



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

February 2, 2012

Mike Perito  
Vice President Operations  
Entergy Operations, Inc.  
Grand Gulf Nuclear Station  
P.O. Box 756  
Port Gibson, MS 39150

Subject: GRAND GULF - NRC INTEGRATED INSPECTION REPORT NUMBER  
05000416/2011005

Dear Mr. Perito:

On December 31, 2011, 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 January 10, 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.

One NRC identified finding of very low safety significance (Green) was identified during this inspection. This finding was determined to involve a violation of NRC requirements. The NRC is treating this violation as non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest this non-cited violation, 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

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disagreement, to the Regional Administrator, Region IV; and the NRC Resident Inspector at Grand Gulf Nuclear Station.

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

Sincerely,

**/RA/**

Vincent Gaddy, Chief  
Project Branch C  
Division of Reactor Projects

Docket No: 050000416  
License No: NPF-29

Enclosure:  
NRC Inspection Report 05000416/2011005  
w/Attachment: Supplemental Information

cc: Electronic Distribution

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**U.S. NUCLEAR REGULATORY COMMISSION**

**REGION IV**

Docket: 05000416

License: NPF-29

Report: 05000416/2011005

Licensee: Entergy Operations, Inc.

Facility: Grand Gulf Nuclear Station Unit 1

Location: 7003 Baldhill Road  
Port Gibson, MS 39150

Dates: September 28, 2011, through December 31, 2011

Inspectors: R. Smith, Senior Resident Inspector  
B. Rice, Resident Inspector  
P. Elkmann, Senior Emergency Preparedness Inspector  
G. Guerra, CHP, Emergency Preparedness Inspector  
G. Schlapper, High Level Waste Inspector, Nuclear Materials Division  
W. Sifre, Senior Reactor Inspector

Approved By: Vincent Gaddy, Chief  
Reactor Project Branch C  
Division of Reactor Projects

## SUMMARY OF FINDINGS

IR 05000416/2011005; 09/28/2011 – 12/31/2011; Grand Gulf Nuclear Station, Integrated Resident and Regional Report; Fire Protection.

The report covered a 3-month period of inspection by resident inspectors and announced baseline inspections by region-based inspectors. One Green non-cited violation of significance was 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: Mitigating Systems

- Green. The inspectors identified a non-cited violation of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to perform an adequate inspection of probable maximum precipitation door seals protecting safety related equipment. Inspectors found that one of the door seals to standby service water pump house A was in a degraded condition. The inspectors identified that the door seal did not make complete contact with the door frame all the way around. The licensee determined that the probable maximum precipitation seal for the identified door was in a degraded condition. Failure of this door seal during a probable maximum precipitation event could potentially cause flooding of the standby service water pump house A. Immediate corrective actions included the site initiating compensatory actions for the degraded seal by staging sand bags in the area and requiring monitoring of the affected door during heavy rainfall. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2011-07687.

The finding is more than minor because it is associated with the protection against external factors attribute of Mitigating System Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors used the seismic, flooding, and severe weather Table 4b and determined that it would not affect multiple trains of safety equipment and that the finding had very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance associated with the resources component in that the licensee's procedure used for the inspection of the door seals did not take into account the status of the pump house ventilation system while performing the door seal inspection, and therefore, the licensee failed to make the required

adjustments to the door seals resulting in their inspections of the probable maximum precipitation door seals being inadequate [H.2(c)] (Section 1R05).

**B. Licensee-Identified Violations**

None

## REPORT DETAILS

### Summary of Plant Status

Grand Gulf Nuclear Station Unit 1 began the inspection period at 96 percent rated thermal power. During the inspection period, the plant was limited to 96 percent power due to the isolation of the second-stage steam to both moisture separator reheaters A and B on January 9, 2011.

- On September 30, 2011, operators reduced power to 65 percent for a planned control rod sequence exchange, control rod friction testing, control rod testing, and turbine testing. The plant was returned to 96 percent power on October 5, 2011.
- On October 29, 2011, operators reduced power to 85 percent for a planned control rod testing. The plant was returned to 96 percent power on October 30, 2011.
- On November 10, 2011, the plant reduced power to 49 percent due to a trip of the reactor feedpump turbine B. While the plant was at a reduced power level, the site performed control rod friction testing. The plant was returned to 96 percent power on November 24, 2011, after performing required rod pattern adjustments during power accession.
- On November 25, 2011, operators reduced power to 46 percent due to a partial loss of plant service water. The plant was returned to 96 percent power on November 28, 2011.
- On December 17, 2011, operators reduced power to 64 percent for a planned control rod sequence exchange, control rod friction testing, control rod testing and turbine testing. The plant was returned to 96 percent power on December 18, 2011.

### 1. REACTOR SAFETY

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

#### 1R04 Equipment Alignments (71111.04)

##### .1 Partial Walkdown

##### a. Inspection Scope

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

- Division 2 combustible gas control system while the division 1 system was in an outage
- Low pressure core spray system following a quarterly functional test

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 walkdown samples as defined in Inspection Procedure 71111.04-05.

b. Findings

No findings were identified.

.2 Complete Walkdown

a. Inspection Scope

On November 17, 2011, the inspectors performed a complete system alignment inspection of the reactor core isolation cooling system to verify the functional capability of the system. The inspectors selected this system because it was considered both safety significant and risk significant in the licensee's probabilistic risk assessment. The inspectors inspected the system to review mechanical and electrical equipment line ups, electrical power availability, system pressure and temperature indications, as appropriate, component labeling, component lubrication, component and equipment cooling, hangers and supports, operability of support systems, and to ensure that ancillary equipment or debris did not interfere with equipment operation. The inspectors reviewed a sample of past and outstanding work orders to determine whether any deficiencies significantly affected the system function. In addition, the inspectors reviewed the corrective action program database to ensure that system equipment-alignment problems were being identified and appropriately resolved. Specific documents reviewed during this inspection are listed in the attachment.

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

b. Findings

No findings were identified.

**1R05 Fire Protection (71111.05)**

.1 Quarterly Fire Inspection Tours

a. Inspection Scope

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

- Standby service water A pump house and valve room (rooms 1M110 and 1M112)
- Standby service water B pump house and valve room (rooms 2M110 and 2M112)
- Yard electrical manholes (MH01, MH20 and MH21)
- Auxiliary building elevation 208 (1A431, 1A438, 1A532, 1A602, 1A603, and 1A604)

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 four quarterly fire-protection inspection samples as defined in Inspection Procedure 71111.05-05.

b. Findings

Introduction. The inspectors identified a Green, non-cited violation of 10 CFR 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for failure to perform an adequate inspection of probable maximum precipitation door seals protecting safety related equipment.

Description. During a quarterly fire inspection on October 24, 2011, inspectors found that one of the door seals to standby service water pump house A was in a degraded condition. The inspectors identified that the door seal did not make complete contact with the door frame all the way around. The inspectors notified plant personnel of their concerns, and the licensee performed an evaluation of the standby service water pump house A door seal. The licensee determined that the probable maximum precipitation seal for the identified door was in a degraded condition. Grand Gulf Nuclear Station previously performed the inspection of these door seals on October 10, 2011, with satisfactory results. When this inspection was conducted, the pump house ventilation was not in operation. The NRC's inspection was conducted while the ventilation was in service, and this changed the conditions in the room. Previous to the October 10<sup>th</sup> inspection, the licensee stated that one door seal in the room was adjusted while ventilation was in service, but the other doors' seal was not adjusted under the same conditions. Failure of this door seal during a probable maximum precipitation event could potentially cause flooding of the standby service water pump house A. The licensee initiated compensatory actions for the degraded seal which included staging sand bags in the area and requiring monitoring of the affected door during heavy rainfall. The licensee initiated a work order to replace the degraded seal on the door. They also revised operator rounds to perform inspections of all probable maximum precipitation doors protecting safety related equipment on a daily bases.

The licensee documented this issue in their corrective action program as Condition Report CR-GGN-2011-07687. Additionally, the licensee conducted a root cause evaluation to determine the cause of the failure of the seals and to put corrective actions in place to prevent recurrence.

Analysis. The inspectors determined that the failure to properly inspect and repair door seals that protect safety related equipment from probable maximum precipitation is a performance deficiency. The finding is more than minor because it is associated with the protection against external factors attribute of Mitigating System Cornerstone and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In Inspection Manual Chapter 0609.04, "Phase 1 - Initial Screening and Characterization of Findings," the inspectors used the seismic, flooding, and severe weather Table 4b and determined that it would not affect multiple trains of safety equipment and that the finding had very low safety significance (Green). This finding has a cross-cutting aspect in the area of human performance associated with the resources component in that the licensee's procedure used for the inspection of the door seals did not take into account the status of the pump house ventilation system while performing the door seal inspection, and therefore, the licensee failed to make the

required adjustments to the door seals resulting in their inspections of the probable maximum precipitation door seals being inadequate [H.2(c)].

Enforcement. Title 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," states, in part, that activities affecting quality shall be accomplished in accordance with prescribed procedures. Contrary to the above, on or before October 24, 2011, activities affecting quality were not performed in accordance with prescribed procedures, in that the licensee failed to implement an adequate inspection of door seals protecting safety-related equipment as prescribed in Procedure 07-S-14-310, "Inspection of Mechanical Seals on Doors," Revision 8. This finding has been entered into the licensee's corrective action program as Condition Report CR-GGN-2011-07687. 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 05000416/2011005-01, "Failure to Perform an Adequate Inspection of Probable Maximum Precipitation Door Seals Protecting Safety Related Equipment."

.2 Annual Fire Protection Drill Observation (71111.05A)

a. Inspection Scope

On December 4, 2011, the inspectors observed fire brigade activation due to a simulated fire in the upper cable spreading room of the control building. The inspectors evaluated the readiness of the plant fire brigade to fight fires. The inspectors verified that the licensee staff identified deficiencies; openly discussed them in a self-critical manner at the drill debrief, and took appropriate corrective actions. Specific attributes evaluated were (1) proper wearing of turnout gear and self-contained breathing apparatus; (2) proper use and layout of fire hoses; (3) employment of appropriate fire fighting techniques; (4) sufficient firefighting equipment brought to the scene; (5) effectiveness of fire brigade leader communications, command, and control; (6) search for victims and propagation of the fire into other plant areas; (7) smoke removal operations; (8) utilization of preplanned strategies; (9) adherence to the preplanned drill scenario; and (10) drill objectives.

