, "Technical Specifications," Section (c)(3), "Surveillance Requirements" requires, in part, that technical specifications will include requirements relating to testing, calibration, or inspection to assure that the necessary

quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation will be met. Contrary to the above, the licensee's technical specifications do not include a requirement relating to testing, calibration, or inspection to assure that a limiting condition for operation will be met. Specifically, the licensee's technical specifications do not include a requirement relating to testing, calibration, or inspection of the interconnecting siphon line between the two SSW system cooling tower basins to ensure that the siphon line will be capable of transferring water from one basin to the other, thus ensuring that the UHS will provide sufficient cooling for at least 30 days without makeup. The licensee entered the finding into their corrective action program as Condition Reports CR-GGN-2012-08257 and CR-GGN-2012-08537. Because this violation was of very low safety significance and was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with the Section 2.3.2a of the NRC Enforcement Policy: NCV 5000416/2012003-04, "Failure to Implement a Surveillance Requirement to Assure that the Limiting Condition for Operation Will be Met."

2. Failure to Follow a Post-Modification Test Procedure

Introduction. The inspectors identified a Green non-cited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the licensee's failure to follow a post-modification test procedure for the interconnecting siphon line between the two standby service water system cooling tower basins.

Description. The inspectors were inspecting a post modification test of the standby service water siphon line extension modification performed at Grand Gulf Nuclear Station during refueling outage 18. Technical Specification 3.7.1, "Standby Service Water (SSW) System and Ultimate Heat Sink (UHS)," states that the "Division 1 and 2 SSW subsystems and the UHS shall be OPERABLE." Operability of the UHS is based on a minimum water level in the two SSW cooling tower basins, an operable interconnecting siphon line between the basins, and four operable cooling tower fans (two per basin). However, at extended power uprate conditions, the configuration of the basins and the original siphon line would not support 30 days of operation of both trains of the SSW system and the high pressure core spray (HPCS) service water systems without makeup. As a result, the licensee performed a modification (EC 25649), which involved replacing the original carbon-steel siphon line with a new stainless-steel siphon line that extended deeper into each basin in order to transfer more water from one basin to the other.

On March 28, 2012, after completing the modification, the licensee performed post-modification Test Procedure ECT 25649-01, "Post Modification Testing of the GGNS EPU SSW UHS Siphon Line Extension." The objective of the test was to determine the piping friction loss coefficient of the modified siphon line and to evaluate its acceptability against the worst-case friction loss coefficient documented in EC 25649. The test involved flowing water through the siphon line at a rate of between 60 to 100 gallons per minute, then measuring the pressure at the siphon line inlet in basin B and measuring the water level in basin A. The test procedure also specified use of a "Stainless Steel Case Glycerin filled pressure gauge for underwater application, 0-60 psi, 0.5% accuracy

with 4.5 inch to 6 inch faceplate, ½" NPT connection (or equivalent)" for the pressure measurement.

The inlet to the siphon line in basin B, where the pressure gauge was located, was beneath 42.375 feet of water. The expected reading was therefore 18.3 pounds per square inch due to the static head of water; however, the gauge actually read 12.0 pounds per square inch. The licensee contacted the gauge vendor who admitted that the installed gauge (McDaniel Controls 0-60 psig Model HC-GF Water Pressure Gauge) had not previously been used in an underwater application (i.e., was not qualified for underwater applications) but thought that the gauge would be adequate, in that the gauge would still measure a differential pressure as long as the static head remained constant, albeit with an offset. The licensee then proceeded with the test and achieved a flow rate of 73 gallons per minute through the siphon line. When flow was initially established, the licensee observed a small deflection on the pressure gauge; however, the reading on the pressure gauge remained essentially at 12.0 pounds per square inch. The licensee therefore called the deflection 0.0 pounds per square inch differential because the resolution of the scale on the gauge face was 0.5 pounds per square inch.

The test procedure, as-written, calculated the head loss through the siphon line by subtracting the height of water in basin A above the siphon line inlet from the pressure measurement at the basin B siphon line inlet. Had the licensee followed the procedure, the resulting values for the head loss and piping friction loss coefficient would have been negative. To accommodate continued use of the pressure gauge, the licensee deviated from the test procedure, as-written, and used the differential pressure between test (i.e., flow through the siphon line) and pre-test (i.e., no flow through the siphon line) measurements as the head loss. However, using 0.0 pounds per square inch differential as the head loss value would have also produced a value of 0.0 for the friction loss coefficient, which meant that the siphon piping was frictionless. Subsequently, the licensee performed a post-test calibration check of the gauge. The licensee determined that the gauge still responded to minor changes and was still within its allowable tolerances. The greatest error in a measurement observed during the calibration check was 0.6 pounds per square inch. The licensee then used this value as the head loss for the siphon line and calculated the piping friction loss coefficient to be 8.92. As this value was less than the acceptance criterion of 65, the licensee concluded that the test requirements were met.

During a review of post-modification Test Procedure ECT 25649-01, the inspectors observed that the licensee had not followed the test procedure, in that the licensee had performed the test using a gauge that was not qualified for underwater applications. Furthermore, the inspectors observed that the calibration check had not been performed under the same conditions as the test (i.e., underwater with a static pressure head of 42.375 feet of water). The inspectors concluded that the licensee's calibration check had not verified that the pressure gauge had measured accurately during the test and that the licensee could not use pressure measurements from the test to determine if test requirements were met.

The licensee documented this concern in Condition Report CR-GGN-2012-05260. On May 20, 2012, the licensee performed another test of the siphon line with a different

method that did not use a pressure gauge to measure the piping friction loss coefficient. The inspectors reviewed the subsequent test data and found the test results to be satisfactory.

Analysis. The inspectors determined that the licensee's failure to follow Test Procedure ECT 25649-01 was a performance deficiency. The performance deficiency was more than minor because it was associated with the design control attribute of the Mitigating Systems Cornerstone and adversely affected the cornerstone objective to ensure availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). Specifically, the use of an unqualified gauge invalidated the test results, and a different test method had to be developed to determine the piping friction loss coefficient for the siphon line. The inspectors evaluated this finding using Inspection Manual Chapter 0609, Attachment 4, "Phase 1 – Initial Screening and Characterization of Findings," and determined that the finding was of very low safety significance (Green) because the finding was not a design or qualification deficiency confirmed to result in loss of operability or function; did not represent a loss of safety system function; did not represent actual loss of safety function of a single train for greater than its technical specification allowed outage time; and did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The finding had a cross-cutting aspect in the human performance area associated with work practices component because licensee personnel proceeded in the face of uncertainty or unexpected circumstances. Specifically, the licensee proceeded with the test without verifying that the pressure gauge was suitable for the test conditions after observing unexpected measurements with the gauge [H.1(a)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," states, in part, that "activities affecting quality shall be prescribed by documented instructions, procedures, or drawings, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions, procedures, or drawings." Contrary to the above, on March 28, 2012, activities affecting quality were not accomplished in accordance with documented procedures. Specifically, the licensee used a pressure gauge that was not qualified for underwater applications, as specified by the test procedure, during a post-modification test of the interconnecting siphon line between the two standby service water system basins. The licensee entered the finding into their corrective action program as Condition Report CR-GGN-2012-05756. Because the finding was of very low safety significance and was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2 of the NRC Enforcement Policy: NCV 05000416/2012003-05, "Failure to Follow a Post-Modification Test Procedure."

1R20 Refueling and Other Outage Activities (71111.20)

a. Inspection Scope

The inspectors reviewed the outage safety plan and contingency plans for the Grand Gulf Nuclear Station refueling outage 18, conducted February 19, 2012, through June 16, 2012, 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 refueling outage, the inspectors observed portions of the shutdown and cool down processes 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

- Installation and configuration of reactor coolant pressure, level, and temperature instruments to provide accurate indication, accounting for instrument error

- 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

- Refueling activities, including fuel handling and sipping to detect fuel assembly leakage

- Start up and ascension to power operation, tracking of startup prerequisites, walk down of the drywell (primary containment) to verify that debris had not been left, which could block emergency core cooling system suction strainers, and extended power uprate testing

- Licensee identification and resolution of problems related to refueling outage activities

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

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

b. Findings

.1 Failure to Follow Procedure Results in Loss of Decay Heat Removal to the Spent Fuel Pool

Introduction. The inspectors reviewed a Green self-revealing non-cited violation of Technical Specifications 5.4.1(a), involving a loss of decay heat removal in the spent fuel pool due to station personnel failing to correctly follow the procedure that describes the operation of pool gate seal air supply.

Description. On April 17, 2012, Grand Gulf Nuclear Station was preparing to drain the reactor cavity in preparation to reinstall the vessel head after the completion of refueling activities. In order to perform this task, a gate between the upper containment pool and the reactor cavity was installed by General Electric-Hitachi technicians with Entergy oversight. Permission was received from the refuel floor supervisor to install the gate using Procedure 07-S-14-415, "Installation and Operation of Pool Gate Seals and Air Supply Systems." Per procedure, the technicians were directed by step 7.3.2.f to verify that all of the air supply isolation toggle valves to the gate seals were open and secured in place. This step was not performed correctly, and when interviewed, the technician performing the valve manipulations stated that the instructions to open the air supply toggle valves and secure them in place were not communicated to him. The control room was informed that all prerequisites were completed for cavity drain down and commenced the cavity drain down. The control room immediately noticed the fuel pool drain tank level was decreasing and attempted to makeup to the tank via the normal makeup valve. However when the fuel pool drain tank level reached 17 percent full, both fuel pool cooling and cleanup pumps tripped as expected, resulting in loss of decay heat removal to the spent fuel pool. The main control room entered the off-normal procedure for inadequate decay heat removal, and secured the drain down evolution. Approximately 47 minutes later, spent fuel pool cooling was re-established. During this event, the spent fuel pool temperature did not exceed the limits required by Technical Requirements Manual Section 6.7.4 (140°F).

