UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

July 28, 2009

James R. Douet, Vice President of Operations
Grand Gulf Nuclear Station
Entergy Operations, Inc.
P.O. Box 756
Port Gibson, MS 39150

Subject: GRAND GULF NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000416/2009003

Dear Mr. Douet:

On June 23, 2009, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Grand Gulf Nuclear Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on July 1, 2009, 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.

This report documents three NRC identified and two self-revealing findings of very low safety significance (Green). Four of these findings were determined to involve violations of NRC requirements. Additionally, a licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance and because they are entered into your corrective action program, the NRC is treating these findings as noncited violations, consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest these violations or the significance of these noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, D.C. 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd, Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, D.C. 20555-0001; and the NRC Resident Inspector at the Grand Gulf Nuclear Station facility.

In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV, and the NRC Resident Inspector at Grand Gulf Nuclear Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, and its enclosure, will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of NRC's document 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/

Geoffrey B. Miller, Chief
Project Branch C
Division of Reactor Projects

Docket: 50-416
License: NPF-29

Enclosure:
NRC Inspection Report 05000416/2009003
w/Attachment: Supplemental Information

cc w/Enclosure:
Senior Vice President
Entergy Nuclear Operations
P.O. Box 31995
Jackson, MS 39286-1995

Senior Vice President and COO
Entergy Operations, Inc.
P.O. Box 31995
Jackson, MS 39286-1995

Vice President, Oversight
Entergy Services, Inc.
P.O. Box 31995
Jackson, MS 39286-1995

Chief, Energy and Transportation Branch
Environmental Compliance and
Enforcement Division
Mississippi Department of
Environmental Quality
P.O. Box 2249
Jackson, MS 39225-2249

President
Claiborne County
Board of Supervisors
510 Market Street
Port Gibson, MS 39150

Senior Manager
Nuclear Safety & Licensing
Entergy Nuclear Operations
P.O. Box 31995
Jackson, MS 39286-1995

Manager, Licensing
Entergy Operations, Inc.
Grand Gulf Nuclear Station
P.O. Box 756
Port Gibson, MS 39150

Attorney General
Department of Justice
State of Louisiana
P.O. Box 94005
Baton Rouge, LA 70804-9005

Office of the Governor
State of Mississippi
P.O. Box 139
Jackson, MS 39205

Attorney General
Assistant Attorney General
State of Mississippi
P.O. Box 220
Jackson, MS 39205

State Health Officer
State Health Board
P.O. Box 1700
Jackson, MS 39215

Associate General Counsel
Entergy Nuclear Operations
P.O. Box 31995
Jackson, MS 39286-1995

Louisiana Dept. of Environmental Quality
Radiological Emergency Planning and
Response Division
P.O. Box 4312
Baton Rouge, LA 70821-4312

Chief, Technological Hazards
Branch
FEMA Region VI
800 North Loop 288
Federal Regional Center
Denton, TX 76209

Electronic distribution by RIV:
Regional Administrator (Elmo.Collins@nrc.gov)
Deputy Regional Administrator (Chuck.Casto@nrc.gov)
DRP Director (Dwight.Chamberlain@nrc.gov)
DRP Deputy Director (Anton.Vegel@nrc.gov)
DRS Director (Roy.Caniano@nrc.gov)
DRS Deputy Director (Troy.Pruett@nrc.gov)
Senior Resident Inspector (Rich.Smith@nrc.gov)
Resident Inspector (Andy.Barrett@nrc.gov)
Branch Chief, DRP/C (Geoffrey.Miller@nrc.gov)
Senior Project Engineer, DRP/C (David.Proulx@nrc.gov)
GG Site Secretary (Nancy.Spivey@nrc.gov)
Public Affairs Officer (Victor.Dricks@nrc.gov)
Team Leader, DRP/TSS (Chuck.Paulk@nrc.gov)
RITS Coordinator (Marisa.Herrera@nrc.gov)
Regional Counsel (Karla.Fuller@nrc.gov)
Congressional Affairs Officer (Jenny.Weil@nrc.gov)
OEMail Resource

Only inspection reports to the following:
DRS STA (Dale.Powers@nrc.gov)
OEDO RIV Coordinator (Leigh.Trocine@nrc.gov)
ROPreports

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-416
License:	NPF-29
Report:	05000416/2009003
Licensee:	Entergy Operations, Inc.
Facility:	Grand Gulf Nuclear Station
Location:	Waterloo Road Port Gibson, MS
Dates:	April 1 through June 23, 2009
Inspectors:	R. Smith, Senior Resident Inspector, Project Branch C, DRP A. Barrett, Resident Inspector, Project Branch C, DRP B. Correll, Reactor Inspector, Project Branch C, DRP
Approved By:	Geoffrey B. Miller, Chief, Project Branch C Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000416/2009003; 04/01/2009 – 06/23/2009; Grand Gulf Nuclear Station, Integrated Resident and Regional Report; Equipment Alignments, Operability Evaluations, Surveillance Testing, Identification and Resolution of Problems and Event Follow-up.

The report covered a 3-month period of inspection by resident inspectors and an announced baseline inspection by a regional based inspector. Five Green findings were identified by the inspectors. Four of these findings were considered noncited violations of NRC regulations. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be Green or be assigned a severity level after NRC management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 4, dated December 2006.

A. NRC-Identified Findings and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing noncited violation of Technical Specification 5.4.1(a) was reviewed involving a failure to follow the fire alarm response procedure during a fire in the reactor feedwater pump area. The operators failed to investigate the source of a smoke alarm for an hour, allowing a fire to develop beyond the incipient stage before it was discovered. On November 17, 2008, a fire ignited in oil-soaked insulation on the reactor feedwater Pump B. After two weeks of plant operation following a refueling outage, during the November 17 shift turnover meeting, a fire alarm was received in the control room and was acknowledged by an operator. No notifications were made to the shift manager, and no operator or fire brigade member was dispatched. One hour after shift turnover, during normal operator rounds the turbine building operator discovered the fire in the reactor feedwater pump room. The fire brigade was dispatched to extinguish the fire. The licensee entered this condition in the corrective action program as condition report CR-GGN-2008-06584.

  The finding was more than minor because it was associated with the initiating events cornerstone attribute of human performance and affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. The finding was assessed by performing a bounding analysis using Appendix M of Inspection Manual Chapter 0609. The bounding analysis indicated that the change in core damage frequency would be 4.24×10^{-7} over a 1-year assessment period, indicating that this finding was of very low safety significance. This finding has a crosscutting aspect in the area of human performance with a work practices component for failure to use proper self-checking techniques commensurate with the risk of the assigned task to ensure the work is performed safely because operators failed to use self-checking techniques when acknowledging the reactor feedwater pump fire alarm [H.4(a)] (Section 4OA3).

Cornerstone: Mitigating Systems

- Green. The inspectors identified a Green noncited violation of 10 CFR 50 Appendix B, Criterion III involving the failure to incorporate design changes required to limit dynamic loads on the standby service water basin slab. In 1997, the plant experienced damage to the standby service water basin slabs resulting from unanalyzed dynamic loads. During a standby service water system inspection on April 18, 2009, inspectors observed several different tire tracks on the seismically-designed concrete slab that covers and is integral to the safety-related standby service water basin. The inspectors also noted small placards attached to the basin slabs which prohibited moving vehicles on the slabs, and other signs requiring protective mats under any items placed on the slabs. Plant personnel evaluated the loading of the vehicle and determined that the load limits on the basin slab had not been exceeded. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2009-002087.