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

b. Findings

No findings were identified.

**1R06 Flood Protection Measures (71111.06)**

a. Inspection Scope

The inspectors reviewed the Updated Final Safety Analysis Report, the flooding analysis, and plant procedures to assess susceptibilities involving internal flooding; reviewed the corrective action program to determine if licensee personnel identified and corrected

flooding problems; inspected underground bunkers/manholes to verify the adequacy of sump pumps, level alarm circuits, cable splices subject to submergence, and drainage for bunkers/manholes; and verified that operator actions for coping with flooding can reasonably achieve the desired outcomes. On November 28, 2011, the inspectors also inspected the areas listed below to verify the adequacy of equipment seals located below the flood line, floor and wall penetration seals, watertight door seals, common drain lines and sumps, sump pumps, level alarms, and control circuits, and temporary or removable flood barriers. Specific documents reviewed during this inspection are listed in the attachment.

- Low pressure core spray room
- Residual heat removal pump A, B, and C rooms
- Reactor core isolation cooling pump room
- High pressure core spray pump room

These activities constitute completion of one flood protection measures inspection sample as defined in Inspection Procedure 71111.06-05.

b. Findings

No findings were identified.

**1R11 Licensed Operator Requalification Program (71111.11)**

a. Inspection Scope

On October 3, 2011, the inspectors observed a crew of licensed operators in the plant's simulator to verify that operator performance was adequate, evaluators were identifying and documenting crew performance problems and training was being conducted in accordance with licensee procedures. The inspectors evaluated the following areas:

- Licensed operator performance
- Crew's clarity and formality of communications
- Crew's ability to take timely actions in the conservative direction
- Crew's prioritization, interpretation, and verification of annunciator alarms
- Crew's correct use and implementation of abnormal and emergency procedures
- Control board manipulations
- Oversight and direction from supervisors

- Crew's ability to identify and implement appropriate technical specification actions and emergency plan actions and notifications

The inspectors compared the crew's performance in these areas to pre-established operator action expectations and successful critical task completion requirements. Specific documents reviewed during this inspection are listed in the attachment.

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.

**1R12 Maintenance Effectiveness (71111.12)**

a. Inspection Scope

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

- Area radiation monitoring system (D21)
- Plant air system (P51)

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

- Implementing appropriate work practices
- Identifying and addressing common cause failures
- Scoping of systems in accordance with 10 CFR 50.65(b)
- Characterizing system reliability issues for performance
- Charging unavailability for performance
- Trending key parameters for condition monitoring
- Ensuring proper classification in accordance with 10 CFR 50.65(a)(1) or -(a)(2)
- Verifying appropriate performance criteria for structures, systems, and components classified as having an adequate demonstration of performance

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

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

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

b. Findings

No findings were identified.

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

a. Inspection Scope

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

- The week of October 2, 2011, during the station transformer 21 outage and lifting of piping near the site's main transformer, requiring the site to enter yellow risk condition
- The week of October 9, 2011, during the continuation of station transformer 21 outage due to emergent issues with the transformer bushings failing the insulating power factor test (DOBLE testing) and requiring replacement
- The week of November 12, 2011, during the recovery of the reactor feedpump turbine B following a trip on November 10, 2011, and during adverse weather in the area requiring the site to enter a yellow risk condition
- The week of December 12, 2011, during the division 3 allowed outage time requiring the site to enter a yellow risk condition

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

No findings were identified.

**1R15 Operability Evaluations (71111.15)**

a. Inspection Scope

The inspectors reviewed the following issues:

- Standby liquid control initiation timing assumption, CR-GGN-2011-7620
- Control blade 56-41 operability retest, CR-GGN-2011-9165
- Standby service water C base plate repair, CR-GGN-2011-9033
- Division 1 and 2 diesel generator voltage regulator service life, CR-GGN-2011-2983
- Control room air conditioner A condenser divider plate degradation, CR-GGN-2011-8010

The inspectors selected these potential operability issues based on the risk significance of the associated components and systems. The inspectors evaluated the technical adequacy of the evaluations to ensure that technical specification operability was properly justified and the subject component or system remained available such that no unrecognized increase in risk occurred. The inspectors compared the operability and design criteria in the appropriate sections of the technical specifications and Updated Final Safety Analysis Report to the licensee personnel'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. The inspectors determined, where appropriate, compliance with bounding limitations associated with the evaluations. Additionally, the inspectors also 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 five operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05.

b. Findings

No findings were identified.

**1R19 Postmaintenance Testing (71111.19)**

a. Inspection Scope

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

- Engineering safety features transformer 21 following a planned outage
- Station transformer 21 following planned outage
- Standby service water system B fans C and D following scheduled maintenance outage
- Division 2 emergency diesel generator following scheduled maintenance
- Residual heat removal valve 1E12-F024B following scheduled maintenance
- Standby service water pump 1P41C002 following scheduled pump replacement

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 postmaintenance 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 six postmaintenance testing inspection samples as defined in Inspection Procedure 71111.19-05.

b. Findings

No findings were identified.

**1R22 Surveillance Testing (71111.22)**

a. Inspection Scope

The inspectors 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 October 13, 2011, engineering safety features transformer 21 deluge functional and full flow test
- On October 13 and 14, 2011, turbine building ventilation and standby gas treatment A leakage tests
- On November 2, 2011, division 2 emergency diesel generator functional test
- On November 6 and 7, 2011, residual heat removal system A quarterly inservice testing
- On November 17, 2011, control rod settle and frictions testing
- On November 29 – December 2, 2011 emergency core cooling division 3 testing

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

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

b. Findings

No findings were identified.

**1EP1 Exercise Evaluation (71114.01)**

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the 2011 biennial emergency plan exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario simulated a loss of reactor feedwater, an unisolable leak of radioactive steam in the steam tunnel, a reactor coolant leak in the drywell, core damage following reactor pressure vessel water level below the top of active fuel, and a radiological release to the environment from the steam tunnel to demonstrate the licensee personnel's capability to implement their emergency plan.

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

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

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

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

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

These activities constitute completion of one sample as defined in Inspection Procedure 71114.01-05.

b. Findings

No findings were identified.

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

a. Inspection Scope

The inspector performed an on-site review of Grand Gulf Nuclear Generating Station Emergency Plan, Revision 66, submitted by letter dated August 11, 2011. This revision, revised the emergency response organization callout method from a stand-alone Computer Notification System operated by the licensee to an offsite paging and telephone notification system operated and maintained by a vendor.

This revision was compared to its previous revision, to the criteria of NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, to Nuclear Energy

Institute Report 99-01, "Emergency Action Level Methodology," Revision 4, 5, and to the standards in 10 CFR 50.47(b) to determine if the revision adequately implemented the requirements of 10 CFR 50.54(q). This 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**

**40A1 Performance Indicator Verification (71151)**

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the performance indicator data submitted by the licensee for the third quarter 2011 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.

.1 Mitigating Systems Performance Index - Emergency ac Power System (MS06)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - emergency ac power system performance indicator for the period from the third quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports, and NRC integrated inspection reports for the period of July 2010 through September 2011 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had

changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index - emergency ac power system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.2 Mitigating Systems Performance Index - High Pressure Injection Systems (MS07)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - high pressure injection systems performance indicator for the period from the third quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports, and NRC integrated inspection reports for the period of July 2010 through September 2011 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index - high pressure injection system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.3 Mitigating Systems Performance Index - Heat Removal System (MS08)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - heat removal system performance indicator for the period from the third quarter

2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports, and NRC integrated inspection reports for the period of July 2010 through September 2011 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index - heat removal system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.4 Mitigating Systems Performance Index - Residual Heat Removal System (MS09)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - residual heat removal system performance indicator for the period from the third quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports, and NRC integrated inspection reports for the period of July 2010 through September 2011 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index - residual heat removal system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.5 Mitigating Systems Performance Index - Cooling Water Systems (MS10)

a. Inspection Scope

The inspectors sampled licensee submittals for the mitigating systems performance index - cooling water systems performance indicator for the period from the third quarter 2010 through the third quarter 2011. To determine the accuracy of the performance indicator data reported during those periods, the inspectors used definitions and guidance contained in NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 6. The inspectors reviewed the licensee's operator narrative logs, mitigating systems performance index derivation reports, issue reports, event reports, and NRC integrated inspection reports for the period of July 2010 through September 2011 to validate the accuracy of the submittals. The inspectors reviewed the mitigating systems performance index component risk coefficient to determine if it had changed by more than 25 percent in value since the previous inspection, and if so, that the change was in accordance with applicable NEI guidance. 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 mitigating systems performance index - cooling water system sample as defined in Inspection Procedure 71151-05.

b. Findings

No findings were identified.

.6 Drill/Exercise Performance (EP01)

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill and Exercise Performance, performance indicator for the period October 2010 through September 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revisions 5 and 6, were used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator; assessments of performance indicator opportunities during predesignated control room simulator training sessions, performance during the 2011 biennial exercise, and

performance during other drills. The specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings were identified.

.7 Emergency Response Organization Drill Participation (EP02)

a. Inspection Scope

The inspectors sampled licensee submittals for the Emergency Response Organization Drill Participation performance indicator for the period October 2010 through September 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the performance indicator, rosters of personnel assigned to key emergency response organization positions, and exercise participation records. The specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings were identified.

.8 Alert and Notification System (EP03)

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System performance indicator for the period October 2010 through September 2011. To determine the accuracy of the performance indicator data reported during those periods, performance indicator definitions and guidance contained in Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 5, was used. The inspectors reviewed the licensee's records associated with the performance indicator to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the Nuclear Energy Institute guidance. Specifically, the inspectors reviewed licensee records and processes including

procedural guidance on assessing opportunities for the performance indicator and the results of periodic alert notification system operability tests. The specific documents reviewed are described in the attachment to this report.

