Grand Gulf 1
1Q/2009 Plant Inspection Findings

Initiating Events

Significance: G Feb 12, 2009
Identified By: Self-Revealing
Item Type: FIN Finding
Failure to Implement Procedure Requirements for Preventive Maintenance Strategy Development
A Green self revealing finding was identified for the failure to implement maintenance procedure requirements. Specifically, in June 2007, an incorrect preventive maintenance template was applied to the main transformer auxiliary power transfer switch resulting in a less than optimal preventive maintenance strategy. This was subsequently determined to be a contributing cause to the January 12th reactor scram. This issue is entered in the corrective action program as condition Report 2008 0174.
The performance deficiency associated with this finding is the failure of maintenance and engineering personnel to implement the requirements of Procedure EN-DC-335, “PM Basis Template,” Section 5.2, “PM Basis Template Development.” The finding is more than minor because it is associated with the equipment performance attribute of the initiating events cornerstone and affects the cornerstone objective to limit those events that upset plant stability. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding is determined to have very low safety significance because it did not result in exceeding the technical specification limit for identified reactor coolant system leakage, did not affect mitigation systems, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and did not increase the likelihood of a fire or internal/external flood. The finding has a cross cutting aspect in the area of human performance associated with work practices, in that the supervisory and management oversight of work activities were not employed such that nuclear safety was supported [H.4.(c)] (Section 4OA4).

Inspection Report# : 2009007 *(pdf)*

Significance: G Feb 12, 2009
Identified By: NRC
Item Type: FIN Finding
Failure to Implement Procurement Engineering Procedure Requirements
A Green self revealing finding was identified for the failure of engineering and maintenance personnel to implement procurement engineering procedure requirements. Specifically, in January, 2007 a procurement engineering evaluation determined that a difference in part numbers provided by a vendor was an administrative part number change. Consequently, a current transformer with a slightly different form, fit, and operating characteristic was installed in the generator/unit differential trip circuitry. This’ combined with other unknown circuit deficiencies and grid reactive load anomalies, resulted in a generator trip and reactor scram on March 21, 2008. The finding is entered in the corrective action program as Condition Report 2008-01476.
The performance deficiency associated with this finding is the failure of procurement engineering personnel to implement the requirements of Procedure EN-DC-313, “Procurement Engineering Process,” Section 5.6, “Administrative Part Number Changes,” resulting in a less than optimal replacement part for a current transformer in the Unit/Generator differential trip circuitry. The finding is more than minor because it is associated with the equipment performance attribute of the initiating events cornerstone and affects the cornerstone objective to limit those events that upset plant stability. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding is determined to have very low safety significance because it did not result in exceeding the technical specification limit for identified reactor coolant system leakage, did not affect mitigation systems, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and did not increase the likelihood of a fire or internal/external flood. The finding has a cross cutting aspect in the area of human performance associated with decision making in that procurement engineering did not use conservative assumptions and adopt a requirement to demonstrate a proposed action is safe to

proceed rather than to demonstrate that an action is unsafe to disprove the action [H.1.(b)] (Section 4OA4).

Inspection Report# : 2009007 *(pdf)*

Significance: G Feb 12, 2009
Identified By: NRC
Item Type: FIN Finding
Failure to Implement Preventive Maintenance Procedure Requirements
A Green self revealing finding was identified for the failure of to implement maintenance procedure requirements. Specifically, between 2002 and 2008, neither the preventive maintenance optimization program, nor the turbine 10-year plan prescribed a preventive maintenance strategy for the thyristor voltage regulator control portion of the main generator voltage regulating system. Consequently, on October 26, 2008, an under-excitation condition existed in the main generator following transfer from automatic to manual voltage regulator control, resulting in a generator and turbine trip and a reactor scram. The finding is entered in the corrective action program as Condition Report 2008-6241.
The performance deficiency associated with this finding is the failure of maintenance and engineering personnel to implement the requirements of Procedure EN-DC-324, “Preventive Maintenance Programs,” Section 5.2, “Process Overview,” and Procedure EN-DC-335, “PM Basis Template,” Section 5.2, “PM Basis Template Development.” The finding is more than minor because it is associated with the equipment performance attribute of the initiating events cornerstone and affects the cornerstone objective to limit those events that upset plant stability. Using Manual Chapter 0609.04, “Phase 1 – Initial Screening and Characterization of Findings,” the finding is determined to have very low safety significance because it did not result in exceeding the technical specification limit for identified reactor coolant system leakage, did not affect mitigation systems, did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment or functions will not be available; and did not increase the likelihood of a fire or internal/external flood. The finding has a cross cutting aspect in the area of human performance associated with decision making, in that a systematic process was not employed for risk significant decision making and that roles and authority for decision making was not formally defined [H.1.(a)] (Section 4OA4).