  The inspectors determined this finding affected the design control attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In addition, the finding was more than minor because the failure to prevent dynamic loads on the standby service water basin slabs, if left uncorrected, could become more significant safety concern. Using the Manual Chapter of 0609, "Significance Determination Process," Phase 1 Worksheet, this finding was determined to have very low safety significance, because it did not represent an actual loss of a safety function of the standby service water system. There is no crosscutting aspect associated with this performance deficiency since the cause of this issue occurred several years ago and does not reflect current licensee performance (Section 1R04).

- Green. The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V involving a failure to follow procedures which resulted in an inadequate operability evaluation. During the week of May 18, 2009, the site conducted debris removal in the condensate storage tank. This debris removal was necessary because of a failure to remove all debris in the condensate storage tank during their spring 2007 cleanup project. The licensee performed an operability evaluation for objects left in the condensate storage tank which stated that the high pressure core spray system and reactor core isolation cooling would remain operable for all postulated events. Upon review by the inspectors, the operability evaluation did not address several issues including objects left in the condensate storage tank and condensate system return flow to the condensate storage tank following a plant shutdown/scram. The licensee entered this issue into their corrective action program as Condition Reports CR-GGN-2009-02815 and CR-GGN-2009-02837.

  This finding is more than minor because the failure to perform an adequate operability evaluation, if left uncorrected, could become a more significant safety concern. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, this finding was of very low safety significance since it did not result in a loss of operability, nor did it screen as potentially risk significant due to a seismic, flooding, or severe weather-initiating event. The cause of this

finding had a crosscutting aspect in the area of problem identification and resolution associated with corrective actions because licensee personnel failed to thoroughly identify all materials left in the condensate storage tank during their original operability determination [P.1(a)] (Section 1R15).

- Green. The inspectors identified a Green finding involving the failure to perform an operability determination after a new failure mechanism was discovered for standby service water Fan B. The inspectors were performing a follow up review of a condition report that detailed a trip of Division 1 standby service water Fan B. The fan had tripped on start up from the control room on December 31, 2007. The licensee had initially determined the trip was due to a faulty solid state trip device. Subsequent testing in failed to identify a problem with the trip device, and the apparent cause of the fan trip was attributed to reverse rotation of the fan. Operations personnel were not informed of this new information as required by the corrective action program procedure. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2009-01726.

  This finding is more than minor because it was associated with the equipment performance attribute of the reactor safety mitigating systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors determined that the finding had very low safety significance (Green) since it did not represent an actual loss of a safety function of the standby service water cooling towers, nor did it screen as potentially risk significant due to a seismic, flooding, or severe weather-initiating event. The cause of this finding had a crosscutting aspect in the area of human performance associated with work practices in that licensee personnel failed to apply procedural requirements to write a new condition report when new information was acquired related to the trip of the Division 1 standby service water Fan B [H.4(b)] (Section 4OA2).

  Cornerstone: Barrier Integrity

- Green. The inspectors reviewed a self-revealing Green noncited violation of Technical Specification 5.4.1(a) involving a failure to implement the low pressure core spray system operating instruction correctly. On April 20, 2009, the site was performing a low pressure core spray quarterly surveillance. During the test, the suppression pool level lowered approximately 0.8 inches, which equates to approximately 3600 gallons of water. Plant personnel investigated these anomalies and determined that the low pressure core spray pump had pressurized the condensate and refuelling water storage system due to a partially opened manual fill valve. This valve is a chain-fall operated valve and was approximately five turns open. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2009-02073.

  The finding was more than minor because it was associated with configuration control attribute of the reactor safety barrier integrity cornerstone, and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers would protect the public from the radionuclide releases caused by accident or events. Using Manual Chapter 0609, "Significance Determination

Process," Phase 1 Worksheet, the finding was determined to be of very low safety significance (Green) since it only represents a degradation of the radiological barrier function provided for the auxiliary building. The cause of this finding has a crosscutting aspect in the area of human performance associated with resources in that the operators did not have specific training in chain-fall type valve operation [H.2(b)] (Section 1R22).

B. Licensee-Identified Violations

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

REPORT DETAILS

Summary of Plant Status

Grand Gulf Nuclear Station (GGNS) began the inspection period at full rated thermal power. On April 24, 2009, the plant reduced reactor power to 88 percent for planned control rod surveillance and to perform planned turbine valve surveillances. The plant returned to 100 percent power on April 25, 2009. On May 22, 2009, the plant reduced reactor power to 90 percent for planned control rod surveillance and returned to 100 percent power on May 23, 2009. On June 19, 2009, the plant reduced power to 70 percent for a planned sequence exchange and planned control rod surveillance. The plant returned to 100 percent power on June 20, 2009 and remained at or near full rated thermal power for the remainder of the inspection period.

1. REACTOR SAFETY

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

1R01 Adverse Weather Protection (71111.01)

.1 Summer Readiness for Offsite and Alternate-AC Power

a. Inspection Scope

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

- The coordination between the transmission system operator and the plant during off-normal or emergency events
- The explanations for the events
- The estimates of when the offsite power system would be returned to a normal state
- The notifications from the transmission system operator to the plant when the offsite power system was returned to normal

During the inspection, the inspectors focused on plant-specific design features and the licensee's procedures used to mitigate or respond to adverse weather conditions. Additionally, the inspectors reviewed the Updated Final Safety Analysis Report (UFSAR) and performance requirements for systems selected for inspection, and verified that operator actions were appropriate as specified by plant-specific procedures. Specific documents reviewed during this inspection are listed in the attachment. The inspectors also reviewed corrective action program items to verify that the licensee was identifying

adverse weather issues at an appropriate threshold and entering them into their corrective action program in accordance with station corrective action procedures. The inspectors' reviews focused specifically on the following plant systems:

- Switchyard Station Transformers ST11 and ST21
- Onsite Power Loop
- Standby Diesel Generators (P75)
- High Pressure Core Spray Diesel Generator (P81)

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

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

.1 Partial Walkdown

a. Inspection Scope

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

- April 22, 2009, the inspectors walked down the standby gas treatment system Train B while Train A was inoperable due to a scheduled system outage

- April 23, 2009, the inspectors walked down the standby service water Train B following system maintenance

- May 5, 2009, the inspectors walked down control room air conditioner Train A while Train B was removed from service due to a freon leak

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 walked down accessible portions of the systems to verify system components and support equipment were aligned correctly and operable. The inspectors examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors also verified that the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the corrective action program with the appropriate significance characterization.

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

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

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion III for failure to incorporate design changes required to limit dynamic loads on the standby service water basin slab.

Description. The standby service water basins contain the cooling water that provides for the ultimate heat sink which removes heat from plant systems that are required for a safe reactor shutdown. In 1997, the plant experienced damage to the standby service water basin slabs resulting from unanalyzed dynamic loads. The evaluation performed in the engineering request document stated in Section 4.3, "The original design of the roof slabs did not consider wheeled/moving loads; consequently, the restriction on placement of these loads on slab will continue. No wheeled/moving loads may be placed on the SSW basin roof slabs without prior written approval from design engineering." The corrective actions associated with this event developed requirements to prevent rolling or wheeled loads on the basin slab (to both protect the slab coatings and to maintain loadings within design limits). An engineering request document was issued requiring both the load limitations and the erection of a tagged, permanent barrier to prevent inadvertent vehicular access.

During a system inspection on April 18, 2009, inspectors observed several different tire tracks on the seismically-designed concrete slab that covers and is integral to the safety-related basin. The slabs had signage which indicated that no vehicles are to be driven on the basin slabs. In addition, the protective barrier to prevent vehicles from moving onto the slabs had been removed. The inspectors detailed the deficiencies to station management, and engineers were directed to inspect the structure for damage. Plant personnel evaluated the loading of the vehicles and determined that the load limits on the basin slab had not been exceeded.

The inspectors determined that the barrier had, at one time, been put into place, but plant personnel had failed to incorporate the barrier into design drawings or station procedural guidance.