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

b. Findings

No findings were identified.

**40A2 Identification and Resolution of Problems (71152)**

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

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.2 Daily Corrective Action Program Reviews

a. Inspection Scope

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

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

b. Findings

No findings were identified.

.3 Semi-Annual Trend Review

a. Inspection Scope

The inspectors performed a review of the licensee's corrective action program and associated documents to identify trends that could indicate the existence of a more significant safety issue. The inspectors focused their review on repetitive equipment issues, but also considered the results of daily corrective action item screening discussed in Section 4OA2.2, above, licensee trending efforts, and licensee human performance results. The inspectors nominally considered the 6-month period of June 2011 through December 2011, 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 safety and non-safety related systems. The specific items documented in the condition reports were reviewed by the inspectors, and it was determined that 17

plant systems had been affected by failed equipment. These systems include plant air system, process radiation monitoring system, plant service water system, and reactor protection system. The equipment failures have resulted in various impacts on the plant including down powers and unplanned entries into limiting conditions of operation. The inspectors have already evaluated the down powers and limiting conditions of operations entries under other inspection samples for potential findings.

The licensee was aware of the decline in equipment reliability and has initiated corrective actions to improve equipment reliability by implementing preventative maintenance practices, performing system health evaluations, and employing a life cycle management program.

#### **4OA3 Event Follow-up (71153)**

##### **.1 Hydrogen Leak at the Bulk Hydrogen Storage Facility**

###### **a. Inspection Scope**

On October 19, 2011, the inspectors responded to the control room to observe operator response to a hydrogen leak at the bulk hydrogen storage facility. The main control room received the following alarm, "H2 Storage Area Pump/Common Trouble/Power Loss," and dispatched operators to investigate. The control room supervisor contacted the Air Products vendor for assistance with the event. The responding operators found the A hydrogen compressor had tripped with the B compressor running. They also found a hydrogen leak on or near the outlet of the regulator for the main hydrogen tank. Site safety was contacted, and upon their recommendations, access was restricted to the area. The licensee's shift manger evaluated the emergency actions levels and determined that entry into an action level was not appropriate at the time due to location of the leak being outside the protected area, the size of the leak being from the valve packing, and the prevailing winds blowing the hydrogen gas away from the protected area. The inspectors observed control room actions and monitored the leak from site cameras. The hydrogen leak and the compressor A were repaired without incident by the vendor that day. 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.

##### **.2 Trip of Reactor Water Cleanup Pump A due to Maintenance Technicians Working on the Wrong Component**

###### **a. Inspection Scope**

On October 25, 2011, the inspectors were briefed on a trip of the reactor water cleanup pump A due to instrument and control technicians performing maintenance on the wrong component. At 11:00 a.m. on October 25, 2011, the main control room received "RWCU PUMP SUCT FLOW LOW" and "RWCU FILTER DMIN CONT TROUBLE" alarms and a trip of reactor water cleanup pump A. Additionally, reactor water cleanup filter demineralizer A was lost. The operating crew responded to the alarms by entering their alarm response procedures and investigating the cause of the pump trip. The crew determined that instrument and control technicians assigned to perform scheduled maintenance on a train B solenoid valve instead performed scheduled maintenance on a train A solenoid valve, resulting in the trip of the pump A. The plant experienced a decrease in reactor power of approximately three megawatts thermal (0.05 percent) due to the trip of the reactor water cleanup pump A. The operating crew recovered the reactor water cleanup pump A after maintenance restored the solenoid valve on the train A. Inspectors reviewed logs, interviewed operators, and received additional briefings from the maintenance manager to determine what occurred and if proper recovery actions were taken. The maintenance manager also briefed the inspectors on future actions that would be taken to improve performance in the maintenance department. 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.

.3 Trip of Drywell Chillers Following Offsite Grid Disturbance

a. Inspection Scope

- b. On November 5, 2011, Grand Gulf Nuclear Station experienced a voltage spike from the electrical grid. The spike occurred due to the tripping and reclosing of two offsite 500 KV breakers. The voltage spike resulted in various control room annunciators and loss of the train A drywell chillers. In response to the loss of the train A drywell chillers, the train B drywell chillers auto started, but eventually tripped on high discharge pressure, which resulted in no trains of drywell chillers operating. The operators monitored the drywell temperature and containment steam tunnel temperatures in accordance with Technical Specification 3.6.5.5. The licensee determined the undervoltage relay for the train A drywell chillers had tripped due to the voltage spike but would not reset, thus preventing the chillers from operating. A priority one work order was authorized by the shift manager, which allowed the installation of a jumper to bypass the undervoltage relay. Once the jumper was installed, the operators were able to restart the train A drywell chillers. At the end of the inspection the licensee was still troubleshooting the train B drywell chiller. The inspectors reviewed the licensee's activities and determined that no technical specification limits had been exceeded and concluded that the licensee's actions were appropriate for the safety significance of the drywell chiller system. 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.

c. Findings

No findings were identified.

.4 Trip of Reactor Feedpump Turbine B and Subsequent Downpower

a. Inspection Scope

On November 10, 2011, at 10:41 p.m. the Grand Gulf Nuclear Station experienced a trip of the reactor feedpump turbine B. This resulted in a flow control valve runback on the recirculation valve B. The recirculation flow control valve A failed to automatically runback and had to be manually runback by a reactor operator. Reactor water level decreased to 16 inches above instrument zero (183 inches above the top of active fuel) and was restored to normal level by the decrease in power to approximately 50 percent. The inspectors responded to the plant and interfaced with licensee management to determine their plan of action to recover from the event. The licensee briefed the inspectors on their plans and the findings from their investigation. The licensee determined that the feedpump turbine had tripped due to a servo card fault, which was replaced. The failure of the recirculation flow control valve A to runback was attributed to a bad tachometer in the logic circuit. The tachometer was also replaced. The inspectors reviewed the results of the licensee's failure mode analysis teams and determined the corrective actions were appropriate. On November 14, 2011, the licensee commenced a power increase and restored the reactor feedpump turbine B to operation during power increase. The inspectors monitored activities in the main control room during power ascension. 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.

.5 Partial Loss of Plant Service Water due to a Trip of the 18AG Bus

a. Inspection Scope

On November 25, 2011, at approximately 4:50 p.m. the Grand Gulf Nuclear Station experienced a partial loss of plant service water that cools non-safety related equipment at Grand Gulf Nuclear Station. The operations shift manager notified the inspectors that a power pole, which supplied power to the bus 28AG, had been damaged by a security truck striking the pole. As a result, the plant decided to split out non-safety related buses 28AG and 18AG, which were previously tied together to allow maintenance to perform inspections of the power supply cable to the bus 18AG. The site experienced a partial

loss of plant service water when the supply breaker to the bus 18AG closed, which resulted in the cross tie breaker between the 18AG and 28AG opening as expected. Subsequently, the supply breaker to the bus 18AG unexpectedly reopened. This in turn resulted in a loss of power to three of the seven operating plant service water pumps. The site subsequently reduced power to approximately 50 percent to align with the capacity of the remaining four plant service water pumps. The inspectors conducted numerous calls with the site through the night to understand plant conditions and responded to the site the next day to independently monitor activities. The inspectors reviewed the results of the licensee's failure mode analysis team and determined the corrective actions were appropriate. The licensee concluded that the loss of the bus 18AG was due to either a failed relay in the supply breaker to the bus or a damaged cable that allowed operation of the supply breaker remotely from the main control room. The site replaced the suspected relay and used an alternate method in their procedure to re-energize the bus 18AG locally and restart the tripped plant service water pumps. Then the licensee crossed tied the bus 18AG with the bus 28AG and de-energized the bus 28AG to conduct replacement of the damaged power pole. The site increased power to 96 percent rated power. After the power pole was replaced on November 28, 2011, the site restored plant service water system to its normal electrical alignment of four pumps powered from 18AG and four pumps powered from 28AG. 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.

**40A5 Other Activities**

(Closed) NRC Temporary Instruction (TI) 2515/177, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter 2008-01)"

a. Inspection Scope

The inspectors evaluated whether the licensee maintained documents, installed system hardware, and implemented actions that were consistent with the information provided in their response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems." Specifically, the inspectors verified that the licensee had implemented, or was in the process of implementing, the commitments, modifications, and programmatically controlled actions described in their response to Generic Letter 2008-01. The inspectors conducted their review in accordance with Temporary Instruction 2515/177 and considered the site-specific supplemental information provided by the Office of Nuclear Reactor Regulation (NRR) to the inspectors.

b. Inspection Documentation

The inspectors reviewed the licensing basis, design, testing, and corrective actions as specified in the temporary instruction. The specific items reviewed and any resulting observations are documented below.

Licensing Basis: The inspectors reviewed selected portions of licensing basis documents to verify that they were consistent with the NRR assessment report, and that the licensee properly processed any required changes. The inspectors reviewed selected portions of technical specifications, technical specification bases, and the Updated Final Safety Analysis Report. The inspectors also verified that applicable documents that described the plant and plant operation, such as calculations, piping and instrumentation diagrams, procedures, and corrective action program documents addressed the areas of concern and were updated, if needed, following plant changes. The inspectors confirmed that the licensee performed surveillance tests at the frequency required by the technical specifications. The inspectors verified that the licensee tracked their commitment to evaluate and implement any changes that would be contained in the technical specification task force traveler.

Design: The inspectors reviewed selected design documents, performed system walkdowns, and interviewed plant personnel to verify that the licensee addressed design and operating characteristics. Specifically:

- The inspectors verified that the licensee had identified the applicable gas intrusion mechanisms for their plant.
- The inspectors verified that the licensee had established void acceptance criteria consistent with the void acceptance criteria identified by NRR. The inspectors also confirmed that the range of flow conditions evaluated by the licensee was consistent with the full range of design basis and expected flow rates for various break sizes and locations.
- The inspectors selectively reviewed applicable documents, including calculations, and engineering evaluations with respect to gas accumulation in the emergency core cooling systems and decay heat removal systems. Specifically, the inspectors verified that these documents addressed venting requirements, aspects where pipes were normally voided, void control during maintenance activities, and the potential for vortex effects that could ingest gas into the systems during design basis events.
- The inspectors verified that piping and instrumentation diagrams and isometric drawings describe up-to-date configurations of the emergency core cooling systems and decay heat removal systems. The review of the selected portions of isometric drawings considered the following:
  1. High point vents were identified.
  2. High points without vents were recognizable.