The licensee documented this issue in Condition Report CR-GGN-2012-05756. Short term corrective actions included restoring decay heat removal to the spent fuel pool and conducting a human performance review of the event. Maintenance management directed corrective actions to revise the procedure by correcting errors and separating action steps into one action per step. Additionally, the licensee plans to align the pressure gauges on the gates prior to the next outage to read the pressure from the seals instead of in-line pressure from the air supply panel.

Analysis. Failure to follow procedure that describes proper operation of the pool gate seal air supply system is a performance deficiency. The performance deficiency is more than minor because it is associated with the human performance attribute of the Barrier Integrity Cornerstone and adversely affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide

releases caused by accidents or events. Using Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors determined that the finding was of very low safety significance (Green) because the finding only represented a loss of spent fuel pool cooling that would not preclude restoration of cooling to the spent fuel pool prior to boiling. This finding has a cross-cutting aspect in the area of human performance associated with the work practices component because licensee personnel failed to use adequate self- and peer-checking techniques to ensure gate seals were properly inflated prior to cavity drain down [H.4(a)].

Enforcement. Technical Specification 5.4.1(a), requires written procedures to be implemented as recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, Regulatory Guide 1.33, Section 4.k "Fuel Storage Pool Purification and Cooling System," requires instructions for controlling the storage and cooling of spent fuel pools. Section 7.3 of Procedure 07-S-14-415, "Installation and Operation of Pool Gate Seals and Air Supply Systems" Revision 4, requires cavity gate seals air supply toggle valves to be open and secured in place prior to cavity drain activities. Contrary to this, on April 17, 2012, the technicians failed to verify open air supply valves to cavity gate seals prior to cavity drain down. This caused the running fuel pool cooling and cleanup pumps to trip and resulted in a loss of decay heat removal to the spent fuel pool. This finding has been entered into the licensee's corrective action program as Condition Report CR-GGN-2012-05756. Because the finding was determined to be of very low safety significance and was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2a of the NRC Enforcement Policy: NCV 05000416/2012003-06, "Failure to Follow Procedure Results in Loss of Decay Heat Removal to the Spent Fuel Pool."

.2 Inappropriate Use of Waivers to Allow Workers to Exceed the Minimum Day Off Rule

Introduction. The inspectors identified a Green non-cited violation of 10 CFR 26, Subpart I, "Managing Fatigue," Subsection 207, "Waivers and Exceptions," when the licensee inappropriately used waivers to allow workers to exceed the minimum day off rule.

Description. During a condition report review, the inspectors noted Condition Report CR-GGN-2012-7348, which described the use of a waiver of work-hour controls for a large number of Grand Gulf Nuclear Station staff. Upon a follow-up interview with licensee management, the inspectors learned that the circumstances that required the use of waivers were:

1. Extended refueling outage >60 days
2. Contract expiration, which led to 14 individuals being laid off
3. Loss of 4 workers through voluntary resignation

Prior to the discussion with inspectors the licensee was not aware that circumstances for which the waivers were granted were under their control. Due to the circumstances described above, 10 CFR 26 requires the licensee to assess the work hours and fatigue of the waivered individuals each day. The assessment is required because the

work-hour limit of these individuals exceeded the minimum-day-off rule. The waivered individuals averaged two days off per week over the six-week period compared to the required three days off per week averaged over the six-week period.

Title 10 CFR 26.207 (a)(2) allows the granting of waivers only to address circumstances that could not have been reasonably controlled. The inspectors determined that the licensee had been aware of the circumstances of an extended refueling outage and contract renewal deadline well in advance of the need to grant waivers, and a reasonable amount of time had been available for the licensee to develop and execute contingency plans to negate the need to use waivers.

When the inspectors brought this issue to the license's attention, the licensee entered the issue into their corrective action program as Condition Report CR-GGN-2012-7763. Corrective actions included initiating assessments and waivers for exceeding Minimum Days Off requirements for shift personnel for the six week period ending May 27, 2012, and returning to the normal on-line work schedule in which adequate manpower is available to meet the requirements of the rule.

Analysis. The inspectors determined that the licensee's failure to appropriately control work hours is a performance deficiency. The performance deficiency was determined to be more than minor because it was associated with the access authorization attribute of the Security Cornerstone and affected the cornerstone objective to provide assurance that the licensee's security system and material control and accounting program use a defense in-depth approach and can protect against (1) the design basis threat of radiological sabotage from external and internal threats, and (2) the theft or loss of radiological materials. Using the Inspection Manual Chapter 0609, Appendix E, "Baseline Security Significance Determination Process for Power Reactors," Figures 5 and 6, the finding was determined to have very low security significance because the calculated point total did not exceed the threshold value for a Green non-cited violation. The cumulative total for this finding was zero points, which was calculated by factoring the one impact area (vital areas) against Tier III Element 08.02.08, security force work hours, of the access authorization attribute, which resulted in a total of zero points within this attribute. The finding was determined to have a cross-cutting aspect in the area of human performance associated the decision making component in that the licensee failed to use conservative assumptions in developing staff schedules for the duration of RF18, and for allowing an employment contract expire which led to 14 individuals being laid off without realizing the impact these decisions would have on the licensee's ability to meet the requirements of the rule [H.1(b)].

Enforcement. Title 10 of the Code of Federal Regulations 26.207(a)(2), "Waivers and Exceptions," states, in part, that the "licensee shall rely on the granting of waivers only to address circumstances that could not have been reasonably controlled." Contrary to the above, the licensee relied on the granting of waivers to address circumstances that could have been reasonably controlled. Specifically, the circumstances of an extended refueling outage and contract renewal deadline were known by the licensee well in advance of the need to grant waivers, and a reasonable amount of time was available for the licensee to develop and execute contingency plans to negate the need to use waivers. Since this finding is of very low security significance and has been entered into

the corrective action program as Condition Reports CR-GGN-2012-7348 and CR-GGN-2012-7763, this violation is being treated as a non-cited violation consistent with 2.3.2a of the NRC Enforcement Policy: NCV 05000461/2012003-07, “Inappropriate Use of Waivers to Allow Workers to Exceed the Minimum Day Off Rule.”

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.

- On March 20-24, 2012, refueling interlock checks prior to core alterations
- On April 2, 2012, high pressure core spray inservice testing surveillance
- On April 2, 2012, drywell purge compressor flow test
- On March 29, 2012, loss of offsite power emergency core cooling system test
- On April 21, 2012, plant hydrostatic test following refueling outage
- On May 8, 2012, main steam isolation valve full stroke inservice test
- On June 4, 2012, power range neutron monitoring system functional test prior to plant start up
- June 10, 2012, reactor core isolation cooling quarterly inservice test

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

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

b. Findings

No findings were identified.

1EP4 Emergency Action Level and Emergency Plan Changes 71114.04

a. Inspection Scope

The NSIR headquarters staff performed an in-office review of the latest revision of an Emergency Plan Implementing Procedure (EPIP) located under ADAMS accession number ML12129A106 as listed in the Attachment.

The licensee transmitted the EPIP revision to the NRC pursuant to the requirements of 10 CFR 50, Appendix E, Section V, “Implementing Procedures.” 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 one sample as defined in Inspection Procedure 71114.04-05.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

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

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 first 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 Safety System Functional Failures (MS05)

a. Inspection Scope

The inspectors sampled licensee submittals for the safety system functional failures performance indicator for the period from the second quarter 2011 through the first 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, and NUREG-1022, “Event Reporting Guidelines 10 CFR 50.72 and 50.73." The inspectors reviewed the licensee’s operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, condition reports, event reports, and NRC integrated inspection reports for the period of April 2011 through March 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 safety system functional failures sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Reactor Coolant System Specific Activity (BI01)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system specific activity performance indicator for the period from the second quarter 2011 through the first 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, and NUREG-1022, “Event Reporting Guidelines 10 CFR 50.72 and 50.73." The inspectors reviewed the licensee’s operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, condition reports, event reports, and NRC integrated inspection reports for the period of April 2011 through March 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 reactor coolant system specific activity samples as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Reactor Coolant System Leakage (BI02)

a. Inspection Scope

The inspectors sampled licensee submittals for the reactor coolant system leakage performance indicator for the period from the second quarter 2011 through the first 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, and NUREG-1022, “Event Reporting Guidelines 10 CFR 50.72 and 50.73." In order to validate the accuracy of the submittals, the inspectors reviewed the licensee’s operator narrative logs, operability assessments, maintenance rule records, maintenance work orders, condition reports, event reports, and NRC integrated inspection reports for the period of April 2011 through March 2012. In addition, 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 reactor coolant system leakage 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.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but they also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of December 1, 2012 through May 1, 2012, although some examples expanded beyond those dates where the scope of the trend warranted.

The inspectors also included issues documented outside the normal corrective action program in major equipment problem lists, repetitive and/or rework maintenance lists, departmental problem/challenges lists, system health reports, quality assurance audit/surveillance reports, self-assessment reports, and Maintenance Rule assessments. The inspectors compared and contrasted their results with the results contained in the licensee's corrective action program trending reports. Corrective actions associated with a sample of the issues identified in the licensee's trending reports were reviewed for adequacy.