Analysis. The inspectors determined that the failure to prevent dynamic loads on the standby service water basin slabs was a performance deficiency. The inspectors determined this finding affected the design control attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In addition, the finding was more than minor because the failure to prevent dynamic loads on the basin slabs, if left uncorrected, could become a more significant safety concern. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, this finding was determined to have very low safety significance, because it did not represent an actual loss of a safety function of the standby service water system. There is no crosscutting aspect associated with this performance deficiency since the cause of this issue occurred several years ago and does not reflect current licensee performance.

Enforcement. Appendix B of 10 CFR Part 50, Criterion III, "Design Control," requires, in part, that applicable regulatory requirements and design basis for safety-related structures, systems, and components are correctly translated into specifications, drawings, procedures, and instructions. Contrary to the above, plant personnel failed to incorporate required design basis changes into plant procedures and drawings. Specifically, since May 12, 1999, engineering design change ER97-0330-00-01 required the erection of a tagged, permanent barrier to prevent inadvertent vehicular access to the standby service water basin slabs, but the station failed to incorporate the barrier into design drawings or station procedural guidance. Since this violation is of very low safety significance and has been entered in the licensee's corrective action program as CR-GGN-2009-02087, this violation is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy: NCV 05000416/2009003-01, "Failure to Incorporate Design Changes to Protect the Standby Service Water Slab."

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:

- Enclosure Building (1A506, 1A508)
- Auxiliary Building Heating, Ventilation and Cooling Area (1A606)
- Engineered Safety Feature Heating, Ventilation and Cooling Equipment Division 1 (OC302, OC306, OC307)
- Engineered Safety Feature Heating, Ventilation and Cooling Equipment Division 2 (OC303, OC304, OC305)

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 by Inspection Procedure 71111.05-05.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification Program (71111.11)

a. Inspection Scope

On April 27, 2009, 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 of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

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

- Reactor core isolation cooling system (E51)
- Riley temperature switch component level pseudo-system (RTS)

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 of significance 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:

- Station Transformer 11 switchyard work the weeks of April 12 and 19, 2009
- Diesel Fire Pump A and switch yard work the week of April 20, 2009
- Containment cooling system planned maintenance on April 27, 2009
- Overall plant risk impacts with a loss of essential bus 15AA during the week of May 4, 2009

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 by Inspection Procedure 71111.13-05.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following issues:

- Air identified in standby service water system causing relief valves to lift, CR-GGN-2009-02013
- Impact of misaligned valve in the low pressure core spray system, CR-GGN-2009-02069

- Operability of reactor core isolation cooling and high pressure core spray with debris left in the condensate storage tank following debris removal effort, CR-GGN-2009-02652, 02815, 02837

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 the Updated Final Safety Analysis Report to the licensee's evaluations, to determine whether the components or systems were operable. Where compensatory measures were required to maintain operability, the inspectors determined whether the measures in place would function as intended and were properly controlled. 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 three operability evaluations inspection samples as defined in Inspection Procedure 71111.15-05

b. Findings

Introduction. The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V involving a failure to follow procedures which resulted in an inadequate operability evaluation.

Description. The condensate storage tank is the normal water supply for the reactor core isolation cooling system and the high pressure core spray system, and provides an inventory of water to the reactor vessel in addition to the suppression pool. The condensate storage tank also provides a surge volume for the condensate system following plant shutdown. During the week of May 18, 2009, the site conducted debris removal in the condensate storage tank. The licensee removed fourteen objects from the tank. This debris removal was necessary because of a failure to remove all debris in the tank during their spring 2007 cleanup project The operability evaluation following the cleaning operation included the following:

- A small object of non-ferrous metal (.25 inches by .75 inches) left on the high pressure core spray and reactor core isolation cooling vortex breaker.

- Fine sediment of iron oxide (comprised of 95 percent iron oxide and 5 percent resin material) located on the top of the high pressure core spray and reactor core isolation cooling vortex breaker.

- The operability evaluation stated that neither the small object nor the fine sediment of iron oxide would pose any risk to plant operations.

- The operability evaluation additionally stated during post accident operation with decreasing condensate storage tank level, the small object on the vortex breaker would not be affected by water returning from condensate or radwaste systems.

- The operability evaluation stated that the high pressure core spray and reactor core isolation cooling systems remain operable for all postulated events.

In order to verify the condition of the condensate storage tank, the inspectors reviewed a video of the cleaning effort and inspected the items removed from the tank. After this, the inspectors interviewed the debris removal project leader and the engineers that developed the operability evaluation. The inspectors noted that the operability evaluation did not address:

- The two objects in the sump area of the condensate storage tank (the sump area is approximately two and half feet deep with suction pipe centered in the sump used to drain the tank);

- The fact that the iron oxide sediment that was on the vortex breaker had been swept off in an effort to remove the small sized object and the fact there was iron oxide sediment all over the floor of the tank; and

- The fact that engineers performing the operability evaluation made an assumption that return flow to the condensate storage tank post-event would be approximately 300 gpm from the radwaste system and flow from the condensate system return flow would be zero following a shutdown/scram.

Upon further investigation the licensee determined that following a shutdown/scram, approximately 30,000 gallons of water would be returned to the condensate storage tank from the condensate system in a period of approximately 5 to 10 minutes.

The licensee agreed that they had not addressed these concerns in their original operability determination. They wrote two condition reports documenting these unaddressed issues and wrote two reasonable expectations of operability evaluations. Finally, operations tasked engineering to perform a new operability determination addressing these concerns. The inspectors reviewed this new operability determination and did not identify any discrepancies.

Analysis. The failure to implement station procedures is a performance deficiency. This finding is more than minor because the failure to perform an adequate operability evaluation, if left uncorrected, could become a more significant safety concern. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, this finding was of very low safety significance since it did not result in a loss of operability, nor did it screen as potentially risk significant due to a seismic, flooding, or severe weather-initiating event. The cause of this finding has a crosscutting aspect in the area of problem identification and resolution associated with corrective actions because licensee personnel failed to thoroughly identify all materials left in the condensate storage tank during their original operability determination [P.1(a)].

Enforcement. Criterion V, "Instructions, Procedures and Drawings," of Appendix B to 10 CFR Part 50 states, in part, that "activities affecting quality shall be prescribed by documented instructions and shall be accomplished in accordance with those instructions." Section 5.4[2] of EN-OP-104, "Operability Determinations," Revision 3, required operability evaluations to clearly identify each item of a nonconforming/degraded condition per Step 3 of Attachment 9.5 of the procedure. Contrary to this, on May 28, 2009, plant engineers failed to identify two objects left in the drainage sump of the condensate storage tank, an iron oxide layer that was left on the entire bottom of the tank and the significant return flow from the condensate system post shutdown/scram in their operability determination for the nonconforming/degraded condition of the condensate storage tank. Because this violation was of very low safety significance and was entered in the corrective action program as Condition Reports CR-GGN-2009-02815 and CR-GGN-2009-02837, this violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000416/2009003-02, "Inadequate Operability Evaluation for Debris Left in the Condensate Storage Tank."

1R18 Plant Modifications (71111.18)

a. Inspection Scope

The inspectors reviewed the following temporary modifications to verify that the safety functions of important safety systems were not degraded:

- Failed hydrogen water chemistry condensate flow valve due to stem to disc separation evaluation for continued operation
- Reactor Water Cleanup system leak repair of the regenerative heat exchanger flange area between the head and shell

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

These activities constitute completion of two samples for temporary plant modifications as defined in Inspection Procedure 71111.18-05

b. Findings

No findings of significance 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:

- Standby Gas Train A system outage
- Safety related switchgear room damper actuator solenoid replacements
- Containment cooling system fan belt and motor replacements
- Scram discharge volume vent and drain valve replacements

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

b. Findings

No findings of significance 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 five 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.