3. Other areas where gas could accumulate and potentially impact operability, such as at orifices in horizontal pipes, isolated branch lines, heat exchangers, improperly sloped piping, and under closed valves, were described in the drawings or in referenced documentation.
  4. Horizontal pipe centerline elevation deviations and pipe slopes in nominally horizontal lines that exceeded specified criteria were identified.
  5. All pipes and fittings were clearly shown.
  6. The drawings were up-to-date with respect to recent hardware changes, and that any discrepancies between as-built configurations and the drawings were documented and entered into the corrective action program for resolution.
- The inspectors verified that the licensee had completed their walkdowns and selectively verified that the licensee identified discrepant conditions in their corrective action program and appropriately modified affected procedures and training documents.

Testing: The inspectors reviewed selected surveillances, post-modification tests, and post-maintenance test procedures and results, conducted during power and shutdown operations, to verify that the licensee was using procedures that appropriately addressed gas accumulation and/or intrusion into the subject systems. This review included the verification of procedures used for conducting surveillances and for the determination of void volumes to ensure that void criteria were satisfied and would continue to be satisfied until the next scheduled void surveillances. Also, the inspectors reviewed procedures used for filling and venting following conditions that could introduce voids into the subject systems to verify that the procedures adequately tested for such voids and provided adequate instructions for their reduction or elimination.

Corrective Actions: The inspectors reviewed selected corrective action program documents to assess how effectively the licensee addressed the issues associated with Generic Letter 2008-01 in their corrective action program. In addition, the inspectors verified that the licensee implemented appropriate corrective actions for issues identified in the nine-month and supplemental responses. The inspectors determined that the licensee had effectively implemented the actions required by Generic Letter 2008-01.

Based on this review, the inspectors concluded that there is reasonable assurance that the licensee will complete all outstanding items and incorporate this information into the design basis and operational practices. This temporary instruction is closed for Grand Gulf Nuclear Station.

c. Findings

No findings were identified.

## **4OA6 Meetings**

### Exit Meeting Summary

On November 3, 2011, the inspector presented the results of the onsite inspection of the licensee's biennial emergency preparedness exercise to Mr. M. Richey, Director, Nuclear Safety Assurance, and other members of the licensee's staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On December 9, 2011, the inspector presented the inspection results to Mr. D. Wiles, Engineering Director and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector confirmed that none of the potential report input discussed was considered proprietary.

On January 10, 2012, the inspectors presented the inspection results to Mike Perito, Site Vice President Operations, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

**SUPPLEMENTAL INFORMATION**  
**KEY POINTS OF CONTACT**

Licensee Personnel

J. Browning, General Plant Manager  
J. Caery, Manager, Training  
H. Farris, Assistant Operations Manager  
P. Griffith, Supervisor, System Engineering  
K. Higgenbotham, Manager, Planning and Scheduling  
J. Houston, Manager, Maintenance  
D. Jones, Manager, Design Engineering  
C. Lewis, Manager, Emergency Preparedness  
C. Loyd, Supervisor, Engineering  
J. Miller, Manager, Operations  
L. Patterson, Manager, Program Engineering  
C. Perino, Manager, Licensing  
M. Perito, Site Vice President of Operations  
T. Reno, System Engineer  
W. Renz, Corporate Director, Emergency Preparedness  
M. Richey, Director, Nuclear Safety Assurance  
R. Scarbrough, Specialist and Lead Offsite Liaison, Licensing  
J. Seiter, Senior Licensing Specialist  
J. Shaw, Manager, System Engineering  
D. Wiles, Director, Engineering  
R. Wilson, Manager, Quality Assurance  
T. Trichell, Manager, Radiation Protection  
R. Fuller, Design Engineer

NRC Personnel

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

## LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

### Opened and Closed

05000416/2011005-01	NCV	Failure to Perform an Adequate Inspection of Probable Maximum Precipitation Door Seals Protecting Safety Related Equipment (Section 1R05)
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### Closed

TI 2515/177	TI	Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (Section 4OA5)
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## LIST OF DOCUMENTS REVIEWED

### Section 1RO4: Equipment Alignment

#### PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
04-1-01-E61-1	Combustible Gas Control System	41
GLP-OPS-E6100	COMBUSTIBLE GAS CONTROL SYSTEM – E61	11
04-1-01-E21-1	System Operating Instruction Low Pressure Core Spray System	38
06-OP-1E51-Q-0003	RCIC System Quarterly Pump Operability Verification	132
04-1-01-E51-1	Reactor Core Isolation Cooling System	130
04-1-01-E51-1	Reactor Core Isolation Cooling, Attachment II	129
04-1-01-E51-1	Reactor Core Isolation Cooling, Attachment I (Manual Valve Lineup Checksheet)	119
04-1-01-E51-1	Reactor Core Isolation Cooling, Attachment I (Manual Valve Lineup Checksheet)	116

#### DRAWING

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M-1083A	P & I Diagram Reactor Core Isolation Cooling System Unit 1	35

#### OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	Installation, Operation and Maintenance Instructions for 6x6x10.5 Four Stage Type CP Reactor Core Isolation Cooling Pump	July 14, 1977
	System Health Report E51 Reactor Core Isolation Cooling	3 <sup>rd</sup> Quarter 2011

#### CONDITION REPORT

CR-GGN-2008-06636	CR-GGN-2009-02069	CR-GGN-2009-02073
CR-GGN-2009-02085	CR-GGN-2009-02131	CR-GGN-2009-02682
CR-GGN-2009-03291	CR-GGN-2009-04468	CR-GGN-2009-04543

CR-GGN-2009-04855	CR-GGN-2009-04886	CR-GGN-2009-04901
CR-GGN-2009-04902	CR-GGN-2009-04919	CR-GGN-2009-04930
CR-GGN-2009-04951	CR-GGN-2009-04956	CR-GGN-2009-04959
CR-GGN-2009-04964	CR-GGN-2009-04965	CR-GGN-2009-04971
CR-GGN-2009-04983	CR-GGN-2009-04985	CR-GGN-2009-04987
CR-GGN-2009-04991	CR-GGN-2009-04994	CR-GGN-2009-04995
CR-GGN-2009-04998	CR-GGN-2009-05033	CR-GGN-2009-05084
CR-GGN-2009-05101	CR-GGN-2009-05114	CR-GGN-2009-05136
CR-GGN-2009-05158	CR-GGN-2009-05206	CR-GGN-2009-05244
CR-GGN-2009-05263	CR-GGN-2009-05343	CR-GGN-2009-05350
CR-GGN-2009-05353	CR-GGN-2009-05361	CR-GGN-2009-05415
CR-GGN-2009-05418	CR-GGN-2009-05419	CR-GGN-2009-05422
CR-GGN-2009-05425	CR-GGN-2009-05426	CR-GGN-2009-05440
CR-GGN-2009-05441	CR-GGN-2009-05444	CR-GGN-2009-05452
CR-GGN-2009-05474	CR-GGN-2009-05485	CR-GGN-2009-05487
CR-GGN-2009-05515	CR-GGN-2009-05521	CR-GGN-2009-05541
CR-GGN-2009-05544	CR-GGN-2009-05601	CR-GGN-2009-05612
CR-GGN-2009-05613	CR-GGN-2009-05620	CR-GGN-2009-05621
CR-GGN-2009-05622	CR-GGN-2009-05632	CR-GGN-2009-05635
CR-GGN-2009-05638	CR-GGN-2009-05655	CR-GGN-2009-05658
CR-GGN-2009-05659	CR-GGN-2009-05660	CR-GGN-2009-05680
CR-GGN-2009-05681	CR-GGN-2009-05708	CR-GGN-2009-05713
CR-GGN-2009-05721	CR-GGN-2009-05749	CR-GGN-2009-05751
CR-GGN-2009-05753	CR-GGN-2009-05756	CR-GGN-2009-05757
CR-GGN-2009-05758	CR-GGN-2009-05759	CR-GGN-2009-05763
CR-GGN-2009-05764	CR-GGN-2009-05766	CR-GGN-2009-05771
CR-GGN-2009-05772	CR-GGN-2009-05777	CR-GGN-2009-05778
CR-GGN-2009-05779	CR-GGN-2009-05780	CR-GGN-2009-05804
CR-GGN-2009-05806	CR-GGN-2009-05818	CR-GGN-2009-05822
CR-GGN-2010-00187	CR-GGN-2010-01240	CR-GGN-2010-05456
CR-GGN-2010-05991	CR-GGN-2011-00237	CR-GGN-2011-01275
CR-GGN-2011-03259	CR-GGN-2011-04014	CR-GGN-2011-05888
CR-GGN-2011-05889	CR-GGN-2011-06174	CR-GGN-2010-258
CR-GGN-2010-621	CR-GGN-2010-945	CR-GGN-2010-1369
CR-GGN-2010-1528	CR-GGN-2010-1763	CR-GGN-2010-1797
CR-GGN-2010-1896	CR-GGN-2010-2186	CR-GGN-2010-2635
CR-GGN-2010-2770	CR-GGN-2010-2911	CR-GGN-2010-2936