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

b. Findings and Observations

No findings were identified.

The inspectors identified an increasing trend in condition reports identifying equipment failures affecting secondary containment doors, fire doors, and security doors. The specific items documented in the condition reports were reviewed by the inspectors, and it was determined that all were minor in nature. The inspectors determined that the licensee had properly identified the deficient doors, established compensatory measures, and entered each issue in the corrective action process. The increased door failures were attributed to refueling outage 18, in which an additional 4,000 workers were on site. The door failures have resulted in various plant impacts, most notably an impact on resources due to an increase in hourly and continuous fire watches. The inspectors determined that although there was an abnormal increase in door failures during the outage, the licensee did appropriately address the issues and anticipate an improving trend due to the refueling outage being complete.

.4 Selected Issue Follow-up Inspection

a. Inspection Scope

On May 2, 2012, the inspectors reviewed corrective actions in regards to operating experience involving inadequate controls of safeguards information. The inspectors reviewed the security safeguards inventorying process and found several deficiencies in the program. The inspectors identified an inventory tracking tool missing information, lack of procedural guidance on use of inventory tools, poor condition of binders storing safeguards information, unnumbered pages of safeguards documents, and material stored as safeguards that should be decontrolled. Due to the sensitive nature of these findings, any relevant finding documentation will be completed in report GGNS Security Report 05000416/2012404. Documents reviewed by the inspectors are listed in the attachment.

These activities constitute completion of one event follow-up as defined in Inspection Procedure 71152-05.

b. Findings

No findings were identified.

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

.1 Fire in Main Condenser A Resulting in Declaration of Notice of Unusual Event

a. Inspection Scope

On April 11, 2012, the inspectors responded to the Grand Gulf Nuclear Station to observe recovery actions for a fire in the main condenser A. At 6:11 p.m. the control room was informed of a fire inside the condenser A on the 133 foot elevation of the turbine building. The fire brigade was dispatched to the scene. The shift manager evaluated the emergency actions levels for a fire inside the protected area lasting longer than 15 minutes, and at 6:26 p.m., a notice of unusual event was declared. The fire brigade entered the condenser A at 6:42 p.m., and reported that no fire was present in the condenser, only smoke. The fire brigade leader declared the fire was extinguished at 6:55 p.m. and established a re-flash watch in the area. Smoke ejectors were setup in the area for smoke evacuation. The site exited the notice of unusual event at 7:00 p.m. The inspectors attended meetings to review the event and were informed that site management had placed a stop work order on all hot-work until a complete investigation of the event could be completed. Documents reviewed for this inspection are listed in the attachment.

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

b. Findings

Introduction. The inspectors reviewed a Green self-revealing non-cited violation of Technical Specifications 5.4.1(a), for failure of the hot-work fire watch to follow procedural requirements, which resulted in a fire in the main condenser A.

Description. On April 11, 2012, at 6:11 p.m., hot-work was in progress inside condenser A in the upper southeast corner at 150 foot elevation. The work was in support of the extended power uprate project for the replacement of the low pressure feedwater heaters. Cutting was being performed by contract boilermakers using an oxy-acetylene torch, with ventilation exhaust and supply provided by nearby HEPA hoses. The torch cutting operation produced hot slag, which exited the barrier provided by the fire blankets and ignited the nearby HEPA and air conditioning hoses and eventually ignited the acetylene hoses. Contract pipefitters in the area were able to extinguish the fire. The main control room was informed of the fire inside condenser A. The control room personnel dispatched the fire brigade to the scene. The operations shift manger declared a notice of unusual event at 6:26 p.m. due to a fire in the protective area lasting longer than 15 minutes. Members of the fire brigade entered the condenser bay at 6:42 p.m. and reported to the control room that there was no fire present, only smoke. The notice of unusual event was exited at 7:00 p.m.

The resident inspectors were notified of the fire at approximately 6:40 p.m. and responded to the site. Upon arrival to the site, the inspectors observed recovery actions for the fire in the main condenser A. The inspectors attended meetings that reviewed the event and were notified that site management had placed a stop-work order on all hot-work until a complete investigation of the event could be completed.

The licensee documented this issue in Condition Report CR-GGN-2012-05418. Short term corrective actions included site management placing a stop-work order on all hot-work until a complete investigation of the event could be performed. Additionally, the site performed a root cause evaluation of the event and determined that personnel assigned various duties over hot-work at the site were not correctly implementing procedure requirements. Management developed an oversight plan for hot-work areas, which included rounds of supervision (in addition to the rounds required in Procedure EN-DC-127, “Control of Hot-Work and Ignition Sources,” Revision 11) for hot-work areas for the remainder of the outage.

Analysis. Failure of hot-work fire watch to follow the procedural requirements resulting in a fire on site is a performance deficiency. The performance deficiency is more-than-minor because it is associated with the protection against external factors attribute of the Initiating Events Cornerstone and adversely affected the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during shutdown as well as power operations. The inspectors reviewed Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," that states in the Assumptions and Limitations section, “The Fire Protection SDP focuses on risks due to degraded conditions of the fire protection program during full power operation of a nuclear power plant. This tool does not address the potential risk significance of fire protection inspection findings in the context of other modes of

plant operation (i.e., low power or shutdown)." Therefore, the senior reactor analyst evaluated the finding in accordance with Manual Chapter 0609, Appendix G, Attachment 1, "Shutdown Operations Significance Determination Process Phase 1 Operational Checklists for both PWRs and BWRs." The finding did not require a quantitative assessment because adequate mitigating equipment remained available; the finding did not increase the likelihood of a loss of RCS inventory; the finding did not degrade the ability to terminate a leak path or add reactor coolant system inventory; and the finding did not degrade the ability to recover decay heat removal if lost. Therefore, the finding was determined to have very low safety significance. The inspectors determined that the apparent cause of this finding was that site management had not ensured that hot-work supervisors were ensuring compliance with procedural requirements. This finding therefore has a crosscutting aspect in the area of human performance associated with work practices component because the licensee failed to ensure supervisory oversight of hot-work activities are performed within procedural requirements such that nuclear safety is supported [H.4(c)].

Enforcement. Technical Specification 5.4.1(a) requires written procedures to be implemented as recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Specifically, Regulatory Guide 1.33, Section 1.l, "Plant Fire Protection Program," requires procedures for the control of combustible material in hot-work areas. Section 4.0[14], of Procedure EN-DC-127, "Control of Hot-Work and Ignition Sources," Revision 11, requires hot-work fire watches to inspect the area assigned and ensure that combustible materials are removed or protected prior to and during hot-work in the assigned area. Contrary to this, on April 11, 2012, the hot-work fire watch did not ensure combustible material in the area was properly protected during hot-work activities. As a result hot slag exited areas provided by fire blankets and ignited HEPA and air conditioning hoses causing in a fire in the main condenser A. This finding has been entered into the licensee's corrective action program as Condition Report CR-GGN-2012-05418. Because the finding was determined to be of very low safety significance and was entered into the licensee's corrective action program, this violation is being treated as a non-cited violation consistent with Section 2.3.2a of the NRC Enforcement Policy: NCV 05000416/2012003-08, "Failure of Hot-Work Fire Watch to Follow Procedural Requirements."

.2 Control Rod Drive Malfunction

a. Inspection Scope

On April 20, 2012, the inspectors responded to the control room to observe operator actions following entry into the off normal event procedure for control rod drive malfunction. While performing Procedure 04-1-03-C11-8, "Control Rod Exercising in Mode 3, 4, and 5," Revision 102, control rod 48-13MC continued to move out even with no withdraw signal applied. The control rod was reinserted and maintained at position 00 using the insert push button. The licensee began troubleshooting the issue in accordance with EN-MA-125, "Troubleshooting Control of Maintenance Activities", Revision 9, and determined that either crud or foreign material had entered the control rod drive mechanism collet finger area or collet finger piston itself, which prevented the collet fingers from fully engaging the control rod. The licensee's recovery plan included

increasing drive water pressure, attempting to withdraw the control rod by maintaining the insert push button depressed, and depressing the continuous withdraw and withdraw pushbuttons (double-clutch). When the insert pushbutton was released, the control rod began to withdraw, and the withdraw buttons were released. The control rod then settled at position 02, indicating the collet fingers were clear and functioning properly. Using Procedure 04-1-03-C11-8, "Control Rod Exercising," the control rod was then fully stroked from position 00 to position 48 several times, stopping in intermediate positions to ensure that the settle function was working correctly. The inspectors observed the troubleshooting process from the control room and emergent issues meeting room. The inspectors verified that the licensee maintained compliance with applicable technical specifications, and confirmed that the licensee was meeting their shutdown margin requirement with one control rod in the full out position. The inspectors determined that the licensee remained within their process of following procedural guidance and maintained a controlled approach to troubleshooting with appropriate management oversight. Documents reviewed for this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

4OA5 Other Activities

.1 Power Uprate Related Inspection Activities (71004)

a. Inspection Scope

During this inspection period, the inspectors observed several activities related to the power uprate amendment. As documented in previous sections above, the inspectors reviewed the following:

- EC-21999 – Power Range Neutron Monitoring System Modification (1R18)
- Replacement Steam Dryer 10 CFR 50.59 Evaluation Review under current thermal power limit (3898 Megawatts Thermal) (1R18)
- Post modification test for the ultimate heat sink siphon piping replacement and extension (1R19)
- Power range neutron monitoring system post-maintenance testing after installation (1R19)
- Operator training and requalification program (1R11)
- Power range neutron monitoring system functional test prior to start up (1R22)

These activities constitute completion of six inspection samples as defined in Inspection Procedure 71004, Section 2.01.

b. Findings

No findings were identified.