- April 20, 2009, Low pressure core spray quarterly pump in-service test
- April 28, 2009, Operations daily log – reactor coolant system leakage detection
- May 26, 2009, Load shed and sequencing Division 2 monthly test
- June 2, 2009, 125-Volt battery bank all cell check Division 1 quarterly test
- June 8, 2009, Residual heat removal Train C loop local leak rate test

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

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

b. Findings

Introduction. The inspectors reviewed a self-revealing Green noncited violation of Technical Specification 5.4.1(a) for the failure to implement the low pressure core spray system operating instruction correctly.

Description. On April 20, 2009, the site was performing a low pressure core spray quarterly surveillance. During the test it was noted that suppression pool level lowered approximately 0.8 inches, which equates to approximately 3600 gallons of water. The plant investigated the level change and determined that during the surveillance, the reactor water cleanup back wash receiving tank level increased from 31 percent to 122 percent. Additionally, there was a level rise in the seal steam generator from 2.55 inches to 3.01 inches. Plant personnel investigated these anomalies and determined that the low pressure core spray pump had pressurized the condensate and refueling water storage system due to a partially opened manual fill valve. This chain-fall operated valve was approximately five turns open.

The inspectors reviewed the licensee's investigation, the past operability determination, examined the manual valve from scaffolding and interviewed plant personnel involved with the event. The valve had been last operated on January 28, 2009 to conduct a fill and vent of the low pressure core spray system following a maintenance outage. The valve was closed and a locking device was installed by an operator. As a result of their investigation, plant personnel concluded that the chain kinked in the chain-fall device while the operator was closing the valve. This gave the operator the belief the valve was fully closed. The investigation also determined that training on chain-fall valves was inadequate and contributed to the valve not being closed properly.

The site evaluated the over-pressurization of the condensate and refueling water storage system piping and verified that the piping, which included containment and secondary containment penetrations, had not exceeded stress limits. They additionally concluded that leakages would not have affected the low pressure core spray system performance. They also determined that the operators would have sufficient time to replenish the suppression pool. The site performed a leak path analysis and determined that 15.76 gallons per minute would have leaked into the auxiliary building additional to the postulated leakage. They determined from a dose analysis that the post loss of coolant accident offsite and control room doses would remain below the applicable regulatory limits considering the additional liquid leakage into secondary containment and secondary bypass leakage. The inspectors reviewed these analyses and did not identify any discrepancies.

Analysis. The performance deficiency associated with this finding was a failure of an operator to properly implement the system operating instruction to ensure that the manual system fill valve was fully closed. The finding was more than minor because it was associated with configuration control attribute of the reactor safety barrier integrity cornerstone, and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers would protect the public from the radionuclide releases caused by accident or events. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to be of very

low safety significance (Green) since it only represents a degradation of the radiological barrier function provided for the auxiliary building. The cause of this finding has a crosscutting aspect in the area of human performance associated with resources in that the operators did not have specific training in chain-fall type valve operation [H.2(b)].

Enforcement. Technical Specification 5.4.1(a) requires written procedures to be implemented as recommended by Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Section 4.h of Regulatory Guide 1.33 recommends procedures governing operation of emergency core cooling systems. Procedure 04-1-01-E21-1, "Low Pressure Core Spray System," Section 5.1.2, Step v, requires the operator to close and lock Valve 1E12-F025. Contrary to the above, on January 28, 2009, an operator failed to close Valve 1E12-F025, causing the low pressure core spray system to leak water into the condensate and refueling water storage system. Because this violation was of very low safety significance and was entered into the licensee's corrective action program as Condition Report CR-GGN-2008-02073, this violation is being treated as a noncited violation, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000416/2009003-03, "Failure to Fully Close a Low Pressure Core Spray Manual Valve Resulted in Leakage of Water into the Condensate and Refueling Water Storage System."

1EP6 Drill Evaluation (71114.06)

.1 Emergency Preparedness Drill Observation

a. Inspection Scope

The inspectors evaluated the conduct of a routine licensee emergency drill on June 3, 2009, to identify any weaknesses and deficiencies in classification, notification, and protective action recommendation development activities. The inspectors observed emergency response operations in the simulator control room and the technical support center to determine whether the event classification, notifications, and protective action recommendations were performed in accordance with procedures. The inspectors also attended the licensee drill critique to compare any inspector-observed weakness with those identified by the licensee staff in order to evaluate the critique and to verify whether the licensee staff was properly identifying weaknesses and entering them into the corrective action program. As part of the inspection, the inspectors reviewed the drill package and other documents listed in the attachment.

These activities constitute completion of one sample as defined in Inspection Procedure 71114.06-05.

b. Findings

No findings of significance were identified.

4OA1 Performance Indicator Verification (71151)

.1 Data Submission Issue

a. Inspection Scope

The inspectors performed a review of the data submitted by the licensee for the first Quarter 2009 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 of significance were identified.

4OA2 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 of significance 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 of significance 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 December 1, 2008 through May 13, 2009, although some examples expanded beyond those dates where the scope of the trend warranted. The inspectors reviewed the following issues and trends:

- Emerging trend in the human performance, work practices crosscutting area
- Plant Improvement Plan
- Focus Area Operations and Maintenance Behaviors
- Engineering Technical Rigor

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 semi-annual trend inspection sample as defined in Inspection Procedure 71152-05.

b. Findings and Observations

The inspectors evaluated the licensee's corrective action program trending methodology and observed that the licensee had performed detailed reviews of developing issues. In the past six months, several condition reports were written to evaluate emerging trends. In addition to those trends identified by the licensee, the inspectors noted the following:

Human Performance: The inspectors reviewed the site's fourth quarter 2008 and first quarter 2009 "Quarterly Trend Reports" and recognized that the site had properly identified several human performance issues most of which did not result in plant events. The inspectors reviewed the corrective action plans to prevent recurrence and methods to produce improvement in the area of human performance. Although some improvement was noted, the site and inspectors both concluded that continued focus in this area is required.

Plant Improvement Plan: The inspectors reviewed the licensee's improvement plan and received a briefing from site management of the objectives of the plan and how it was to be implemented throughout the site. The inspectors then interviewed plant employees and supervisors in various departments about the site improvement plan. Through these interviews the inspectors recognized that the improvement plan mechanics had not yet assimilated to all levels of the organization. At the end of the inspection period there was an increased awareness of the improvement plan process by most plant personnel.

Focus Area Operations and Maintenance Behaviors: The inspectors observed operators' and maintenance workers' behaviors while performing tasks in the plant. The behaviors of operators seemed improved and appeared to be committed to maintaining site expectation in the area of human performance tools. The observations of the maintenance workers were inconsistent with site expectations, in that the inspectors observed cases of incomplete 3-part communication and failure to use proper peer checking or procedure placekeeping. The workers did not consistently use the human performance error prevention tools. These observations were shared with site management.

Engineering Technical Rigor: The inspectors reviewed engineering operability determinations and engineering change packages. The inspectors determined that, at times, there continued to be cases in which evaluations were based on poor assumptions or incomplete information. The inspectors consistently challenged the assumptions and technical accuracy of these documents, resulting in engineering personnel re-performing evaluations.

.4 Selected Issue Follow-up Inspection; Standby Service Water Tower Fan Trip

a. Inspection Scope

The inspectors reviewed condition reports and corrective actions associated with a trip of the Division I standby service water Fan B. The inspectors reviewed a condition report that identified a trip of standby service water Fan 1P41-C003B on startup from the control room to ensure (1) complete and accurate identification of the problem in a timely manner; (2) consideration of extent of condition; (3) classification and prioritization of the resolution of the problem; (4) identification of root and contributing causes of the

problem; (5) identification of corrective actions; and (6) completion of corrective actions in a timely manner.