CR-GGN-2010-3182	CR-GGN-2010-3867	CR-GGN-2010-4462
CR-GGN-2010-5107	CR-GGN-2010-5139	CR-GGN-2010-5157
CR-GGN-2010-6844	CR-GGN-2010-6850	CR-GGN-2010-6858
CR-GGN-2010-6862	CR-GGN-2010-6941	CR-GGN-2010-6862
CR-GGN-2010-6984	CR-GGN-2010-6995	CR-GGN-2010-7163
CR-GGN-2010-7197	CR-GGN-2010-8216	CR-GGN-2010-8376
CR-GGN-2010-8725	CR-GGN-2011-282	CR-GGN-2011-577
CR-GGN-2011-626	CR-GGN-2011-1471	CR-GGN-2011-1932
CR-GGN-2011-2018	CR-GGN-2011-2441	CR-GGN-2011-4663
CR-GGN-2011-4953	CR-GGN-2011-6073	CR-GGN-2011-6461
CR-GGN-2011-9073	CR-GGN-2009-05639	CR-GGN-2009-00478
CR-GGN-2010-06941	CR-GGN-2011-0036	CR-GGN-2011-7669
CR-GGN-2009-6249	CR-GGN-2011-0035	CR-GGN-2011-08274

WORK ORDER

WO 52353629

WO 00207443

**Section 1RO5: Fire Protection**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
Fire Pre-Plan SSW-01	SSW Pump House and Valve Room	1
Fire Pre-Plan SSW-02	SSW Pump House and Valve Room	1
Fire Pre-Plan SSW-03	Yard Electrical Manholes	0
9A.5.59	Fire Area 59 GG UFSAR	
9A.5.64	Fire Area 64 GG UFSAR	
9A.5.65	Fire Area 65 GG UFSAR	
Fire Pre-Plan A- 48	Spent Fuel Area - 1A431, Shipping Cask Storage Area - 1A438, Cask Wash down Area - 1A532, Storage Area - 1A602, Passage - 1A603, Fuel Handling Area - 1A604, Area 9 & 10, Elevation 208	1
9A.5.19	Fire Area 19 – GG UFSAR	

**Section 1RO5: Fire Protection**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
EN-TQ-125	Fire Brigade Drills	October 26, 2011
EN-TQ-125	Fire Brigade Drills	November 14, 2011
9.5-2	GG UFSAR	
4-S-14-310	General Maintenance Instruction Inspection of Mechanical Seals on Door	8
EN-TQ-125	Fire Brigade Drills	May 3, 2010
EN-TQ-125	Fire Brigade Drills	December 4, 2011

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	GGNS Operations Logs (Days)	October 30, 2011

CONDITION REPORT

CR-GGN-2011-07553	CR-GGN-2011-07687	CR-GGN-2011-07697
CR-GGN-2011-07707	CR-GGN-2011-07746	CR-GGN-2011-07751
CR-GGN-2011-07549	CR-GGN-2011-08762	

**Section 1RO6: Flood Protection Measures**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
07-1-24-T10-1	Periodic Leak Check of Airtight Door Sealing Surfaces	5
04-1-01-P45-2	Floor Drain Sump System	22
04-1-03-E21-1	LPCS Pump Room Sump Pump Functional Test	2
04-1-03-E22-1	HPCS Pump Room Sump Pump Functional Test	1
05-1-02-VI-1	Flooding	107
06-OP-1P45-Q-	Floor, Equipment and Chemical Drain Isolation Valve	114

**Section 1RO6: Flood Protection Measures**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0002	Operability Check	

CALUCLATION

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
195.0-1	Compartment Flooding Calculations	2

CONDITION REPORT

CR-GGN-2011-6417	CR-GGN-2011-6371	CR-GGN-2010-6610
CR-GGN-2010-5993	CR-GGN-2010-1515	CR-GGN-2009-1342
CR-GGN-2009-1208	CR-GGN-2008-7116	

WORK ORDER

WO 00051337	WO 00102797	WO 00113101
WO 00130816		

ENGINEERING CHANGE

0000032180

**Section 1R11: Licensed Operator Requalification Program**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
GSMS-LOR- WEX05	Licensed Operator Requalification Training	15

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	List of modifications need to be made in TREX load per Control Room walkdown	September 7, 2011
	2011 Licensed Operator Requalification Simulator Training Plan Simulator Differences	
Cycle 2011-6	Licensed Operator Requal Training	Rev Draft
GIN 2011/00314	Simulator Evaluation "D" Shift	October 3, 2011
GG 2012 1	TEAR	Due April 18, 2012

**Section 1R12: Maintenance Effectiveness**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-DC-203	Maintenance Rule Program	1
EN-DC-206	Maintenance Rule (a)(1) Process	1
EN-DC-204	Maintenance Rule Scope and Basis	2
EN-DC-207	Maintenance Rule Periodic Assessment	2
EN-DC-205	Maintenance Rule Monitoring	3
10-S-01-38	Emergency Plan Procedure	0
05-S-01-EP-4	Auxiliary Building Control	27
10-S-02-3	Temporary Change Notice (Directive 10-S-01-1)	118
EN-DC-205	Maintenance Rule Monitoring	3
EN-DC-205	Maintenance Rule Monitoring (Maintenance Rule Functional Failure Evaluation Template)	2

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	Maintenance Rule (a)(1) Systems List	September 5, 2011

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	Single Trend Point D21K611 (from 2/1/2010 – 4/1/2010)	
	(a)(1) Evaluation for the Area Radiation Monitoring (D21) System (CR-GGN-2011-1516 Radiation Monitor 1D21K612 March 8, 2011 and CR-GGN-2011-1630 Radiation Monitor 1D21K612 March 10, 2011)	
	Maintenance Rule Program Expert Panel Meeting Minutes	August 31, 2011
	Maintenance Rule (a)(1) Systems List	November 2, 2011
EN-DC-205 Attachment 9.1	Maintenance Rule Functional Failure Evaluation Template NRC Resident Issue with the Maintenance Rule Program	February 14, 2010 to November 17, 2011

CONDITION REPORT

CR-GGN-2011-06915	CR-GGN-2011-06687	CR-GGN-2011-07543
CR-GGN-2011-07711	CR-GGN-2010-04214	CR-GGN-2010-01421
CR-GGN-2010-00965	CR-GGN-2010-01846	CR-GGN-2010-00319
CR-GGN-2011-00173	CR-GGN-2010-01844	CR-GGN-2010-00285
CR-GGN-2010-01842	CR-GGN-2010-01847	CR-GGN-2010-01845
CR-GGN-2011-07698	CR-GGN-2009-06703	CR-GGN-2010-06760
CR-GGN-2011-00912	CR-GGN-2008-02621	CR-GGN-2008-03031
CR-GGN-2009-04465	CR-GGN-2009-04572	CR-GGN-2011-08352
CR-GGN-2011-08363	CR-GGN-2009-04478	CR-GGN-2010-06701
CR-GGN-2011-06106	CR-GGN-2011-06226	CR-GGN-2011-00070
CR-GGN-2011-05910	CR-GGN-2011-02020	CR-GGN-2011-02841
CR-GGN-2011-02091	CR-GGN-2011-02091	CR-GGN-2011-01258
CR-GGN-2011-01338	CR-GGN-2011-2794	CR-GGN-2011-4091
CR-GGN-2011-07796	CR-GGN-2011-01258	CR-GGN-2011-1338
CR-GGN-2010-06701	CR-GGN-2010-08815	CR-GGN-2011-00454
CR-GGN-2010-4699	CR-GGN-2011-00148	CR-GGN-2011-08363
CR-GGN-2011-2784	CR-GGN-2011-2794	CR-GGN-2011-4419
CR-GGN-2011-2741	CR-GGN-2011-2914	CR-GGN-2011-2627
CR-GGN-2011-801	CR-GGN-2011-2394	CR-GGN-2011-3662

CR-GGN-2011-2031	CR-GGN-2011-730	CR-GGN-2011-2091
CR-GGN-2011-1732	CR-GGN-2011-1300	CR-GGN-2011-1258
CR-GGN-2011-683	CR-GGN-2011-1155	CR-GGN-2011-148
CR-GGN-2011-28	CR-GGN-2011-1047	CR-GGN-2011-922
CR-GGN-2011-2626	CR-GGN-2011-599	CR-GGN-2011-732
CR-GGN-2011-1192	CR-GGN-2010-6312	CR-GGN-2010-6200
CR-GGN-2010-5437	CR-GGN-2010-7941	CR-GGN-2010-2465
CR-GGN-2010-5634	CR-GGN-2010-5435	CR-GGN-2010-4547
CR-GGN-2010-7941	CR-GGN-2010-4699	CR-GGN-2010-3755
CR-GGN-2010-2992	CR-GGN-2010-2638	CR-GGN-2010-2259
CR-GGN-2010-2438	CR-GGN-2010-2090	CR-GGN-2010-1472
CR-GGN-2010-844	CR-GGN-2010-982	CR-GGN-2011-3390
CR-GGN-2011-1350	CR-GGN-2010-8796	CR-GGN-2010-8726
CR-GGN-2010-6301	CR-GGN-2010-8833	CR-GGN-2010-8379
CR-GGN-2010-7647	CR-GGN-2010-7918	CR-GGN-2010-7925
CR-GGN-2010-6330	CR-GGN-2010-159	CR-GGN-2009-6790
CR-GGN-2011-3336	CR-GGN-2009-6672	CR-GGN-2009-6459
CR-GGN-2009-6877	CR-GGN-2010-13	CR-GGN-2010-495
CR-GGN-2009-6339	CR-GGN-2010-6986	CR-GGN-2011-8451
CR-GGN-2011-8524	CR-GGN-2011-7796	CR-GGN-2011-7885
CR-GGN-2011-4832	CR-GGN-2011-6147	CR-GGN-2011-7094
CR-GGN-2011-7714	CR-GGN-2011-6825	CR-GGN-2011-6117
CR-GGN-2011-6163	CR-GGN-2011-6191	CR-GGN-2011-6037
CR-GGN-2010-8815	CR-GGN-2011-4052	CR-GGN-2011-3392
CR-GGN-2011-1409	CR-GGN-2011-4091	CR-GGN-2011-2784
CR-GGN-2011-4921	CR-GGN-2011-5910	CR-GGN-2011-4045
CR-GGN-2011-3435	CR-GGN-2011-4192	CR-GGN-2011-4227
CR-GGN-2011-2751	CR-GGN-2011-3051	CR-GGN-2011-1338