Inspection Report# : 2009007 *(pdf)*

Significance: G Dec 31, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Trip of a Reactor Recirculation Pump During Pump Up-shift to Fast Speed Due to Ineffective Corrective Actions
The inspectors reviewed a self-revealing Green finding involving a recirculation pump trip during pump up-shift to fast speed due to ineffective corrective actions. The plant had recently replaced the recirculation motor on Pump A during the refuelling outage and during investigation determined that the instantaneous over-current trip for the breaker had drifted low. The inspectors performed a review of condition reports and determined that reactor recirculation Pump B had tripped following motor replacement for the same reason in September 2007. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-06269.
The finding was more than minor because it was associated with the initiating events cornerstone attribute of equipment 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. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the finding was determined to be of very low safety significance (Green) since it did not contribute to loss of function of mitigating equipment. The cause of this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program in that the licensee failed to perform a thorough evaluation of a problem that resulted in a plant transient such that the resolution properly addressed the cause and extent of condition [P.1(c)]. (Section 1R20)

Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 31, 2008

Identified By: Self-Revealing
Item Type: FIN Finding
Automatic Reactor Scram Caused by an Operator Inadvertently Closing Steam Supply Valves to the Reactor Feed Pump Turbine
The inspectors reviewed a self-revealing Green finding involving an automatic reactor scram caused by an operator inadvertently closing steam supply valves to the reactor feed pump turbine. Site personnel investigating the scram determined that an operator had incorrectly performed actions for the reactor feed Pump B turbine on the reactor feed Pump A turbine control switches at a local panel. The operator inadvertently closed the steam supply valves to the reactor feed Pump A turbine resulting in a total loss of feedwater flow and low reactor water level scram. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-06195.
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. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors concluded that an evaluation was required by the regional senior reactor analyst, because the finding impacted both the initiating event and mitigating systems cornerstone. The senior reactor analyst performed a Phase 3 analysis and determined the issue was very low safety significance (Green). The cause of this finding has a crosscutting aspect in the area of human performance associated with work practices because the operator failed to use proper self-checking techniques while performing actions to place feed Pump B in the standby lineup [H.4(a)]. (Section 4OA3)

Inspection Report# : 2008005 *(pdf)*

Significance: G Jun 21, 2008
Identified By: Self-Revealing
Item Type: FIN Finding
Ineffective Corrective Actions in Response to Plant Transients Resulting from Animal Intrusions.
The inspectors reviewed a self-revealing Green finding involving ineffective corrective actions that resulted in an unplanned down power caused by an animal intrusion. The plant experienced a loss of the balance of plant Transformer 23 with a loss of power to the plant service water pumps. Operators reduced reactor power to 47 percent. The control room dispatched operators to the river via a boat due to high river level and discovered a dead raccoon in the vicinity of the transformer. The inspectors noted that two previous reactor scrams had been caused by raccoons, and an injured raccoon had previously been found at the base of Transformer 23. The inspectors concluded that the flooding conditions which have been routinely experienced at the site and the occurrence of raccoon events at the site could have been used to anticipate and mitigate the unplanned down power. The licensee entered this issue into their corrective action program as Condition Report CR GGN 2008-02089.
The finding was more than minor because it was associated with the initiating events cornerstone attribute of equipment 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. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors concluded that a Phase 2 evaluation was required because the finding impacted both the Initiating Event and Mitigating Systems Cornerstone. The inspectors performed a Phase 2 analysis using Appendix A “Determining the Significance of Reactor Inspection Findings for At-Power Situations,” of Manual Chapter 0609, “Significance Determination Process,” and the Phase 2 Worksheets for Grand Gulf Nuclear Station. The inspectors determined there was an increase in likelihood of a transient without the power conversion system but there was no reduction in remaining capability. Because the exposure time of the finding was less than 30 days, the result of the Phase 2 analysis was that the finding had very low safety significance (Green). The cause of this finding has a crosscutting aspect in the area of problem identification and resolution associated with operating experience in that the licensee failed to implement proper corrective actions to prevent animals from causing a plant transient [P.2(b)].