4OA6 Meetings, Including Exit

Exit Meeting Summary

On March 23, 2012, the inspector presented the results of the inservice inspection activities to Mr. M. Perito, Vice President, Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified. On May 8, 2012, the inspector exited with the revised characterization of the inspection results to Ms. C. Perino, Licensing Manager, and other members of the licensee staff. The licensee acknowledged the issues presented.

On June, 26, 2012, the inspectors presented the inspection results to Mike Perito, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

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

.1 Technical Specifications Section 5.7.2, requires areas with radiation levels greater than 1,000 mRem/hour to be provided with a locked or continuously guarded doors to prevent unauthorized entry. Contrary to this, on May 7, 2012, during refueling outage 18, the licensee was performing a Locked High Radiation Area (LHRA) posting verification on the containment 161 foot elevation northwest stairwell, and they found the lock on the LHRA cage door unlocked, with no guard posted. The radiation protection technician who found this condition, immediately engaged the lock and had it peer checked to ensure it was in the locked position. The licensee documented this violation in Condition Reports CR-GGN-2012-06729 and CR-GGN-2012-07640. The inspectors evaluated this finding using Inspection Manual Chapter (IMC) 0609, Appendix C, and determined there were no ALARA or work controls issues, no overexposures had occurred or substantial potential of overexposures, and the ability to assess dose was not compromised. Therefore, the finding was determined to be of very low safety significance (Green).

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel

M. Briley, ISI Manager
J. Browning, General Plant Manager
N. Chapman, Site Welding Engineer
J. Dorsey, Security Manager
H. Farris, Assistant Operations Manager
J. Giles, Manager, Training
K. Higgenbotham, Manager, Planning and Scheduling
D. Jones, Manager, Design Engineering
C. Justiss, Licensing
A. Kelly, ISI Implementer
C. Lewis, Manager, Emergency Preparedness
W. Mashburn, EPU Director
J. Miller, Manager, Operations
L. Patterson, Manager, Program Engineering
C. Perino, Licensing Manager
M. Perito, Vice President, Operations
M. Richey, Director, Nuclear Safety Assurance
R. Scarbrough, Specialist and Lead Offsite Liaison, Licensing
J. Seiter, Senior Licensing Specialist
J. Shaw, Manager, System Engineering
T. Trichell, Manager, Radiation Protection
D. Wiles, Engineering Director

NRC Personnel

R. Smith, Senior Resident Inspector
B. Rice, Resident Inspector

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000416/2012003-01	FIN	Failure to Ensure Materials are Stored Properly in the 500 KV Switchyard (Section 1R01)
05000416/2012003-02	NCV	Inadequate Corrective Actions to Address Configuration Control of Previous Non-Cited Violation (Section 1R08)
05000416/2012003-03	FIN	Loss of Alternate Method of Decay Heat Removal Due to Reactor Water Clean Up Pumps Tripping on Low Suction Flow Signal (Section 1R13)
05000416/2012003-04	NCV	Failure to Implement a Surveillance Requirement to Assure that the Limiting Condition for Operation Will be Met (Section 1R19)
05000416/2012003-05	NCV	Failure to Follow a Post-Modification Test Procedure (Section 1R19)
05000416/2012003-06	NCV	Failure to Follow Procedure Results in Loss of Decay Heat Removal to the Spent Fuel Pool (Section 1R20)
05000416/2012003-07	NCV	Inappropriate Use of Waivers to Allow Workers to Exceed the Minimum Day Off Rule (Section 1R20)
05000416/2012003-08	NCV	Failure of Hot-Work Fire Watch to Follow Procedural Requirements (Section 40A3)

LIST OF DOCUMENTS REVIEWED

Section 1RO1: Adverse Weather Protection

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-SP64-D-0044	Fire Door/PMP Door Check	116
07-S-14-310	Inspection of Mechanical Seals on Doors	9
05-1-02-VI-1	Off Normal Event Procedure Flooding	108
05-1-02-VI-2	Off Normal Event Procedure Hurricanes, Tornados and Severe Weather	117
05-1-02-VI-2	Off Normal Event Procedure Hurricanes, Tornados and Severe Weather	118
06-TE-1000-V-0001	Surveillance Procedure, Culvert No. 1 Embankment Stability Inspection/Survey	100
EN-IS-111	General Industrial Safety Requirements	11
01-S-07-43	Control of Loose Items, Temporary Electrical Power, and Access to Equipment	5
02-S-01-42	Switchyard Control	1
ENS-EP-302	Severe Weather Response	11
ENS-DC-201	ENS Transmission Grid Monitoring	5
ENS-DC-199	Off Site Power Supply Design Requirements Nuclear Plant Interface Requirements	7

DRAWING

NUMBER	TITLE	REVISION
E-0001	Main One Line Diagram	46

CONDITION REPORTS

CR-GGN-2011-07553 CR-GGN-2010-01042 CR-GGN-2012-03528

CR-GGN-2012-07362

WORK ORDERS

WO 52334661 01	WO 52368340 01	WO 52368342 01
WO 52377831 01	WO 52348557 01	WO 52353571 01
WO 52373842 01	WO 52373135 01	WO 52379644 01
WO 52266186 01	WO 52373841 01	

Section 1RO4: Equipment Alignment

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-G41-1	Fuel Pool Cooling & Cleanup/Filter-Demin	69
04-1-01-P41-1	System Operating Instruction, Standby Service Water System	136
01-S-10-5	Control of Emergency Response Equipment and Facilities	11
04-S-01-Z51-1	Control Room HVAC System	54
10-S-02-1	ERF Inspection, Inventories, Operability Checks, and Maintenance	14

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	Planned Work Against SSW, General Work Order Report Passport	April 25, 2012
GGNS-SDC-Z51	Design Engineering: Control Room HVAC System	2

CONDITION REPORTS

CR-GGN-2012-06481	CR-GGN-2012-06481

WORK ORDERS

WO 00050811 01	WO 00158930 01	WO 00277902 01

ENGINEERING CHANGES

EC 0000000839	EC 0000030407	EC 0000030408

EC 0000027247	EC 5000104072	EC 0000025649
EC 5000104060	EC 0000027248	

Section 1RO5: Fire Protection

PROCEDURES

NUMBER	TITLE	REVISION
Fire Pre-Plan A-25	Electrical SWGR Room, Room 1A309, Area 7, Elevation 139	2
Fire Pre-Plan A-52	Electrical Penetration ESF MCC 16B21, Room 1A320, Area 10, Elevation 139	1
Fire Pre-Plan A-50	Electrical Penetration ESF MCC 15B41, Room No. 1A318, Area 9, Elevation 139	2
Fire Pre-Pan A-23	Pipe Penetration Room – 1A306, RHR B Heat EXCH Room – 1A307, Area 8, Elevation 139	0
Fire Pre-Plan A-24	Electrical SWGR Room, Room 1A308, Area 8, Elevation 139	1
EN-DC-161	Control of Combustibles	6

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
460001952	Vendor Manual-Wall and Floor Penetration Seals	9
Cal. No. MC-QSP64-86058	Combustible Heat Load Calculation	62

CONDITION REPORTS

CR-GGN-2012-05000	CR-GGN-2012-04999	CR-GGN-2008-01921

ENGINEERING CHANGE

EC 0000002437

Section 1RO7

PROCEDURES

NUMBER	TITLE	REVISION
EN-DC-316	Heat Exchanger Performance and Condition Monitoring	3

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
ER-GG-2003-0254-000	Approval to plug tubes in the RHR Heat Exchanger	0
TR-107397	Service Water Heat Exchanger Testing Guidelines	March 1998

CONDITION REPORTS

CR-GGN-2012-05401	CR-GGN-2009-06600	CR-GGN-2009-06601

Section 1RO8: Inservice Inspection Activities

PROCEDURES

NUMBER	TITLE	REVISION
CEP-NDE-0404	Manual Ultrasonic Examination of Ferritic Piping Welds (ASME XI)	4
CEP-NDE-0731	Magnetic Particle Examination (MT) for ASME Section XI	3
CEP-NDE-0903	VT-3 Examination	2
WPS-CS-1/1-C	Welding Procedure Specifications	0
CEP-WP-002	Shielded Metal Arc Welding	0
EN-RP-101	Access Control For Radiologically Controlled Areas	6
GEH-UT-311	Procedure For Manual Ultrasonic Examination Of Nozzle Inner Radius, Bore And Selected Nozzle To Vessel Regions	16
GEH-UT-311 V.16	Clarify Sweep Range Applicable to Calibrations and Examinations to Provide Improved Resolution of Both Calibration Reflectors or Target Exam Volume	16

Section 1RO8: Inservice Inspection Activities

PROCEDURES

NUMBER	TITLE	REVISION
GE-PDI-UT-10	PDI Generic Procedure For The Ultrasonic Examination of Dissimilar Metal Welds	2/10
GE-UT-300	Procedure For Manual Examination of Reactor Vessel Assembly Welds In Accordance With PDI	10
GE-UT-304	Procedure For Manual Ultrasonic Planar Flaw Sizing In Vessel Materials	8
GE-UT-309	Procedure For Manual Ultrasonic Planar Flaw Sizing of Nozzle Inner Radius and Bore Regions	10
URS	Industrial Radiography	22
GGNS-DCS-19	Installation of Sacrificial Compression Fitting At Tubing Joints Requiring Frequent Remakes	0