These activities constitute completion of one in-depth problem identification and resolution sample as defined in Inspection Procedure 71152-05.

b. Findings

Introduction. The inspectors identified a Green finding involving the failure to perform a timely operability determination after new failure mechanism was discovered for standby service water Fan B.

Description. The inspectors performed a follow up review of a condition report that detailed the trip of Division I standby service water Fan B. The fan had tripped on start-up from the control room on December 31, 2007. The licensee had initially determined the trip was due to a faulty solid state trip device. Subsequent testing failed to identify a problem with the trip device, and the apparent cause of the fan trip was attributed to reverse rotation of the fan. Operations personnel were not informed of this new information as required by the corrective action program procedure.

The site's engineering staff conducted an evaluation of other standby service water trips over plant history and determined that three other fan trips had occurred since 1985. They engaged their probability risk assessment staff to determine the reliability of the fans. The probability risk assessment staff compared the number of trips to estimated starts over the time period and concluded that the generic numbers were more conservative then the actual data provided by engineering. The site used this information to determine that the need to install anti-rotation devices on the fans was unnecessary due to the fans' estimated high reliability. The site conducted an "as left analysis" which supported not installing the anti-rotational devices and closed the associated condition report.

The inspectors determined that the engineers failed to inform operators of the potential new failure mechanism, and, as a result, the operators did not perform an operability determination. The site wrote a new condition report and operations wrote a reasonable expectation of operability and requested engineering to perform a formal operability determination. The new operability determination concluded that the fans could not physically rotate in the reverse direction and the most probable cause of the Fan B trip was an intermittent failure of the trip device installed in the circuit breaker. The suspect trip device was sent to the vendor for diagnostic analysis.

Analysis. The inspectors determined that failure to perform an operability determination following the discovery of new information was a performance deficiency. Specifically, plant personnel are directed by Section 5.7[1] (a), of Procedure EN-LI-102, "Corrective Action Process," that a new condition report be written when new information makes the current operability questionable. Contrary to this, plant engineers did not inform operations personnel about a new failure mechanism in regards to the trip of the Division 1 standby service water Fan B in a timely manner. This finding is more than minor because it was associated with the equipment performance attribute of the reactor safety mitigating systems cornerstone, and adversely affected the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609,

"Significance Determination Process," Phase 1 Worksheet, the inspectors determined that the finding had very low safety significance (Green) since it did not represent an actual loss of a safety function of the standby service water cooling towers, nor did it screen as potentially risk significant due to a seismic, flooding, or severe weather-initiating event. The cause of this finding had a crosscutting aspect in the area of human performance associated with work practices in that the licensee personnel failed to apply procedural requirements to write a new condition report when new information was acquired related to the trip of Division 1 standby service water Fan B [H.4(b)].

Enforcement. No violation of regulatory requirements occurred. This finding was entered into the licensee's corrective action program as CR-GGN-2009-01726 and is identified as FIN 05000416/2009003-04, "Failure to Perform a Timely Operability Evaluation Following the Discovery of a Standby Service Water Fan Failure Mechanism."

4OA3 Event Follow-up (71153)

.1 Loss of Plant Chilled Water

a. Inspection Scope

On May 1, 2009, the plant experienced a loss of all three plant chillers when an unplanned trip of plant Chiller C occurred due to a freon leak in the high thrust solenoid valve. Plant Chiller B was out of service for long-term planned maintenance and plant Chiller A had recently been taken out of service for routine cleaning due to heat exchanger fouling. Operators attempted to restart Chiller C three times while actions were taken to bring Chiller A back into service. Plant maintenance personnel restored Chiller A to a functional status, and operations placed the chiller in service. During this event, temperatures in the auxiliary building steam tunnel trended up to 122.7 degrees Fahrenheit. The inspectors responded to the control room, reviewed operations response to the chiller trip, reviewed plant chiller procedural requirements and verified that plant room temperatures remained within technical requirement manual limits. After stable plant operations were resumed, the inspectors reviewed the operator logs and room temperature trends. Documents reviewed in this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.2 Reactor Feedwater Pump Turbine Fire

a. Inspection Scope

The inspector reviewed information from a fire that occurred on November 17, 2008, in the reactor feedwater Pump B turbine lube oil system. The inspector discussed the event with the fire brigade leader, operations personnel, and fire brigade training personnel. The inspector reviewed the root cause determination to assess the detail of review and adequacy of the root cause and corrective actions following the fire. The

response by operators and fire brigade members were then compared to the requirements of the approved fire protection program.

b. Findings

Introduction. A Green self-revealing noncited violation of Technical Specification 5.4.1(a) was reviewed involving a failure to follow the fire alarm response procedure during a fire in the reactor feedwater pump area. The operators failed to investigate the source of a smoke alarm for an hour, allowing a fire to develop beyond the incipient stage before it was discovered.

Description. On November 17, 2008, a fire ignited in oil-soaked insulation on the reactor feedwater Pump B. The oil-soaked insulation was the result of maintenance on a flange during the previous refueling outage in October 2008. Following outage maintenance, the flange developed a leak and soaked the turbine casing insulation with oil. The flange was repaired but the insulation was not replaced prior to plant startup. After two weeks of plant operation, during the November 17 shift turnover meeting, a fire alarm was received in the control room and was acknowledged by an operator. No notifications were made to the shift manager, and no operator or fire brigade member was dispatched. One hour after shift turnover, during normal operator rounds, the turbine building operator discovered the fire in the reactor feedwater pump room and notified the control room. The fire brigade was dispatched to combat the fire. Plant operators reduced reactor power and secured reactor feedwater Pump B to prevent further damage to the turbine and to lower dose rates in the area. After the fire was extinguished, plant personnel reviewed the fire computer alarm log and determined that the smoke alarm for the reactor feedwater pump area had annunciated and was silenced approximately one hour prior to the turbine building operator reporting the fire.

Procedure 10-S-03-2, “Response to Fires,” Revision 19, requires plant operators to notify the shift manager in the event of a fire alarm; however the shift manager had not been notified when the alarm was acknowledged, and no operator or fire brigade member was dispatched to investigate. During interviews, plant personnel stated that plant operators had become complacent in their response to fire alarms due to a large number of nuisance alarms on the fire alarm computer and known smoke detector deficiencies.

The inspector reviewed the licensee’s apparent cause evaluation which concluded that more stringent controls on fire alarm response was needed, and also that too many non-fire alarms were received on a daily basis. Corrective actions taken in response to this event included revising the fire alarm response procedure to stringently control operator actions following the receipt of fire alarms, and to reduce the number of alarms that input into the fire alarm computer. The licensee entered this issue into the corrective action process as Condition Report CR-GGN-2008-06584.

Analysis. The performance deficiency involved the failure of control room operators to follow the fire alarm response procedure when acknowledging fire alarms by notifying the shift manager. The finding was more than minor because it was associated with the initiating events cornerstone attribute of human performance and affected the associated cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operations. One of the limitations of the fire protection significance determination process is that it does not address findings

associated with the performance of the on-site manual fire brigade. Therefore, the failure to respond to fire alarms was evaluated by performing a bounding analysis using Appendix M of Inspection Manual Chapter 0609.

The senior reactor analyst reviewed the licensee's Individual Plant Evaluation of External Events and found that there were only two risk-significant fire areas that did not have automatic fire suppression. The analyst determined that the failure of licensed operators to respond to fire alarms was significantly less important for those fire areas that had automatic suppression systems, because a valid fire alarm in these areas would be quickly confirmed by separate main control panel annunciation for starting of the fire pumps or discharge of a gaseous suppression system. Therefore, the change in response associated with the performance deficiency could be estimated by evaluating the risk significant areas that did not have automatic fire suppression. A bounding analysis of the subject areas was performed. These areas included cables that could be damaged by fire and result in an unrecoverable loss of offsite power.