#### CORRECTIVE ACTIONS

CR-GGN- 2010-8815 CA No. 006  
 CR-GGN- 2010-8815 CA No. 005

CR-GGN-2010-8815 CA No. 004  
 CR-GGN-2011-01338 CA No. 006

#### WORK ORDER

WO 226252

**Section 1R13: Maintenance Risk Assessment and Emergent Work Controls**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
EN-WM-101	On-line Work Management Process for the week of October 2, 2011	7
04-S-01-R23-1	34.5kV Switchgear and Transformers	41
EN-WM-101	On-line Work Management Process for the week of October 9, 2011	7
EN-WM-101	On-line Work Management Process for the week of November 13, 2011	7
EN-MA-133	Control of Scaffolding	7
EN-MA-118	Foreign Material Exclusion	8
01-S-18-6	Risk Assessment of Maintenance Activities	10
02-S-01-17	Control of Limiting Conditions of Operations	122
EN-OP-119	Protective Equipment Posting	4
EN-WM-104	On Line Risk Assessment	6

DRAWING

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
E-6081	Site Power Loop Distribution One Line	5

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
ER-GG-2002-0007-001	Heavy Load Evaluation for Div. 1 SSW Pump Removal	1
LCOTR No:1-TS-11-0400	System/Component: HPCS, SSW C, Div 2 Diesel Generator, Div 3 Battery Bank	175

WORK ORDER

WO 294892-03	WO 285317-14	WO 00296595-01/02/03
WO 00294749-01	WO 00295529-01	WO 00247594-01
WO 50322927-07	WO 50316983-06	WO 271628
WO 00296774-01	WO 284192-01	WO 52339925-01

WO 52363921	WO 52367480	WO 247236-60
WO 00296174	WO 52339925-01	WO 219005-35
WO 262640-35	WO 00270093-06	WO 52323650-01
WO 267461-01	WO 52311544	WO 52363914
WO 52363730	WO 52363917	WO 52363919
WO 52363922	WO 52363929	WO 52375054
WO 52375056	WO 52375055	WO 52375053
WO 52375052	WO 52376460	WO 52311427
WO 52362537	WO 52363923	WO 52364694
WO 52363920	WO 52363918	WO 52362527
WO 52369087	WO 52369088	WO 286594-07
WO 286594-01/02/03/04/05	WO 297474	WO 00299432
WO 267491	WO 287801-05	WO 00278077-09
WO 267713-30/31	WO 298740	WO 299000
WO 00282978-02	WO 276190	WO 278077-09
WO 00224213	WO 267629-03	WO 270643-02
WO 52376455	WO 00270605	WO 00273138
WO 00272866	WO 00291203	WO 00276146
WO 161254	WO 257218-24	WO 267815-01
WO 47563	WO 299222-01	

ENGINEERING CHANGE

EC 33608

**Section 1R15: Operability Evaluations**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
GGNS-MS-37	GGNS Mechanical Standard for the Division I and II Standby Diesel Generator Maintenance	6
EN-MA-133	Control of Scaffolding	7
GG UFSAR 15.8-1	Anticipated Transients without Scram	
EN-MP-112	Shelf Life Program	4
01-S-02-3, Attachment VI	Control Rod Settle and Insertion Test	119

CALUCLATION

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
C-AC-400	DCD 82 / 5020	C

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
MP&L -6-301.3	Concrete Procedure: Masterflow 928 High precision mineral aggregate grout with extended working time	
NEDO-10739	Methods for calculating safe test intervals and allowable repair times for engineered safeguard systems	January 1973
NEDO-10349	Analysis of Anticipated Transients without Scrams	March 1971
NEDO-20626	Studies of BWR designs for mitigation of anticipated transients without scrams, Amendment 1	June 1975
NEDO-20626	Studies of BWR designs for mitigation of anticipated transients without scrams, Amendment 2	July 1975
	Disposition of CR-GGN-2011-07620	
GGNS-NE-10-00004	GGNS EPU-Anticipated Transients without Scram	0
NEDE-31096-P-A Class III	General Electric Anticipated Transient Without Scram Response to NRC ATWES Rule 10CFR50.62	
	LPCS Vendor Manual 460000159	September 25, 1996

CONDITION REPORT

CR-GGN-2011-07620	CR-GGN-2011-08010	CR-GGN-2011-08030
CR-GGN-2011-08041	CR-GGN-2011-8010 CA 1	CR-GGN-2011-07620
CR-GGN-2011-08258	CR-GGN-2011-02983	CR-GGN-2011-09121
CR-GGN-2011-09165		

**Section 1R19: Postmaintenance Testing**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
06-OP-1P41-M-	SSW Loop B Operability Check	112

**Section 1R19: Postmaintenance Testing**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
0005		
07-S-14-56	General Maintenance Instruction Western Gear Speed Reducer	27
EN-AD-103	Document Control and Records Management Programs	11
07-S-23-P75-3	Div I and Div II Diesel Generator Simulated Run	7
17-S-03-26	MOV Torque Switch Setpoint Methodology	15
EN-DC-312	MOV Test Data Review	1

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	Siemens Job Number 302368	
	DOBLE Testing for Service Transformer 21	
	Nameplate – Two-winding Transformer DOBLE Testing Data	October 11, 2011
B-88833-97, B-88833-97-70	PCORE Electric JOCOA Bottom Connection in 55 Rise Oil Transformer: Data Interpretation of Modern Oil-Filled Power Transformers (Temperature Corrected)	June 5, 2006

CONDITION REPORT

CR-GGN-2011-02355	CR-GGN-2011-07440	CR-GGN-2011-07551
CR-GGN-2011-08424		

WORK ORDER

WO 141581	WO 272837	WO 268645-10
WO 268646	WO 141521	WO 00260496
WO 00232452	WO 00272398	WO 00270585
WO 52381744		

**Section 1R22: Surveillance Testing**PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
04-S-03-P64-20	Transformer Deluge Functional and Full Flow Test	5
06-OP-1P75-M-0002	Standby Diesel Generator 12 Functional Test	130
06-OP-1E12-Q-0023	LPCI/RHR Subsystem A Quarterly Functional Test	122
04-1-03-C11-7	Attachment I, Equipment Performance Instruction Data Package Cover Sheet, Safety Related	11
04-1-03-C11-7	Attachment II, Data Sheet I, Control Rod Settle Test, Safety Related	11
01-S-02-3	Temporary Change Directive 04-1-03-C11-7	119
06-OP-1P81-R-0001	HPCS Diesel Generator 18-Month Functional Test	119
ECH-NE-11-00066	GGNS C18 Channel-Control Blade Interference Monitoring Plan	1
04-1-03-C11-6	Control Rod Drive Cooling Water Orifice Verification	0
06-OP-1P81-R-0001	HPCS Diesel Generator 18 Month Functional Test – Test No. 2 – LOP and LOCA	119
06-OP-1P81-R-0001	HPCS Diesel Generator 18 Month Functional Test – Test No. 2 – LOP and LOCA	120
06-OP-1P81-M-0002	Standby Diesel Generator 13 Functional Test	125

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	Temporary Life 2011-0237 Tagout R15-001-ST21 To allow Deluge Testing on Transformer ESF 21	October 13, 2011
	GGNS Scheduled Pump Runs	October 18, 2011
SEP-GGNS-IST-2	GGNS IST Plan 10 CFR 50.55a Request Title: E12 Jockey Pumps Alternative Request	0
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-37	11

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 60-37	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 60-29	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-21	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-17	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 48-09	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 44-09	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 40-09	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 40-05	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 32-05	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 20-09	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-17	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 12-53	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-25	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 36-09	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 48-57	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 52-49	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-49	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 36-61	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 28-57	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 28-61	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 16-57	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-49	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 04-29	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 32-61	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-45	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 28-09	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-33	11

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 16-09	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 36-05	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-25	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 36-57	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 40-57	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 04-37	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 08-37	11
04-1-03-C11-7	Control Rod Settle and Insertion Test, Control Rod 56-33	11
	US NRC Regulatory Guide 1.9	3
NUREG 1482	US NRC Guidelines for Inservice Testing at Nuclear Power Plants Inservice Testing of Pumps and Valves and Inservice Examination and Testing of Dynamic Restraints (Snubbers) at Nuclear Power Plants	2

CONDITION REPORT

CR-GGN-2009-00427

WORK ORDER

WO 52221605	WO 52323865-01	WO 52323595-01
WO 00268631-01	WO 52361896 01	WO 52324293
WO 52311817	WO 52311818	WO 52311819
WO 52311820		

**Section 1EP1: Exercise Evaluation**

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
10-S-01-06	Notification of Offsite Agencies and Plant On-Call Emergency Personnel	49
10-S-01-11	Evacuation of Onsite Personnel	21
10-S-01-12	Radiological Assessment and Protective Action Recommendations	41

**Section 1EP1: Exercise Evaluation**

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10-S-01-14	Emergency Radiological Monitoring	25
10-S-01-17	Emergency Personnel Exposure Control	19
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10-S-01-29	Operations Support Center Operations	24
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	Evaluation Report for the February 24, 2010, Drill	
	Evaluation Report for the June 30, 2010, Drill	
	Evaluation Report for the October 28, 2009, Drill	
	Evaluation Report for the July 15, 2009, Drill	
	Evaluation Report for the August 18, 2010, Drill	
	Evaluation Report for the November 3, 2010, Drill	
	Evaluation Report for the February 16, 2011, Drill	
	Evaluation Report for the March 3, 2011, Drill	
	Evaluation Report for the April 12, 2011, Drill	

CONDITION REPORTS

CR-GGN-2011-7655	CR-GGN-2011-7798	CR-GGN-2011-7799
CR-GGN-2011-7804	CR-GGN-2011-7805	CR-GGN-2011-7811
CR-GGN-2011-7829	CR-GGN-2011-7830	CR-GGN-2011-7836