CONDITION REPORTS

CR-GGN-2010-0660	CR-GCN-2011-03865	CR-GGN-2011-06514
CR-GGN-2011-08201	CR-GGN-2011-08644	CR-GGN-2011-09236
CR-GGN-2012-03926	CR-GGN-2012-04002	CR-GGN-2012-04003
CR-GGN-2012-04075	CR-GGN-2012-040095	CR-GGN-2012-04097
CR-GGN-2012-04098	CR-GGN-2012-04099	

Section 1R11: Licensed Operator Requalification Program

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
	Operations Continuing Training 2012 Cycle 4	3

Section 1R12: Maintenance Effectiveness

DRAWINGS

NUMBER	TITLE	REVISION
E-1225-003	P41 Standby Service Water System SSW Pump C001A, Unit 1	16
E-0001	Main One Line Diagram	48
E-1008	One Line Meter and Relay Diagram 4.16KV E.S.F. System Buses 15 AA and 16 AB, Unit 1	

OTHER DOCUMENTS

NUMBER	TITLE	DATE
E12	Work Orders Performed During RF 18	
	Maintenance Rule (a)(1) Systems List	May 21,2012
R20-480 VAC Distribution	System Health Report	Q2-2012

CONDITION REPORTS

CR-GGN-2010-03422	CR-GGN-2012-05442	CR-GGN-2011-03391
CR-GGN-2011-05213	CR-GGN-2011-05446	CR-GGN-2011-07724
CR-GGN-2011-05808	CR-GGN-2011-04582	CR-GGN-2012-04274
CR-GGN-2012-05557	CR-GGN-2012-05820	CR-GGN-2012-04900
CR-GGN-2012-05846	CR-GGN-2012-05973	CR-GGN-2012-06021
CR-GGN-2012-05949	CR-GGN-2012-05501	CR-GGN-2012-04419
CR-GGN-2012-04478	CR-GGN-2012-05839	CR-GGN-2012-06265
CR-GGN-2012-04584	CR-GGN-2012-05550	CR-GGN-2011-06528
CR-GGN-2010-06142	CR-GGN-2011-06563	CR-GGN-2011-06972
CR-GGN-2012-01486	CR-GGN-2011-08175	CR-GGN-2010-05892
CR-GGN-2012-00148	CR-GGN-2011-08187	CR-GGN-2011-08198
CR-GGN-2010-04733	CR-GGN-2012-00525	CR-GGN-2012-00827
CR-GGN-2012-05654	CR-GGN-2012-03280	CR-GGN-2012-05304
CR-GGN-2012-06132	CR-GGN-2012-04437	CR-GGN-2012-04668
CR-GGN-2012-03839	CR-GGN-2012-04292	CR-GGN-2012-04773

CR-GGN-2012-05083	CR-GGN-2011-00789	CR-GGN-2011-01710
CR-GGN-2010-07351	CR-GGN-2011-00791	CR-GGN-2011-00820
CR-GGN-2011-00985	CR-GGN-2010-05290	CR-GGN-2010-04629
CR-GGN-2010-04625	CR-GGN-2010-06137	CR-GGN-2010-05208
CR-GGN-2010-05330	CR-GGN-2010-04686	CR-GGN-2010-04963
CR-GGN-2010-05572	CR-GGN-2010-06878	CR-GGN-2010-06148
CR-GGN-2010-06150	CR-GGN-2010-05328	CR-GGN-2011-00403
CR-GGN-2011-00749	CR-GGN-2011-00819	CR-GGN-2011-00850
CR-GGN-2011-01306	CR-GGN-2011-01942	CR-GGN-2011-02393
CR-GGN-2010-05492	CR-GGN-2010-08655	CR-GGN-2012-02179
CR-GGN-2010-06388	CR-GGN-2011-04306	CR-GGN-2012-02645
CR-GGN-2010-06415	CR-GGN-2011-04452	CR-GGN-2012-05308
CR-GGN-2010-06454	CR-GGN-2011-04768	CR-GGN-2012-05442
CR-GGN-2010-06469	CR-GGN-2011-05067	CR-GGN-2012-05472
CR-GGN-2010-06490	CR-GGN-2012-00728	CR-GGN-2012-05517
CR-GGN-2010-06662	CR-GGN-2012-00835	CR-GGN-2012-05530
CR-GGN-2010-07139	CR-GGN-2012-00841	CR-GGN-2012-05689
CR-GGN-2010-07483	CR-GGN-2012-01263	CR-GGN-2012-07084
CR-GGN-2010-08223	CR-GGN-2012-01337	CR-GGN-2012-07336
CR-GGN-2010-08652	CR-GGN-2012-01627	CR-GGN-2012-07373
CR-GGN-2011-00070	CR-GGN-2012-07722	CR-GGN-2012-06701
CR-GGN-2012-05687		

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION
05-1-02-VI-2	Hurricanes, Tornados, and Severe Weather	117
EN-DC-115	Engineering Change Process	12
EN-OP-102	Protective and Caution Tagging	14
EN-WM-105	Planning	10

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

PROCEDURES

NUMBER	TITLE	REVISION
EN-MA-119	Material handling Program	12

DRAWING

NUMBER	TITLE	REVISION
E-1204-022	G33 Reactor Water Clean-Up System Power Distribution, Pumps, Pump Logic	16

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	GGNS Logs, Days	April 2, 2012
	Shutdown Condition 1, Time to 200° F: 70 Hrs	Week of May 20th, 2012
	GGNS Logs, Nights	May 22nd, 2012
FLP-MTHL-Overhead Crane	Overhead Crane Operations Classroom	0

CONDITION REPORTS

CR-GGN-2012-04887	CR-GGN-2012-04888	CR-GGN-2012-06092
CR-GGN-2012-06105	CR-GGN-2012-07659	

ENGINEERING CHANGE

EC No.: 37841

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION
07-S-14-395	Safety and Relief Valve Program	16
07-S-14-395	Attachment I, General Maintenance Instruction	16

Section 1R15: Operability Evaluations

PROCEDURES

NUMBER	TITLE	REVISION
EN-DC-149	Vendor Document Review Status, Design of Weld Overview Repair for GGNS N-6 Nozzle to Safe End Weld	0

ENGINEERING DOCUMENTS

NUMBER	TITLE	REVISION / DATE
0000035126	Engineering Evaluation to Determine Acceptability of Deferring the Weld Repair for RWCU Heat Exchanger 1G33B001B	February 27,2012
ECH-NE-12-00035	GGNS RFO 18 Bundle Bounce During Upending in HFTS	0

DRAWINGS

NUMBER	TITLE	REVISION / DATE
5.4-021	P&I Diagram Reactor Water Clean-Up System Unit 1	46
Sketch EC 37007-00-01	N06BKB Weld Overlay	May 1, 2012

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
EN-OP-104, Attachment 9.6	Operability Evaluation: CR-GGN-2012-04872	5
ANSI/ASME OM-1-1981	Table 1, Class 1 – Pressure Relief Valve Testing Schedules, First 5 Year Period, page 3	
N-504-4	Cases of ASME Boiler and Pressure Vessel Code	July 14, 2006
CEP-IST-4	Standard on Inservice Testing	306
WPS-03-43-T-804	Welding Procedure Specification: Weld Overlay	1
TGN-PE-02	Temper Bead Welding	0
	Thermal Heat Data EC 37007	November 11. 1977

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
LBDCR# 2012-027		May 1, 2012
GGRF-APR-017	GE Examination Summary Sheet for N06B-KB	April 28, 2012
	RF18 Problem Information Communication EIT-18-7955: Intermediate Range Monitor (IRMs) B, D, and H are inoperable	June 2012
SP41F065B Follow-up	Additional information for CR-GGN-2012-04872	

CONDITION REPORTS

CR-GGN-2011-04516	CR-GGN-2012-04872	CR-GGN-2012-05464
CR-GGN-2012-04345	CR-GGN-2012-06522	CR-GGN-2012-06300
CR-GGN-2012-06454	CR-GGN-2012-06483	CR-GGN-2012-06563
CR-GGN-2012-06734	CR-GGN-2012-06300	CR-GGN-2012-06386
CR-GGN-2012-04641	CR-GGN-2012-04872	CR-GGN-2012-06734
CR-GGN-2012-07978	CR-GGN-2012-07997	CR-GGN-2012-07998
CR-GGN-2012-08007	CR-GGN-2012-08013	CR-GGN-2012-08023

WORK ORDER

WO 00314383 02

Section 1R18: Plant Modifications

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-B33-1	Reactor Recirculation System	148
06-RE-1J11-V-0002	FCBB Verification	104
EN-LI-100	Process Applicability Determination	10

CALCULATIONS

NUMBER	TITLE	REVISION
Calculation C-G480	Design of Reactor Pedestal	0
Calculation C-G450	Design of Reactor Supports (Ring Girder)	0
MC-NSZ17-88014	Heat Load for Control Building Computer Room (OC403) and Battery Room (OC410)	0
MC-QSZ51-87068	Control Room HVAC System – Post LOCA Cooling Loads	2
JC-Q1C51-K605-1	Setpoint Validation for APRM Neutron Flux Upscale Trip	1
JC-Q1C51-K605-2	APRM Neutron Flux Upscale – Setdown Tech. Spec. Setpoint	1