Using the analysis from Appendix A to Engineering Report No. GGNS-95-00041, Revision 0, "Detailed Scenario Analysis of Unscreened Compartments," the analyst hand calculated the change in core damage frequency from 30 fire scenarios should manual fire fighting efforts fail to suppress the fire as credited in the licensee's analysis. The total baseline core damage frequency for the 30 scenarios was 5.11×10^{-7}. The total case value, determined by failing all manual suppression credit was 9.35×10^{-7}. Therefore, the analyst calculated the change in core damage frequency to be 4.24×10^{-7} over a 1-year assessment period, indicating that this finding was of very low safety significance. This finding had a crosscutting aspect in the area of human performance, with a work practices component for failure to use proper self checking techniques commensurate with the risk of the assigned task to ensure the work is performed safely because operators failed to use self-checking techniques when acknowledging the reactor feedwater pump fire alarm. [H.4(a)]

Enforcement. Technical Specification 5.4.1.a requires that procedures shall be established, implemented, and maintained covering the activities in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978. Regulatory Guide 1.33, Revision 2, Appendix A, Section 6.v requires procedures for combating emergencies and other significant events. Fire Protection Procedure 10-S-03-2, "Fire Protection Procedure Response to Fires", Revision 19, implements this requirement for fire events. Step 6.2.2 states "upon receipt of initial fire report/alarm, notify Shift Manager of the situation and wait for directions. Shift Manager may send an operator to verify conditions before dispatching fire brigade." Contrary to this requirement, on November 17, 2008, in response to a fire alarm for the reactor feedwater Pump B area, the operators acknowledged the alarm and failed to notify the Shift Manager, and no operator or fire brigade member was dispatched. The licensee entered this condition into their corrective action program as Condition Report CR-GGN-2008-06584. Because the violation was of very low safety significance and has been entered into the licensee's corrective action program, this violation is being treated as an NCV, consistent with the NRC Enforcement Policy: NCV 05000416/2009003-05, "Failure to Respond to Control Room Alarms in Accordance with Plant Procedures."

.3 Loss of Division One Engineered Safety Feature Bus 15AA

a. Inspection Scope

On May 5, 2009, a loss of normal power to the Division 1 Bus 15AA due to a fault on disconnect Switch 389-2901S associated with the site power loop resulted in a large enough voltage drop to actuate Division 1 load shed sequencer. The loss of power to the Bus 15AA resulted in the Division 1 diesel generator starting and tying to the bus, and loads were restored by operators using their off-normal event procedures and system operating instructions. The plant additionally suffered a loss of the reactor water cleanup system due to air operating valves closing resulting in low suction flow to the pumps and the subsequent trip of one fuel pool cooling and cleanup pump. The loss of site loop power resulted in a loss of normal power to the Emergency Operations Facility which required the Emergency Operations Facility diesel generator to start and provide power. The fire brigade and fire truck were sent to respond to the faulted disconnect switch in the 34.5 kV switchyard, but no fire extinguishing agents were needed. Grand Gulf Nuclear Station submitted Event Notification 45044 to the NRC Headquarter Operations Center due to a valid safety system actuation following a loss of power to the Division 1 engineered safety feature bus. The inspectors responded to the site to monitor operator recovery actions following the bus transfer. The fault was isolated and power was restored to the site power loop, and the station transferred the Division 1 engineered safety feature bus to offsite power and shut down the Division 1 diesel generator. The licensee investigated the cause of the loss of power to the 15AA bus, and determined that the direct current control power to the isolation breakers from the site power loop to the bus power supply had failed due to a faulted battery. The inspectors reviewed the site's offsite protocols for providing power to engineered safety feature buses from offsite and determined that the licensee had proper protocols in place. However the licensee is reviewing their preventive maintenance frequencies associated with the 115 kV switchyard. Documents reviewed in this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

.4 Electro Hydraulic Control Fluid Leak at the Main Turbine Front Standard

b. Inspection Scope

On May 27, 2009, an electrohydraulic control leak occurred while maintenance personnel were performing corrective maintenance at the main turbine front standard. The leak was on the drain line of an accumulator that contained extra fluid volume for main turbine valve testing. The operating crew monitored the electrohydraulic control fluid tank level and determined the level at which they would order a plant shutdown. They additionally evacuated the containment in case a plant shutdown was required. The crew was able to isolate the leak within approximately 19 minutes. The inspectors responded to the event and determined what had happened by interviewing operations and maintenance staff. The inspectors reviewed the operator logs, toured the leak area and reviewed corrective actions the site had planned. Documents reviewed in this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. Inspection Scope

During the inspection period, the inspectors performed observations of security force personnel and activities to ensure that the activities were consistent with Grand Gulf Nuclear Station security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status review and inspection activities.

b. Findings

No findings of significance were identified.

4OA6 Meetings

Exit Meeting Summary

On May 14, 2009, the inspector presented the results of the follow-up for the reactor feedwater pump fire during a telephonic exit meeting with Mr. J. Browning, General Manager of Plant Operations, and other members of the licensee staff. The licensee acknowledged the finding. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

On July 1, 2009, the inspectors presented the inspection results to Mr. R. Douet, Site Vice President, and other members of the licensee staff. The licensee acknowledged the findings. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. Proprietary information was reviewed for inspection purposes and returned to the licensee.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as an NCV.

- Technical Specification 3.6.4.2 requires secondary containment isolation Damper 1T42F019 to be operable to perform isolation of the secondary containment penetration to prevent release during an accident condition. Contrary to this requirement, on March 19, 2009, Damper 1T42F019 exceeded Surveillance Requirement 3.6.4.2.2, which is performed per the in-service testing program. The licensee staff had changed the preventive maintenance

schedule for this damper. This resulted in the damper actuator maintenance due date being moved three years beyond vender recommendations. This contributed to the damper failing its in-service testing requirements. This issue was of very low safety significance since it did not represent an actual open pathway in the physical integrity of the containment system due to the redundant isolation damper in the penetration pathway. This issue was documented in the licensee's corrective action program as Condition Reports CR-GGN-2009-00907 and CR-GGN-2009-01256.

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee Personnel
D. Barfield, Director, Engineering
R. Brinkman, Operations Shift Manager
J. Browning, General Manager, Plant Operations
S. Byrd, Systems Engineer
M. Causey, Maintenance Rule Engineer
A. Cockrum, Site Welding Engineer
R. Collins, Manager, Corrective Actions and Assessments
P. Different, Senior Lead Engineer, Reactor Engineering
R. Douet, Vice President, Operations
B. Edwards, Minority Owner Specialist
R. Gardner, Manger, Maintenance
E. Harris, Manager, Quality Assurance
H. Herring, Operations, Fire Brigade Leader
K. Higginbotham, Manager, Operations
R. Jackson, Licensing Specialist, Plant Licensing
D. Jones, Manager, Design Engineering
M. Krupa, Director, Nuclear Safety and Assurance
M. Larson, Licensing Engineer
R. Liddel, Operations, Shift Supervisor/Shift Technical Advisor
M. McAdory, Senior Operations Instructor
R. McGaha, ISI Engineering
S. Osborn, Licensing
R. Patterson, Operations, Shift Manager
C. Perino, Licensing Manager
M. Rohrer, Manager, Component Engineering
J. Smyrl, ISI Engineering, Level III
R. Sorrells, Engineering, Fire Protection Engineer
W. Trichell, Manager, Radiation Protection
D. Wilson, Supervisor, Design Engineering
M. Wilson, Manager, Emergency Preparedness
R. Wilson, Manager, Planning, Scheduling and Outages
J. Shew, Manager, System Engineering
E. Wright, ALARA Specialist, Radiation Protection