CR-GGN-2011-7851  
CR-GGN-2011-7802  
CR-GGN-2011-7838

CR-GGN-2011-7852  
CR-GGN-2011-7826  
CR-GGN-2011-7839

CR-GGN-2011-7801  
CR-GGN-2011-7815

**Section 1EP6: Drill Evaluation**

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
	SCENARIO NARRATIVE AND SEQUENCE OF EVENTS GGNS IPX	November 1, 2011

**Section 4OA1: Performance Indicator Verification**

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<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
06-OP-1E51-Q-0003	RCIC System Quarterly Pump Operability Verification	132
06-OP-1E51-Q-0002	RCIC System Valve Operability Test	113
	Grand Gulf Nuclear Station Emergency Plan	65, 66

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<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
Attachment 9.2	NRC Performance Indicator Technique/Data Sheet: Unit 1 - Emergency AC Power (EDG), High Pressure Injection (HPCS/HPCI/HPI/HPSI/FCI/HPI), Heat Removal (RCIC/EFW/AFW), Residual Heat Removal (RHR), Cooling Water Support	3 <sup>rd</sup> Qtr. 2010
Attachment 9.2	NRC Performance Indicator Technique/Data Sheet: Unit 1 - Emergency AC Power (EDG), High Pressure Injection (HPCS/HPCI/HPI/HPSI/FCI/HPI), Heat Removal (RCIC/EFW/AFW), Residual Heat Removal (RHR), Cooling Water Support	4 <sup>th</sup> Qtr. 2010
Attachment 9.2	NRC Performance Indicator Technique/Data Sheet: Unit 1 - Emergency AC Power (EDG), High Pressure Injection (HPCS/HPCI/HPI/HPSI/FCI/HPI), Heat Removal (RCIC/EFW/AFW), Residual Heat Removal (RHR), Cooling Water Support	1 <sup>st</sup> Qtr. 2011

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
Attachment 9.2	NRC Performance Indicator Technique/Data Sheet: Unit 1 - Emergency AC Power (EDG), High Pressure Injection (HPCS/HPCI/HPI/HPSI/FCI/HPI), Heat Removal (RCIC/EFW/AFW), Residual Heat Removal (RHR), Cooling Water Support	2 <sup>nd</sup> Qtr. 2011
Attachment 9.2	NRC Performance Indicator Technique/Data Sheet: Unit 1 - Emergency AC Power (EDG), High Pressure Injection (HPCS/HPCI/HPI/HPSI/FCI/HPI), Heat Removal (RCIC/EFW/AFW), Residual Heat Removal (RHR), Cooling Water Support	3 <sup>rd</sup> Qtr. 2011

CONDITION REPORT

CR-GGN-2011-7832                      CR-GGN-2011-7835

**Section 40A2: Identification and Resolution of Problems**

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>DATE</u>
QA-08-2011GGNS-1	Quality Assurance Audit Report	March 2011
QA-12/18-2011GGNS-1	Quality Assurance Audit Report	June-July 2011
QA-14/15-2011GGNS-1	Quality Assurance Audit Report	October-November 2011
QA-03-2011GGNS-1	Quality Assurance Audit Report	May 2011

CONDITION REPORT

CR-GGN-2011-06174	CR-GGN-2011-05894	CR-GGN-2011-05826
CR-GGN-2011-05327	CR-GGN-2011-05198	CR-GGN-2010-04822
CR-GGN-2011-3987	CR-GGN-2011-4847	CR-GGN-2011-5509
CR-GGN-2011-3998	CR-GGN-2011-4868	CR-GGN-2011-5530
CR-GGN-2011-4005	CR-GGN-2011-4870	CR-GGN-2011-5538
CR-GGN-2011-4012	CR-GGN-2011-4888	CR-GGN-2011-5546
CR-GGN-2011-4072	CR-GGN-2011-4894	CR-GGN-2011-5547

CR-GGN-2011-4076	CR-GGN-2011-4904	CR-GGN-2011-5619
CR-GGN-2011-4091	CR-GGN-2011-4927	CR-GGN-2011-5628
CR-GGN-2011-4114	CR-GGN-2011-4955	CR-GGN-2011-5638
CR-GGN-2011-4120	CR-GGN-2011-4967	CR-GGN-2011-5642
CR-GGN-2011-4145	CR-GGN-2011-4976	CR-GGN-2011-5650
CR-GGN-2011-4197	CR-GGN-2011-4995	CR-GGN-2011-5678
CR-GGN-2011-4227	CR-GGN-2011-5008	CR-GGN-2011-5694
CR-GGN-2011-4262	CR-GGN-2011-5009	CR-GGN-2011-5715
CR-GGN-2011-4283	CR-GGN-2011-5010	CR-GGN-2011-5791
CR-GGN-2011-4303	CR-GGN-2011-5020	CR-GGN-2011-5812
CR-GGN-2011-4306	CR-GGN-2011-5038	CR-GGN-2011-5815
CR-GGN-2011-4313	CR-GGN-2011-5060	CR-GGN-2011-5826
CR-GGN-2011-4339	CR-GGN-2011-5062	CR-GGN-2011-5848
CR-GGN-2011-4353	CR-GGN-2011-5067	CR-GGN-2011-5859
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CR-GGN-2011-4357	CR-GGN-2011-5117	CR-GGN-2011-5874
CR-GGN-2011-4360	CR-GGN-2011-5119	CR-GGN-2011-5887
CR-GGN-2011-4370	CR-GGN-2011-5121	CR-GGN-2011-5893
CR-GGN-2011-4372	CR-GGN-2011-5124	CR-GGN-2011-5894
CR-GGN-2011-4378	CR-GGN-2011-5140	CR-GGN-2011-5911
CR-GGN-2011-4381	CR-GGN-2011-5198	CR-GGN-2011-5934
CR-GGN-2011-4389	CR-GGN-2011-5220	CR-GGN-2011-5960
CR-GGN-2011-4405	CR-GGN-2011-5267	CR-GGN-2011-5966
CR-GGN-2011-4416	CR-GGN-2011-5295	CR-GGN-2011-5984
CR-GGN-2011-4458	CR-GGN-2011-5301	CR-GGN-2011-6019
CR-GGN-2011-4460	CR-GGN-2011-5323	CR-GGN-2011-6028
CR-GGN-2011-4466	CR-GGN-2011-5326	CR-GGN-2011-6029
CR-GGN-2011-4485	CR-GGN-2011-5327	CR-GGN-2011-6053
CR-GGN-2011-4495	CR-GGN-2011-5328	CR-GGN-2011-6075
CR-GGN-2011-4513	CR-GGN-2011-5343	CR-GGN-2011-6079
CR-GGN-2011-4517	CR-GGN-2011-5345	CR-GGN-2011-6097
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CR-GGN-2011-4620	CR-GGN-2011-5352	CR-GGN-2011-6106
CR-GGN-2011-4623	CR-GGN-2011-5356	CR-GGN-2011-6126
CR-GGN-2011-4645	CR-GGN-2011-5377	CR-GGN-2011-6147
CR-GGN-2011-4646	CR-GGN-2011-5394	CR-GGN-2011-6148
CR-GGN-2011-4647	CR-GGN-2011-5403	CR-GGN-2011-6164

CR-GGN-2011-4687	CR-GGN-2011-5421	CR-GGN-2011-6168
CR-GGN-2011-4689	CR-GGN-2011-5423	CR-GGN-2011-6171
CR-GGN-2011-4702	CR-GGN-2011-5425	CR-GGN-2011-6174
CR-GGN-2011-4779	CR-GGN-2011-5429	CR-GGN-2011-6176
CR-GGN-2011-4801	CR-GGN-2011-5454	CR-GGN-2011-6200
CR-GGN-2011-4805	CR-GGN-2011-5498	CR-GGN-2011-6207
CR-GGN-2011-4810	CR-GGN-2011-5504	CR-GGN-2011-6208
CR-GGN-2011-6209	CR-GGN-2011-7039	CR-GGN-2011-7856
CR-GGN-2011-6227	CR-GGN-2011-7040	CR-GGN-2011-7865
CR-GGN-2011-6228	CR-GGN-2011-7048	CR-GGN-2011-7867
CR-GGN-2011-6236	CR-GGN-2011-7055	CR-GGN-2011-7872
CR-GGN-2011-6270	CR-GGN-2011-7060	CR-GGN-2011-7915
CR-GGN-2011-6280	CR-GGN-2011-7110	CR-GGN-2011-7969
CR-GGN-2011-6285	CR-GGN-2011-7115	CR-GGN-2011-7973
CR-GGN-2011-6291	CR-GGN-2011-7124	CR-GGN-2011-7974
CR-GGN-2011-6354	CR-GGN-2011-7137	CR-GGN-2011-8014
CR-GGN-2011-6355	CR-GGN-2011-7144	CR-GGN-2011-8027
CR-GGN-2011-6358	CR-GGN-2011-7211	CR-GGN-2011-8056
CR-GGN-2011-6361	CR-GGN-2011-7246	CR-GGN-2011-8072
CR-GGN-2011-6362	CR-GGN-2011-7274	CR-GGN-2011-8081
CR-GGN-2011-6370	CR-GGN-2011-7282	CR-GGN-2011-8096
CR-GGN-2011-6376	CR-GGN-2011-7312	CR-GGN-2011-8115
CR-GGN-2011-6383	CR-GGN-2011-7313	CR-GGN-2011-8146
CR-GGN-2011-6400	CR-GGN-2011-7335	CR-GGN-2011-8150
CR-GGN-2011-6446	CR-GGN-2011-7336	CR-GGN-2011-8156
CR-GGN-2011-6455	CR-GGN-2011-7351	CR-GGN-2011-8158
CR-GGN-2011-6480	CR-GGN-2011-7354	CR-GGN-2011-8166
CR-GGN-2011-6490	CR-GGN-2011-7363	CR-GGN-2011-8186
CR-GGN-2011-6491	CR-GGN-2011-7381	CR-GGN-2011-8189
CR-GGN-2011-6507	CR-GGN-2011-7416	CR-GGN-2011-8225
CR-GGN-2011-6554	CR-GGN-2011-7428	CR-GGN-2011-8227
CR-GGN-2011-6560	CR-GGN-2011-7431	CR-GGN-2011-8256
CR-GGN-2011-6629	CR-GGN-2011-7453	CR-GGN-2011-8286
CR-GGN-2011-6630	CR-GGN-2011-7551	CR-GGN-2011-8308
CR-GGN-2011-6631	CR-GGN-2011-7583	CR-GGN-2011-8328
CR-GGN-2011-6640	CR-GGN-2011-7608	CR-GGN-2011-8331
CR-GGN-2011-6642	CR-GGN-2011-7617	CR-GGN-2011-8340