DRAWINGS

NUMBER	TITLE	REVISION
M-0049	P & I Diagram Control Room HVAC System Unit 1	044
E-1172-047	Schematic Diagram Power Range Neutron Mon System APRM Auxiliary Relays Unit 1	3
105E1503WA	APRM Channel 1	8

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
10 CFR 50.59 Evaluation 2012-004	ECN 36706 to EC 23898, Replacement Steam Dryer	0
NEDC-33601P	Grand Gulf Replacement Steam Dryer Fatigue Stress Analysis Using PBLE Methodology	0
UPDATED FINAL SAFETY ANALYSIS REPORT 3.9.5	Reactor Pressure Vessel Internals	

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
UPDATED FINAL SAFETY ANALYSIS REPORT 4.1.2.4	Steam Dryer Assembly	
UPDATED FINAL SAFETY ANALYSIS REPORT 4.5.2	Reactor Internals Materials	
UPDATED FINAL SAFETY ANALYSIS REPORT 5.1.1	Schematic Flow Diagram	
UPDATED FINAL SAFETY ANALYSIS REPORT 9.1.4.2.2.1	Containment Polar Crane	
22A3739	Design Specification for Neutron Monitoring System	6

ENGINEERING CHANGE

EC 21999

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-1C51-V-0002	IRM Functional Test	107
06-OP-1C51-V-0002, Attachment I	IRM Functional Test (IRMH)	107
06-OP-1C51-V-0002, Attachment II	IRM Functional Test (IRMH)	107
EN-AD-102	Procedure Adherence and Level of Use	7
EN-DC-115	Engineering Change Process	12

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
EN-DC-117	Post Modification Testing and Special Instructions	5
EN-LI-100	Process Applicability Determination	11
06-RE-SC11-V-0402	Control Rod Scram Testing – Individual Scram – Manual Analysis Method (Section 5.4)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 52-37 (NJ)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 44-05 (LA)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 36-09 (JB)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 40-09 (KB)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 36-17 (JD)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 40-17 (KD)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 48-21 (ME)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 44-21 (LE)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 36-25 (JF)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 48-25 (MF)	117
06-RE-SC11-V-	Control Rod Scram Testing – Functional Test – Control Rod	117

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
0402, Attachment V	52-29 (NG)	
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 44-29 (LG)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 52-33 (NH)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 56-33 (PH)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 56-37 (PJ)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 44-37 (LJ)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 40-37 (KJ)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 36-37 (JJ)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 48-41 (MK)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 52-45 (NL)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 48-45 (ML)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 40-45 (KL)	117

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 44-49 (LM)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 48-53 (MN)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 32-61 (HQ)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 40-05 (KA)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 48-13 (MC)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 56-13 (PC)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 36-05 (JA)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 12-09 (CB)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 12-17 (CD)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 24-17 (FD)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 16-21 (DE)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 16-25 (DF)	117

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 24-25 (FF)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 28-25 (GF)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 12-33 (CH)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 20-33 (EH)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 12-37 (CJ)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 16-41 (DK)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 20-41 (EK)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 20-41 (FK)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 28-41 (GK)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 28-45 (GL)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 16-45 (DL)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 08-45 (BL)	117

Section 1R19: Post-Maintenance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 04-45 (AL)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 08-49 (BM)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 24-49 (FM)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 28-53 (GN)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 12-53 (CN)	117
06-RE-SC11-V-0402, Attachment V	Control Rod Scram Testing – Functional Test – Control Rod 28-57 (GP)	117
07-S-13-61	Power Supply/Inverter Conditioning Capacitor Performing	3
06-EL-1L11-Q-0001	125-Volt Battery Bank All Cell Check	105
06-EL-1L11-W-0001	125-Volt Battery Bank Pilot cell Check	104

DRAWING

NUMBER	TITLE	REVISION
E-1185-033	E51 Reactor Core Isolation Cooling System Power Distribution	6

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
Test # ECT 25649-01	Post Modification Testing of the GGNS EPU UHS Siphon Line Extension	0

OTHER DOCUMENTS

NUMBER	TITLE	REVISION
Test # ECT 21999-01	Attachment B2, APRM Channel 1 Functional Test	0
	SP41B001A Demonstrate the SSW Basin Siphon Line (3"-HBC-502) is Unobstructed WO 52352745	

CONDITION REPORTS

CR-GGN-2012-05778	CR-GGN-2012-05997	CR-GGN-2012-06000
CR-GGN-2012-06006	CR-GGN-2012-05611	CR-GGN-2012-05617
CR-GGN-2012-05628	CR-GGN-2012-06146	CR-GGN-2012-06165
CR-GGN-2012-06469	CR-GGN-2012-06577	CR-GGN-2012-05260
CR-GGN-2012-08257	CR-GGN-2012-08537	CR-GGN-2012-05384
CR-GGN-2012-08404	CR-GGN-2012-08470	

WORK ORDERS

WO 00310591 01	WO 00310591 04	WO 00306640 01
WO 52405928 01	WO 52352745 01	WO 52275303 01
WO 00219985 01	WO 00318475 01	

ENGINEERING CHANGE

EC 37221	ECT 21999-01

Section 1R20: Refueling and Other Outage Activities

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-E12-2	Shutdown Cooling and Alternate Decay Heat Removal Operation	115
03-1-01-1	Cold Shutdown to Generator Carrying Minimum Load	150
03-1-01-2	Power Operations	151
04-1-01-C51-1	Neutron monitoring	28

Section 1R20: Refueling and Other Outage Activities

PROCEDURES

NUMBER	TITLE	REVISION
07-S-14-415	Installation and Operation of Pool Gate Seal Air Supply Systems	4
EN-RE-215	Reactivity Maneuver Plan (BWR)	1

DRAWINGS

NUMBER	TITLE
GG-1-FIG-OP-C111B	Figure 1
GFIG-OPS-B1300	Figure 9
GG-1205-0428	208 CTMT is posted LHRA at the airlock and all stairs leading to 208. Area where boxes located is a CA June 3, 2012
GG-1-FIG-OP-C5101	SRM Detector Assembly Core Positions

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	GGNS Logs, Nights	April 11, 2012
	Grand Gulf Unit 1 Final Core, Cycle 19, Core Verification	March 7, 2012
	GGNS RFO 18 Core Verification CD	March 16, 2012
	GGNS Operations Log, Days	April 16, 2012
	GGNS Operations Log, Days	April 17, 2012
GGNS/OSRC2012-19	OSRC Meeting Minutes	June 3, 2012
GGN-2012-2164	CR's Flagged for RF18 with Mode 2 Restraints	May 25, 2012
NEI 99-02	Occupational Radiation Safety Cornerstone	6

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
	Operational Impact of EC38230 due to failure of 1st stage turbine sensing line on B side	

CONDITION REPORTS

CR-GGN-2012-04287	CR-GGN-2012-04326	CR-GGN-2012-04443
CR-GGN-2012-05756	CR-GGN-2012-05758	CR-GGN-2012-05797
CR-GGN-2012-05939	CR-GGN-2012-06097	CR-GGN-2012-06925
CR-GGN-2012-07348	CR-GGN-2012-05442	CR-GGN-2012-06729
CR-GGN-2012-07243	CR-GGN-2012-07640	CR-GGN-2012-07763
CR-GGN-2012-07792	CR-GGN-2012-07793	CR-GGN-2012-07990
CR-GGN-2012-08224		

WORK ORDER

WO 52323960

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-1P75-R-0004, Attachment II	SDG 12, 18 Month Functional Test – Test No. 2 – SDG 12 Trips and Response to ECCS Initiation Signal, Largest Single AND 100% Load Rejection	118
06-OP-1P75-R-0004, Attachment IV	SDG 12; 18 Month Functional Test – Test No. 6 Section 5.8 – Div 2 LOP/LOCA	118
06-OP-1P75-R-0004, Attachment III	SDG 12, 18 Month Functional Test – Test No. 4 – Loss of Offsite Power	118
06-OP-1P75-R-0004, Attachment V	SDG 12, 18 Month Functional Test General Instructions	118
06-OP-1E22-Q-	HPCS Quarterly Functional Test	120

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
0005		
04-1-01-F11-1	Refueling Platform	44
06-OP-1C71-V-0002, Attachment I	Refueling Interlock Check – One-Rod-Out Interlock	113
06-OP-1C71-V-0002, Attachment II	Refueling Interlock Check – Refueling Platform Bridge-Over-Core Interlocks	113
06-OP-1C71-V-0002, Attachment VI	Refueling Interlock Check – Frame Mounted Hoist	113
06-OP-1E22-Q-0005, Attachment I	HPCS Quarterly Functional Test	120
03-1-01-6	Reactor Vessel In-Service Leak Test	119
01-S-07-35	ASME Section XI System Pressure Test	105
06-OP-1B21-V-0001	MSIV Operability Test	115
CEP-IST-2	Inservice Testing Plan	319
CEP-IST-4	Standard on Inservice Testing	306
06-OP-1E51-Q-0003, Attachment I	RCIC System Quarterly Pump Operability Verification	134
06-OP-1C51-V-0003, Attachment II	APRM Functional Test-Rod Blocks Prior to Startup – Channel 1	116
06-OP-1C51-V-0004, Attachment II	APRM Functional Test-Rod Blocks Prior to Startup – Channel 2	100
06-OP-1C51-V-0005, Attachment II	APRM Functional Test-Rod Blocks Prior to Startup – Channel 3	100
06-OP-1C51-V-	APRM Functional Test-Rod Blocks Prior to Startup – Channel	100