NRC Personnel
D. Loveless, Senior Reactor Analyst
D. Proulx, Senior Project Engineer

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Opened and Closed

05000416/2009003-01	NCV	Failure to Incorporate Design Changes to Protect the Standby Service Water Slab (Section 1R4)
05000416/2009003-02	NCV	Inadequate Operability Evaluation for Debris Left in the Condensate Storage Tank (Section 1R15)
05000416/2009003-03	NCV	Failure to Fully Close a LPCS Manual Valve Resulted in Leakage of Water into the Condensate and Refueling Water Storage System (Section 1R22)
05000416/2009003-04	FIN	Failure to Perform a Timely Operability Evaluation Following the Discovery of a SSW Fan Failure Mechanism (Section 4OA2)
05000416/2009003-05	NCV	Failure to Respond to Control Room Alarms in Accordance with Plant Procedures (Section 4OA3)

Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

Section 1RO1: Adverse Weather Protection

PROCEDURES

NUMBER	TITLE	REVISION
ENS-DC-199	Off Site Power Supply Design Requirements	3
ENS-DC-201	ENS Transmission Grid Monitoring	3
EN-DC-198	Emergency Diesel Generator Reliability Program	1
GLP-OPS-SWYD1	Switchyard Operations with Entergy Mississippi	5

WORK ORDERS

WO 101857 WO115145 WO191562 WO193210

OTHER

GGNS Work Order Backlog by System

Drawing GFIG-OPS-R2700, Electrical Distribution

Section 1RO4: Equipment Alignment

CONDITION REPORTS

CR-GGN-2009-02320 CR-GGN-2009-02087 CR-GGN-2009-02738

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-P41-1	Standby Service Water System	128
06-OP-1P41-M-0005	Standby Service Water Loop B Operability Check	112
04-1-01-T48-1	Standby Gas Treatment	031
04-S-01-Z51-1	System Operating Instruction Control Room HVAC System	045
04-1-01-P41-1	Standby Service Water System	128

OTHER

Drawing M-110ZA, Standby Gas Treatment System, Revision 22

Drawing M-0049, P & I Diagram Control Room HVAC System, Revision 42

Drawing M-1061C, P & I Diagram Standby Service Water System, Revision 36

ER NO. 97-0330-00-01

Calculation Sheet C-C200, Revision 0

Section 1RO5: Fire Protection

CONDITION REPORT

CR-GGN-2009-02394

PROCEDURES

NUMBER	TITLE	REVISION
01-S-07-43	Control of Loose Items, Temporary Electrical Power, and Access to Equipment	4
MC-QSP64-86058	Calculation Sheet	0

OTHER

Fire Pre-Plan A-49, Unassigned Area-Room 1A506 & 1A508, Recirc Fan Area 1A605 and HVAC Units Area-Room 1A606, Revision 1

Fire Pre-Plan C-08, ESF HVAC Equipment – OC303, Electrical Space – OC304, Electrical Space – OC305, Corridor – OC308, Revision 2

Fire Pre-Plan C-09, ESF HVAC Equipment – OC302, Electrical Space – OC306, Electrical Space – OC307, Revision 2

Combustible Control Permit Number: 2672

Fire Zone Total Load Report, Zone 1A506

Section 1R11: Licensed Operator Requalification Program

PROCEDURES

NUMBER	TITLE	REVISION
GSMS-LOR-EXPEC	Expectations of Performance During Simulator Training	10
GSMS-LOR-MANIP	Required Manipulations Performance Guide and Checksheet	02
01-S-04-2	Licensed Operator Requalification Training	016
GSMS-LOR-WEX17	LPCS Injection Valve Power Loss/Loss of Condenser Vacuum/LOCA/Degraded ECCS	13
Turnover and Simulator Differences	2009 Cycle 3 Focused Training	

Section 1R12: Maintenance Effectiveness

CONDITION REPORTS

CR-GGN-2008-06727	CR-GGN-2008-06726	CR-GGN-2008-06109
CR-GGN-2007-05492	CR-GGN-2007-05488	CR-GGN-2005-05044
CR-GGN-2007-04321	CR-GGN-2006-03953	CR-GGN-2006-03915
CR-GGN-2004-03757	CR-GGN-2008-03751	CR-GGN-2006-03699
CR-GGN-2007-03160	CR-GGN-2007-03157	CR-GGN-2006-03083
CR-GGN-2007-2990	CR-GGN-2008-02768	CR-GGN-2007-02615
CR-GGN-2006-02589	CR-GGN-2006-02584	CR-GGN-2006-02440
CR-GGN-2007-02112	CR-GGN-2008-01992	CR-GGN-2008-01985
CR-GGN-2004-01942	CR-GGN-2000-01628	CR-GGN-2005-01606
CR-GGN-2008-01545	CR-GGN-2006-01526	CR-GGN-2003-01055
CR-GGN-2009-01042	CR-GGN-2006-01027	CR-GGN-2006-01011
CR-GGN-2009-00933	CR-GGN-2005-00811	CR-GGN-2008-00644
CR-GGN-2008-00631	CR-GGN-2002-00560	CR-GGN-2000-00485
CR-GGN-2009-00339	CR-GGN-2007-00337	CR-GGN-2004-00292
CR-GGN-2005-00247	CR-GGN-2004-00224	CR-GGN-2009-00194
CR-GGN-2004-00191	CR-GGN-2001-00181	CR-GGN-2007-00161
CR-GGN-2005-00133	CR-GGN-2009-00010	CR-GGN-2009-00008

OTHER

The Maintenance Rule Expert Panel Minutes for January 15, 2009

Maintenance Rule Program (a)(1) Evaluation and Action Plan E51 Reactor Core Isolation Cooling (RCIC) System

Work Order History for RCIC, January 2006-April 2009.

ER-GG-1999-0342-000-00, Engineering Request Response

Riley Temperature Switch History

EN 44791

EN-DC-151, PSA Maintenance and Update, Revision 1

Section 1R13: Maintenance Risk Assessment and Emergent Work Controls

CONDITION REPORT

CR-GGN-2009-01754

PROCEDURES

NUMBER	TITLE	REVISION
EN-DC-205	Maintenance Rule Monitoring	2
P64	Fire Protection System Initial System Evaluation for the Maintenance Rule	
05-S-01-EP-1	Injection into RPV with Fire Protection Water System	021
EN-HU-105	Human Performance-Managed Defenses	6
01-S-18-6	Risk Assessment of Maintenance Activities	005
EN-OP-115	Conduct of Operations	6

Section 1R15: Operability Evaluations

CONDITION REPORTS

CR-GGN-2008-05763	CR-GGN-2008-05763	CR-GGN-2008-05253
CR-GGN-2009-02837	CR-GGN-2009-02815	CR-GGN-2009-02652
CR-GGN-2009-02364	CR-GGN-2004-02218	CR-GGN-2009-02086
CR-GGN-2009-02073	CR-GGN-2009-02013	CR-GGN-2009-01711
CR-GGN-2007-01032	CR-GGN-2004-01020	CR-GGN-2007-00906
CR-GGN-2007-00370		

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-P41-1	Standby Service Water System	128
ER-GG-2002-0147-000	Evaluation of the Acceptability of High Flow Through SSW Header Relief Valves 1P41-F299 A & B	0
07-S-14-56	General Maintenance Instruction Western Gear Speed Reducer	22
MC-Q1P41-99031	Calculation Sheet	0
GGNS-MS-46	Moderate Energy Inspection Program	
0243-001-1997	NDE Ultrasonic Thickness Measurement	
EN-OP-104	Operability Determinations	3