CR-GGN-2011-6652	CR-GGN-2011-7619	CR-GGN-2011-8352
CR-GGN-2011-6665	CR-GGN-2011-7621	CR-GGN-2011-8356
CR-GGN-2011-6669	CR-GGN-2011-7632	CR-GGN-2011-8358
CR-GGN-2011-6670	CR-GGN-2011-7658	CR-GGN-2011-8363
CR-GGN-2011-6695	CR-GGN-2011-7695	CR-GGN-2011-8366
CR-GGN-2011-6712	CR-GGN-2011-7696	CR-GGN-2011-8390
CR-GGN-2011-6718	CR-GGN-2011-7699	CR-GGN-2011-8407
CR-GGN-2011-6724	CR-GGN-2011-7720	CR-GGN-2011-8420
CR-GGN-2011-6784	CR-GGN-2011-7721	CR-GGN-2011-8433
CR-GGN-2011-6799	CR-GGN-2011-7725	CR-GGN-2011-8492
CR-GGN-2011-6821	CR-GGN-2011-7733	CR-GGN-2011-8497
CR-GGN-2011-6826	CR-GGN-2011-7743	CR-GGN-2011-8547
CR-GGN-2011-6832	CR-GGN-2011-7744	CR-GGN-2011-8577
CR-GGN-2011-6845	CR-GGN-2011-7760	CR-GGN-2011-8587
CR-GGN-2011-6880	CR-GGN-2011-7768	CR-GGN-2011-8619
CR-GGN-2011-6966	CR-GGN-2011-7779	CR-GGN-2011-8623
CR-GGN-2011-6969	CR-GGN-2011-7781	CR-GGN-2011-8637
CR-GGN-2011-6974	CR-GGN-2011-7832	CR-GGN-2011-8682
CR-GGN-2011-7024	CR-GGN-2011-7855	CR-GGN-2011-8683
CR-GGN-2011-8689	CR-GGN-2011-8865	CR-GGN-2011-8797
CR-GGN-2011-8698	CR-GGN-2011-8880	CR-GGN-2011-8811
CR-GGN-2011-8706	CR-GGN-2011-8890	CR-GGN-2011-8822
CR-GGN-2011-8717	CR-GGN-2011-8892	CR-GGN-2011-8842
CR-GGN-2011-8746	CR-GGN-2011-8934	CR-GGN-2011-8851
CR-GGN-2011-8775	CR-GGN-2011-8778	CR-HQN-2011-0879

**Section 40A3: Event Follow-Up**

PROCEDURE

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
04-1-01-R21-18	BOP BUS 18AG/28AG	17

DRAWING

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M-1080A	Filter/Demineralizer System	33
VPF-3713-349	Mark One, 1 ½ Inch, 600 LB, CV 28 25 Sq. In. Actuator with Speed Controls and 4-way Solenoid	2

DRAWING

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
E-1206-015	G36 Filter Demin Cont. System (RWCU) PC A, Valves Unit 1	12
705807-01-01	Electrical Wiring Diagram PCWX 300	1
E-1007	One Line Meter & Relay Diagram 4.16KV BUS 14AE Unit 1	20
E-1033	One Line Diagram P72 Drywell Chiller Power Supplies Unit 1	1
E-0001	Main One Line Diagram	47
J-1227-L-017A	RECIRC Pump "A" Motor C001A-N Speed Pick-Up	0
E-0117-001	Schematic Diagram 4.16 kV BOP System Incoming Breaker 152-1801	14

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
GGNS Yellow Memo	Reactor Water Clean-up (RWCU) trip due to working on the wrong component	October 26, 2011
VMA Control No. 92/0139	Installation and Operating Instructions SLA Series Phase Monitors GGNS Operations-Nights	November 11, 2011
EN-RE-215	Reactivity Maneuver Plan for Power Increase Following the Recovery of the RFPT B Failure Mode Analysis Worksheet (At 2241 on November 10, 2011 RFPT B tripped) Failure Mode Analysis Worksheet (Reactor Recirculation Flow Control Valve "A" (F060A) Did Not Experience Runback (CR-GGN-2011-08125)	1
GLP-OPS-B3300	Operator Training for Reactor Recirculation System B33 PSW Recovery /A-1 Pattern Adjustment Power Profile GGNS Operations Logs, Days	24 November 27, 2011 November 25, 2011
EN-LI-118-08	Failure Mode Analysis Worksheet for buss 18AG experiencing a loss of power	0

OTHER

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION / DATE</u>
	PSW Recovery/A-1 Pattern Adjustment Power Profile	November 27, 2011
Plan of Action	Issue: Woodpecker damage exists in Wood Pole Line for the Radial Well 34.5kV Overhead Power Feed to BOP23	December 13, 2011

CONDITION REPORT

CR-GGN-2011-07546	CR-GGN-2011-07681	CR-GGN-2011-07375
CR-GGN-2011-07522	CR-GGN-2011-07546	CR-GGN-2011-07566
CR-GGN-2011-08189	CR-GGN-2011-08230	CR-GGN-2011-08598
CR-GGN-2011-08166	CR-GGN-2011-08123	CR-GGN-2011-08125
CR-GGN-2011-08165	CR-GGN-2011-08545	CR-GGN-2011-08538
CR-GGN-2011-08539	CR-GGN-2011-08547	CR-GGN-2011-08548
CR-GGN-2011-08561		

WORK ORDER

WO 294611 01

**Section 40A5: Other Activities**

CALCULATIONS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
MC-Q1111-08005	Calculation of Vortexing of ECCS Pumps	1
MC-Q1111-10001	ECCS Vent Line Timing for ECCS Valves	1

CONDITION REPORTS

CR-GGN-2008-0372	CR-GGN-2008-0605	CR-GGN-2009-6249
CR-GGN-2010-4686	CR-GGN-2010-4705	CR-GGN-2010-4963
CR-GGN-2011-3585	CR-GGN-2011-3771	CR-GGN-2011-3772
CR-GGN-2011-6772	CR-GGN-2011-6777	CR-GGN-2011-8660

CR-GGN-2010-1107

CR-GGN-2010-5572

CR-GGN-2011-4077

CR-GGN-2011-8690

WORK ORDERS

WO 52369933

WO 52370093

WO 52363936

WO 52375051

WO 52377839

WO 52373003

WO 52368517

WO 52376461

WO 52369093

WO 52373858

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
M-1350A	System Piping Isometric LPCS Pump Discharge to CTMT Aux. Bldg. and CTMT Unit 1	23
M-1349B	System Piping Isometric HPCS - CTMT to RPV – CTMT Unit 1	18
M-1349A	System Piping Isometric HPCS from HPCS PP. Disch. to CTMT Aux. Bldg. and CTMT – Unit 1	A
M1348T	System Piping Isometric Residual Heat Removal Loop C LPCI – Containment - Unit 1	14
M1348S	System Piping Isometric RHR Loop C – Pump Disch. to CTMT. Aux, Bldg. and CTMT – Unit 1	17
M1348R	System Piping Isometric RHR Pump C Suction Aux. BLDG. and CTMT – Unit 1	A
M1348J	System Piping Isometric RHR A and B PSV. Disch. to Supp. Pool Aux. Bldg. and CTMT – Unit 1	11
M1348F	System Piping Isometric Residual Heat Removal LPCI A and B and CTMT Spray – CTMT and Aux. Bldg. – Unit 1	25
M1348D	System Piping Isometric RHR HT Exch. 2A to Containment – CTMT and AUX Bldg. and CTMT –	19

DRAWINGS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
	Unit 1	
FSK-S-1087-010-B	GRW Drain From GBB-7	8
FSK-S-1087-003-B	LPCS Jockey Pump C002-A Discharge to GBB-9	7
FSK-S-1086-028-B	Vent for HPCS Pump Discharge From DBB-8	8
FSK-S-1086-013-B	HPCS Jockey Pump Coo3-C Discharge	17
FSK-S-1085B-097-B	High Point Vent From GBB-92 to Drw. Drain	0
FSK-S-1085B-075-B	High Point Vent From GBB-43 to Drw. Drain	0
FSK-S-1085B-061-C	Test Connection From GBB-52	3
FSK-S-1085A-058-B	DRW. Vents From GBB-58 to HBD-1032	10
M-1350B	System Piping Isometric LPCS-CTMT to RPV Unit 1	14
M1085C	Residual Heat Removal System Unit 1	17
M1086	High Pressure Core Spray system Unit 1	31
M1085B	Residual Heat Removal System Unit 1	60
M1085A	Residual Heat Removal System Unit 1	68
M1087	Low Pressure Core Spray System Unit 1	32

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
06-OP-1E12-M-0001	LPCI/RHR Subsystem A Monthly Functional Test	105
06-OP-1E12-M-0002	LPCI/RHR Subsystem B Monthly Functional Test	108
06-OP-1E12-M-0003	LPCI/RHR Subsystem C Monthly Functional Test	105
06-OP-1E21-M-0001	LPCS Monthly Functional Test	104
06-OP-1E22-M-0001	HPCS Monthly Functional Test	105

PROCEDURES

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
04-1-01-E22-1	System Operating Instruction – High Pressure Core Spray System	116
04-1-01-E21-1	System Operating Instruction – Low Pressure Core Spray System	37
04-1-01-E12-1	System Operating Instruction – Residual Heat Removal System	137

MISCELLANEOUS DOCUMENTS

<u>NUMBER</u>	<u>TITLE</u>	<u>REVISION</u>
Engineering Report GGNS-ME-08- 00002-001	Summary of Activities Associated with the Resolution of GL 2008-01	1