Section 1R22: Surveillance Testing

PROCEDURES

NUMBER	TITLE	REVISION
0006, Attachment II	4	
01-S-02-2	APRM Channel Functional Test	119

DRAWING

NUMBER	TITLE	REVISION
M-1312A	Area Piping Composite Containment – Misc Sections and Details – Unit q	1

CALCULATIONS

NUMBER	TITLE	REVISION
M6.7.013	Condensate Storage Tank Reserve Capacity	2
MC-Q1E22-00010	HPCS and RCIC System Performance With Regards to CST and Suppression Pool Suction for Level Transmitters E22N054C&G and E51N035A&E	2

OTHER

NUMBER	TITLE	REVISION
STPI-8730-0189-WT	Calibration/Maintenance Data Report	2
4600010280	Handbook of Valve Information Powell Valves	A
460001319	Alnor Instrument Company Velometer	
ECT21999-01	Power Ranger Neutron Monitoring System with Attachments B1-B7	0

CONDITION REPORTS

CR-GGN-2012-05169	CR-GGN-2012-04597	CR-GGN-2012-04599
CR-GGN-2012-04632	CR-GGN-2012-05973	CR-GGN-2012-05976
CR-GGN-2012-08170	CR-GGN-2012-08171	CR-GGN-2012-08173
CR-GGN-2012-08174	CR-GGN-2012-08175	CR-GGN-2012-08080

CR-GGN-2012-08076

WORK ORDERS

WO 52283031 01	WO 52283180 01	WO 52283032 01
WO 52283354 01	WO 52283849 01	WO52285172 01
WO 00307323 01	WO 00269960 01	WO 00308708 01
WO 00307144 01	WO 52401143 01	

Section 1EP4: Emergency Action Level and Emergency Plan Changes

PROCEDURE

NUMBER	TITLE	REVISION
10-S-01-1	Activation of the Emergency Plan	12

Section 4OA1: Performance Indicator Verification

PROCEDURES

NUMBER	TITLE	REVISION
08-S-04-634	Calculations for Tritium Concentration Minimum Detectable Count Rate (MDCR)	8
EN-LI-114	Performance Indicator Process, Unit 1, 2nd Qtr. 2011, MS-Safety System Unavailability/Safety System Functional Failures	4
EN-LI-114	Performance Indicator Process, Unit 1, 3rd Qtr. 2011, MS-Safety System Unavailability/Safety System Functional Failures	4
EN-LI-114	Performance Indicator Process, Unit 1, 4th Qtr. 2011, MS-Safety System Unavailability/Safety System Functional Failures	4
EN-LI-114	Performance Indicator Process, Unit 1, 1st Qtr. 2012, MS-Safety System Unavailability/Safety System Functional Failures	4
EN-LI-114	Performance Indicator Process, Unit 1, 2nd Qtr. 2011, BI-Reactor Coolant System Leakage	4
EN-LI-114	Performance Indicator Process, Unit 1, 3rd Qtr. 2011, BI-Reactor Coolant System Leakage	4

Section 4OA1: Performance Indicator Verification

PROCEDURES

NUMBER	TITLE	REVISION
EN-LI-114	Performance Indicator Process, Unit 1, 4th Qtr. 2011, BI-Reactor Coolant System Leakage	4
EN-LI-114	Performance Indicator Process, Unit 1, 1st Qtr. 2012, BI-Reactor Coolant System Leakage	4
EN-LI-114	Performance Indicator Process, Unit 1, 2nd Qtr. 2011, BI-Reactor Coolant System Specific Activity	4
EN-LI-114	Performance Indicator Process, Unit 1, 3rd Qtr. 2011, BI-Reactor Coolant System Specific Activity	4
EN-LI-114	Performance Indicator Process, Unit 1, 4th Qtr. 2011, BI-Reactor Coolant System Specific Activity	4
EN-LI-114	Performance Indicator Process, Unit 1, 1st Qtr. 2012, BI-Reactor Coolant System Specific Activity	4

WORK ORDER

WO 52323960 01

Section 4OA2: Identification and Resolution of Problems

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-SP64-D-0044	Fire Door/PMP Door Check	116
EN-DC-127	Control of Hot-Work and Ignition Sources	11
EN-DC-161	Control of Combustibles	6
01-S-02-3	Fire Watch Program	116

CONDITION REPORTS

CR-GGN-2011-08300	CR-GGN-2011-08822	CR-GGN-2011-09373
CR-GGN-2011-08301	CR-GGN-2011-08835	CR-GGN-2012-00007
CR-GGN-2011-08377	CR-GGN-2011-08869	CR-GGN-2012-00011
CR-GGN-2011-08379	CR-GGN-2011-08886	CR-GGN-2012-00015

CR-GGN-2011-08388
CR-GGN-2011-08398
CR-GGN-2011-08399
CR-GGN-2011-08440
CR-GGN-2011-08461
CR-GGN-2011-08563
CR-GGN-2011-08614
CR-GGN-2011-08615
CR-GGN-2011-08622
CR-GGN-2011-08647
CR-GGN-2011-08650
CR-GGN-2011-08651
CR-GGN-2011-08664
CR-GGN-2011-08666
CR-GGN-2011-08685
CR-GGN-2011-08722
CR-GGN-2011-08742
CR-GGN-2011-08744
CR-GGN-2011-08760
CR-GGN-2011-08793
CR-GGN-2011-08807
CR-GGN-2011-08817
CR-GGN-2011-09262
CR-GGN-2011-09281
CR-GGN-2011-09297
CR-GGN-2011-09301
CR-GGN-2011-09302
CR-GGN-2011-08914
CR-GGN-2011-08958
CR-GGN-2011-08989
CR-GGN-2011-09004
CR-GGN-2011-09011
CR-GGN-2011-09021
CR-GGN-2011-09025
CR-GGN-2011-09034
CR-GGN-2011-09056
CR-GGN-2011-09090
CR-GGN-2011-09104
CR-GGN-2011-09114
CR-GGN-2011-09126
CR-GGN-2011-09177
CR-GGN-2011-09179
CR-GGN-2011-09188
CR-GGN-2011-09191
CR-GGN-2011-09213
CR-GGN-2011-09230
CR-GGN-2011-09235
CR-GGN-2011-09251
CR-GGN-2011-09260
CR-GGN-2012-00806
CR-GGN-2012-00810
CR-GGN-2012-00829
CR-GGN-2012-00845
CR-GGN-2012-00866
CR-GGN-2012-00016
CR-GGN-2012-00035
CR-GGN-2012-00042
CR-GGN-2012-00084
CR-GGN-2012-00101
CR-GGN-2012-00143
CR-GGN-2012-00167
CR-GGN-2012-00281
CR-GGN-2012-00294
CR-GGN-2012-00320
CR-GGN-2012-00380
CR-GGN-2012-00402
CR-GGN-2012-00419
CR-GGN-2012-00427
CR-GGN-2012-00443
CR-GGN-2012-00448
CR-GGN-2012-00460
CR-GGN-2012-00467
CR-GGN-2012-00472
CR-GGN-2012-00478
CR-GGN-2012-00492
CR-GGN-2012-00505
CR-GGN-2012-01385
CR-GGN-2012-01414
CR-GGN-2012-01428
CR-GGN-2012-01432
CR-GGN-2012-01448

CR-GGN-2011-09303
CR-GGN-2011-09304
CR-GGN-2011-09337
CR-GGN-2011-09343
CR-GGN-2012-00511
CR-GGN-2012-00531
CR-GGN-2012-00560
CR-GGN-2012-00565
CR-GGN-2012-00575
CR-GGN-2012-00590
CR-GGN-2012-00593
CR-GGN-2012-00639
CR-GGN-2012-00656
CR-GGN-2012-00673
CR-GGN-2012-00677
CR-GGN-2012-00725
CR-GGN-2012-00729
CR-GGN-2012-00734
CR-GGN-2012-00760
CR-GGN-2012-00794
CR-GGN-2012-00797
CR-GGN-2012-01235
CR-GGN-2012-01247
CR-GGN-2012-01269
CR-GGN-2012-01294
CR-GGN-2012-01295
CR-GGN-2012-01307
CR-GGN-2012-00870
CR-GGN-2012-00881
CR-GGN-2012-00902
CR-GGN-2012-00904
CR-GGN-2012-00917
CR-GGN-2012-00933
CR-GGN-2012-00943
CR-GGN-2012-00970
CR-GGN-2012-00980
CR-GGN-2012-00981
CR-GGN-2012-00983
CR-GGN-2012-00992
CR-GGN-2012-00993
CR-GGN-2012-00995
CR-GGN-2012-01044
CR-GGN-2012-01051
CR-GGN-2012-01062
CR-GGN-2012-01075
CR-GGN-2012-01087
CR-GGN-2012-01088
CR-GGN-2012-01185
CR-GGN-2012-01946
CR-GGN-2012-01961
CR-GGN-2012-01979
CR-GGN-2012-01982
CR-GGN-2012-01984
CR-GGN-2012-02011
CR-GGN-2012-01458
CR-GGN-2012-01465
CR-GGN-2012-01467
CR-GGN-2012-01486
CR-GGN-2012-01496
CR-GGN-2012-01530
CR-GGN-2012-01552
CR-GGN-2012-01564
CR-GGN-2012-01565
CR-GGN-2012-01566
CR-GGN-2012-01595
CR-GGN-2012-01596
CR-GGN-2012-01622
CR-GGN-2012-01655
CR-GGN-2012-01658
CR-GGN-2012-01659
CR-GGN-2012-01662
CR-GGN-2012-01663
CR-GGN-2012-01664
CR-GGN-2012-01668
CR-GGN-2012-01669
CR-GGN-2012-02699
CR-GGN-2012-02701
CR-GGN-2012-02714
CR-GGN-2012-02731
CR-GGN-2012-02763
CR-GGN-2012-02818