OTHER

NRC Generic Letter 2007-02: Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal and Containment Spray Systems

M-141.1-Q1-4.0-1-1, Lonergan Valve Division, Maintenance Manual D & DB Series, VMA 92/0102

Entergy Operations, Inc. Telephone Conversation Record, GTC: 92-00290

MNCR Number 0269-90

ASME Boiler and Pressure Vessel Code, Section III-Division 1, Subsection ND, Class 3 Components

P41F299A/B Design Modification Timeline

Drawing A2718, DB-30 & DB-50 Series Safety Relief Valve for Nuclear Service

Section 1R18: Plant Modifications

CONDITION REPORTS

CR-GGN-2008-06560	CR-GGN-2008-06556	CR-GGN-2009-03105
CR-GGN-2009-03083	CR-GGN-2009-03021	CR-GGN-2009-03014
CR-GGN-2009-03013	CR-GGN-2009-03009	CR-GGN-2009-03003
CR-GGN-2009-02864	CR-GGN-2009-02852	CR-GGN-2009-02790

CR-GGN-2009-02644

PROCEDURES

NUMBER	TITLE	REVISION
04-1-01-G33-1	Reactor Water Cleanup	139
TRP-3109	Engineering Repair Procedure Manual	4

OTHER

EC No. 12421
EC No. 15228
EC No. 15339
EC No. 15419
EC No. 15494
Engineering Order 68197C

Section 1R19: Postmaintenance Testing

CONDITION REPORT

CR-GGN-2009-2109

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-1C11-Q-009-01	Scram Discharge Volume Vent and Drain Valve Stroke Test	107
06-OP-1T48-Q-002	Standby Gas Treatment System A Valve Test	103

WORK ORDERS

WO52032257 WO00180968-01 WO00160052-02 WO00160046-02

OTHER

Drawing M-632.0-Q1T48O001AA-1.1-001, General AAR-4000 CFM, Revision 0

Drawing M-632.0-Q1T48D001A-A1.2-002, Div I and II SGTS Fan Seal, Revision 0

Section 1R22: Surveillance Testing

CONDITION REPORTS

CR-GGN-2009-02085 CR-GGN-2009-02073 CR-GGN-2009-02069

PROCEDURES

NUMBER	TITLE	REVISION
06-OP-1E21-Q-0006	LPCS Quarterly Functional Test (IST)	110
06-OP-1P41-M-0005	Daily Operating Logs	126
06-EL-1R21-M001	4.16 KV Degraded Voltage Functional Test and Calibration	103
06-EL-1L11-Q-0001	125-Volt Battery Bank All Cell Check 1A3	104
Single Point Trend	P453001 Drywell Floor Drain Leakage	
04-1-01-E21-1	Low Pressure Core Spray System	35
02-S-01-2	Operations Section Procedure Control and Use of Operations Section Directives	047

WORK ORDER

WO181302

OTHER

Drawing E-1039, Logic Diagram, Load Shedding and Sequencing Panel 1H22-P331, Revision 08

Drawing M-1085C, Residual Heat Removal System, Revision 17

GLP-OPS-OE981, SOER 98-01 “Safety System Status Control” E12F018B Out of SOI Position

GQC-NLO-AON01.08, Auxiliary Operator Nuclear (AON) Qualification Card, Qual Card Task No. AON-001

Section 1EP6: Drill Evaluation

CONDITION REPORTS

CR-GGN-2009-02865 CR-GGN-2009-02866 CR-GGN-2009-02882
CR-GGN-2009-02883 CR-GGN-2009-02884

OTHER

Emergency Facility Log

Drill Emergency Notification Forms 1 through 5

GGNS 2009 2nd Quarter ERO Training Drill

Section 4OA2: Identification and Resolution of Problems

CONDITION REPORTS

CR-GGN-2008-06602	CR-GGN-2008-06584	CR-GGN-2008-06334
CR-GGN-2008-06195	CR-GGN-2007-05914	CR-GGN-2008-05845
CR-GGN-2008-05838	CR-GGN-2008-05685	CR-GGN-2008-05534
CR-GGN-2008-05510	CR-GGN-2008-05392	CR-GGN-2008-03404
CR-GGN-2008-02563	CR-GGN-2008-02208	CR-GGN-2009-02123
CR-GGN-2009-01862	CR-GGN-2009-01775	CR-GGN-2009-01726
CR-GGN-2008-01713	CR-GGN-2009-01669	CR-GGN-2008-01448
CR-GGN-2008-01312	CR-GGN-2009-01257	CR-GGN-1997-01098
CR-GGN-2009-01069	CR-GGN-2009-00928	CR-GGN-2008-00870
CR-GGN-2009-00601	CR-GGN-2008-00136	CR-GGN-2009-03326

PROCEDURES

NUMBER	TITLE	REVISION
EN-LI-102	Corrective Action Process	13
EN-HU-105	Human Performance-Managed Defenses	6

DOCUMENTS

NUMBER	TITLE	REVISION
GLP-LOR-TSAPPL	Operations Application of Technical Specifications	2

OTHER

Management Standard No. 24, GGNS Performance Improvement Using Fundamentals, Revision No. 0

2009 GGNS Performance Improvement Plan

GGNS Quarterly Trend Report, 4th Quarter 2008 and 1st Quarter 2009

LO-GLO 2009-00034, Engineering Human Performance Self-Assessment Report

GLO-2009-0012, Snapshot Assessment of LEL and Weekly Scorecard Usage

Section 4OA3: Event Follow-Up

CONDITION REPORTS

CR-GGN-2008-06789	CR-GGN-2008-06648	CR-GGN-2008-06647
CR-GGN-2008-06639	CR-GGN-2008-06622	CR-GGN-2008-06602
CR-GGN-2008-06585	CR-GGN-2008-06584	CR-GGN-2008-06576
CR-GGN-2008-06571	CR-GGN-2008-06568	CR-GGN-2009-02740
CR-GGN-2009-02347	CR-GGN-2009-01473	CR-GGN-2009-01051
CR-GGN-2009-01050	CR-GGN-2009-01049	CR-GGN-2009-01048
CR-GGN-2009-01047		

PROCEDURES

NUMBER	TITLE	REVISION
SOI 04-1-01-P71-1	Plant Chilled Water System	55
	Fire Pre-Plan TB1-03	00
10-S-03-2	Response to Fires	19
10-S-03-7	Fire Protection Training Program	12
EN-DC-199	Off Site Power Supply Design Requirements	03
EN DC-201	ENS Transmission Grid Monitoring	03

DOCUMENTS

NUMBER	TITLE	REVISION
GLP-FP-FBLCLASS	Fire Brigade Leader Initial Training	00
GLP-FP-FBACC	Large Accelerant Fires	00
FTK-FP-FBINT6	Initial Fire Brigade Training	00
GGNS-95-00041	Detailed Scenario Analysis of Unscreened Compartments, Appendix A	00

DOCUMENTS

NUMBER	TITLE	REVISION
	Management Standards No. 21, Switchyard/Offsite Power Interface	06
PL-158	ENS Nuclear Management Manual	01

OTHER

Drawing M-1109B, Plant Chilled Water System, Revision 017

EN 45044

Drawing E-6081, Site Power Loop Distribution One Line, Revision 04

Drawing M-1109F, Plant Chilled Water System, Revision 015

Inter-Office Correspondence, Switchyard and Transmission Interface Agreements, March 31, 1999

Section 4OA7: Licensee-Identified Violations

CONDITION REPORTS

CR-GGN-2009-03038	CR-GGN-2009-02403	CR-GGN-2009-01506
CR-GGN-2009-01498	CR-GGN-2009-01256	CR-GGN-2009-00907