CR-GGN-2012-01361
CR-GGN-2012-01374
CR-GGN-2012-01379
CR-GGN-2012-01672
CR-GGN-2012-01675
CR-GGN-2012-01703
CR-GGN-2012-01716
CR-GGN-2012-01743
CR-GGN-2012-01760
CR-GGN-2012-01781
CR-GGN-2012-01805
CR-GGN-2012-01807
CR-GGN-2012-01837
CR-GGN-2012-01842
CR-GGN-2012-01867
CR-GGN-2012-01874
CR-GGN-2012-01880
CR-GGN-2012-01883
CR-GGN-2012-01902
CR-GGN-2012-01941
CR-GGN-2012-02415
CR-GGN-2012-02416
CR-GGN-2012-02515
CR-GGN-2012-02543
CR-GGN-2012-02549
CR-GGN-2012-02560
CR-GGN-2012-02564
CR-GGN-2012-02016
CR-GGN-2012-02092
CR-GGN-2012-02101
CR-GGN-2012-02140
CR-GGN-2012-02161
CR-GGN-2012-02184
CR-GGN-2012-02189
CR-GGN-2012-02282
CR-GGN-2012-02286
CR-GGN-2012-02287
CR-GGN-2012-02300
CR-GGN-2012-02318
CR-GGN-2012-02323
CR-GGN-2012-02333
CR-GGN-2012-02340
CR-GGN-2012-02375
CR-GGN-2012-02383
CR-GGN-2012-02392
CR-GGN-2012-02413
CR-GGN-2012-02414
CR-GGN-2012-03891
CR-GGN-2012-03953
CR-GGN-2012-03962
CR-GGN-2012-03981
CR-GGN-2012-04002
CR-GGN-2012-04018
CR-GGN-2012-04035
CR-GGN-2012-02842
CR-GGN-2012-02849
CR-GGN-2012-02851
CR-GGN-2012-02899
CR-GGN-2012-02965
CR-GGN-2012-02994
CR-GGN-2012-03001
CR-GGN-2012-03011
CR-GGN-2012-03064
CR-GGN-2012-03116
CR-GGN-2012-03121
CR-GGN-2012-03148
CR-GGN-2012-03154
CR-GGN-2012-03186
CR-GGN-2012-03209
CR-GGN-2012-03217
CR-GGN-2012-03225
CR-GGN-2012-03265
CR-GGN-2012-03285
CR-GGN-2012-03322
CR-GGN-2012-05010
CR-GGN-2012-05017
CR-GGN-2012-05077
CR-GGN-2012-05176
CR-GGN-2012-05206
CR-GGN-2012-05226
CR-GGN-2012-05369

CR-GGN-2012-02602
CR-GGN-2012-02606
CR-GGN-2012-03368
CR-GGN-2012-03404
CR-GGN-2012-03450
CR-GGN-2012-03491
CR-GGN-2012-03515
CR-GGN-2012-03565
CR-GGN-2012-03569
CR-GGN-2012-03591
CR-GGN-2012-03595
CR-GGN-2012-03617
CR-GGN-2012-03622
CR-GGN-2012-03665
CR-GGN-2012-03728
CR-GGN-2012-03796
CR-GGN-2012-03811
CR-GGN-2012-03868
CR-GGN-2012-03878
CR-GGN-2012-04595
CR-GGN-2012-04612
CR-GGN-2012-04647
CR-GGN-2012-04675
CR-GGN-2012-04692
CR-GGN-2012-04715
CR-GGN-2012-04742
CR-GGN-2012-04747
CR-GGN-2012-04057
CR-GGN-2012-04081
CR-GGN-2012-04098
CR-GGN-2012-04103
CR-GGN-2012-04140
CR-GGN-2012-04149
CR-GGN-2012-04199
CR-GGN-2012-04262
CR-GGN-2012-04289
CR-GGN-2012-04295
CR-GGN-2012-04299
CR-GGN-2012-04305
CR-GGN-2012-04309
CR-GGN-2012-04313
CR-GGN-2012-04360
CR-GGN-2012-04442
CR-GGN-2012-04443
CR-GGN-2012-04462
CR-GGN-2012-04526
CR-GGN-2012-06175
CR-GGN-2012-06216
CR-GGN-2012-06231
CR-GGN-2012-06236
CR-GGN-2012-06254
CR-GGN-2012-06336
CR-GGN-2012-06418
CR-GGN-2012-06433
CR-GGN-2012-05388
CR-GGN-2012-05421
CR-GGN-2012-05448
CR-GGN-2012-05456
CR-GGN-2012-05458
CR-GGN-2012-05534
CR-GGN-2012-05583
CR-GGN-2012-05587
CR-GGN-2012-05594
CR-GGN-2012-05645
CR-GGN-2012-05647
CR-GGN-2012-05663
CR-GGN-2012-05728
CR-GGN-2012-05747
CR-GGN-2012-05757
CR-GGN-2012-05762
CR-GGN-2012-05765
CR-GGN-2012-05812
CR-GGN-2012-05829
CR-GGN-2012-06782
CR-GGN-2012-06813
CR-GGN-2012-06817
CR-GGN-2012-06843
CR-GGN-2011-08134
CR-GGN-2011-08183
CR-GGN-2011-08198
CR-GGN-2011-08225

CR-GGN-2012-04856	CR-GGN-2012-06440	CR-GGN-2011-08228
CR-GGN-2012-05831	CR-GGN-2012-06447	CR-GGN-2011-08280
CR-GGN-2012-05863	CR-GGN-2012-06461	CR-GGN-2011-08286
CR-GGN-2012-05867	CR-GGN-2012-06485	CR-GGN-2011-08288
CR-GGN-2012-05909	CR-GGN-2012-06502	CR-GGN-2011-08289
CR-GGN-2012-05932	CR-GGN-2012-06556	CR-GGN-2011-08290
CR-GGN-2012-05942	CR-GGN-2012-06557	CR-GGN-2011-08291
CR-GGN-2012-05967	CR-GGN-2012-06558	CR-GGN-2011-08292
CR-GGN-2012-05969	CR-GGN-2012-06559	CR-GGN-2011-08293
CR-GGN-2012-05979	CR-GGN-2012-06560	CR-GGN-2011-08294
CR-GGN-2012-06048	CR-GGN-2012-06562	CR-GGN-2011-08299
CR-GGN-2012-06093	CR-GGN-2012-06579	CR-GGN-2012-06775
CR-GGN-2012-06123	CR-GGN-2012-06581	CR-GGN-2012-06174
CR-GGN-2012-06124	CR-GGN-2012-06586	CR-GGN-2012-06729
CR-GGN-2012-06125	CR-GGN-2012-06611	CR-GGN-2012-06173
CR-GGN-2012-06152	CR-GGN-2012-06650	CR-GGN-2012-06474
CR-GGN-2012-06439	CR-GGN-2011-08134	CR-GGN-2012-00565
CR-GGN-2011-07923	CR-GGN-2012-00993	CR-GGN-2012-03595
CR-GGN-2012-03796	CR-GGN-2012-04647	CR-GGN-2012-07138

Section 4OA3: Event Follow Up

PROCEDURES

NUMBER	TITLE	REVISION
EN-DC-127	Control of Hot-Work and Ignition Sources	11
01-S-02-3	Fire Watch Program	116
EN-MA-125	Troubleshooting Control of Maintenance Activities	9
04-1-01-C11-1	Control Rod Drive Hydraulic System	143
3-10-1	Inservice Leak and Hydrostatic Testing Operation	172
EN-LI-100	Process Applicability Determination: LBDCR 2012-02	11

Section 4OA3: Event Follow Up

PROCEDURES

NUMBER	TITLE	REVISION
04-1-03-C11-8	Control Rod Exercising in Modes 3, 4, or 5	102
EN-DC-127	Control of Hot-Work and Ignition Sources	11
EN-MA-125	Troubleshooting Control of Maintenance Activities	9

OTHER DOCUMENTS

NUMBER	TITLE	REVISION / DATE
0000-0146-1788-CMR	Shutdown Margin Demonstration	0
	GGNS Operations Logs, Days	April 20, 2012
2011-36 CA# 435 & 2011-8166	LBDCR Form, Attachment 9.1	March 19, 2012
B3.3.4.1	End of Cycle Recirculation Pump Trip (EOC-RPT) Instrumentation	0
7.6.1.7.6	GG USFAR, Separation	
	Root Cause Evaluation Report CR-GGN-2012-05418	April 11, 2012

CONDITION REPORTS

CR-GGN-2012-05418	CR-GGN-2012-05419	CR-GGN-2012-05420
CR-GGN-2012-05422	CR-GGN-2012-05423	CR-GGN-2012-05435
CR-GGN-2012-05893	CR-GGN-2012-05923	CR-GGN-2012-05934
CR-GGN-2012-03081	CR-GGN-2012-04753	CR-GGN-2012-05893
CR-GGN-2012-05934		

Section 4OA7: Licensee-Identified Violations

CONDITION REPORTS

CR-GGN-2012-06729	CR-GGN-2012-07640