Inspection Report# : 2008003 *(pdf)*

Mitigating Systems

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Maintenance Procedures to Maintain Drains on Safety Related Buildings
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V, involving the failure to properly clean and inspect the rooftop and associated water drainage systems of the safety-related diesel generator building. The inspectors identified loose, flexible roofing material that could have covered roof drains and result in loss of functionality for all of the standby diesel generators during a design basis heavy rainfall event. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2009-00429.
This finding is more than minor since it affects the protection against external events attribute of mitigating system cornerstone. The roofing material and debris represented a degrading condition that if left uncorrected could have affected the availability, reliability, and capability of the standby diesel generators to respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding screened as potentially risk significant due to a flooding or severe weather initiating event, which then required a Phase 3 analysis. The Phase 3 analysis calculated a change in core damage frequency of 3.04E-8/yr, which represented very low safety significance.

Inspection Report# : 2009002 *(pdf)*

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Operability Evaluation for Standby Service Water Cooling Tower Drift Eliminators
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, involving a failure to perform an adequate operability evaluation. The inspectors identified non-conservatisms in the evaluation with regards to standby service water cooling tower drift rate, a failure to consider external events design basis impacts, and a failure to properly classify the condition as a substantially degraded, non-conforming condition, because it was subsequently determined that the deficiency could increase drift losses by a factor of ten. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2009-01222.
This finding is more than minor because the failure to perform adequate operability evaluations, if left uncorrected, could become a more significant safety concern because the loss rates could become worse over time. 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 human performance associated with decision making because licensee personnel failed to use conservative assumptions and did not verify the validity of the underlying assumptions used in making safety-significant decisions.

Inspection Report# : 2009002 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: FIN Finding
Inadequate Fire Drill Critique
The inspectors identified a finding for fire brigade performance deficiencies that were not identified by the licensee during a fire drill critique. The inspectors identified several deficiencies during the drill including issues relating to command and control, fire fighting strategy and use of fire fighting equipment. The inspectors provided feedback to plant personnel on the identified performance issues and the inadequate drill evaluation. The licensee entered this issue into the corrective action program as Condition Report CR GGN 2008 06522.
This finding was more than minor because it was associated with the protection against external factors attribute of the reactor safety mitigating systems cornerstone objective and adversely affected the cornerstone objective to ensure the availability, reliability and capability of systems that respond to initiating events to prevent undesirable consequences. Manual Chapter 0609, Appendix F, “Fire Protection Significance Determination Process,” was used to analyze the finding since the inadequate critique had an adverse effect on fire brigade effectiveness, in relation to defense-in-depth

strategies. Manual Chapter 0609, Appendix F states that findings associated with the onsite manual fire brigade are excluded. Therefore, in accordance with Manual Chapter 0609, the safety significance was determined by regional management review. Regional management concluded that the finding was of very low safety significance because it reflected fire brigade performance during a training drill, rather than during an actual fire. The cause of this finding has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because the licensee failed to have a low enough threshold in identifying performance issues associated with a plant fire drill [P.1(a)]. (Section 1R05)

Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Monitor Performance of the Engineering Safety Features Electrical Switchgear and Battery Room Ventilation System
The inspectors identified a noncited violation of 10 CFR 50.65(a)(2) for the failure to adequately monitor the performance of the engineering safety features electrical switchgear and battery room ventilation system. The inspectors identified a condition report from March 2004 that had not been screened and evaluated in the maintenance rule database as a maintenance preventable functional failure. The condition report identified a room cooler that had tripped due to excessive current on the fan motor because an incorrectly sized sheave was installed during previous maintenance. The licensee entered this issue into the corrective action program as Condition Report CR GGN 2008 02219.
The inspectors determined that this finding was more than minor since the engineering safety features electrical switchgear and battery room ventilation system was not placed in (a)(1) monitoring status in a timely manner. In addition, the finding was more than minor since violations of 10 CFR 50.65(a)(2) necessarily involve degraded system performance, which, if left uncorrected, could become a more significant safety concern. This finding has very low safety significance because the maintenance rule aspect of the finding did not lead to an actual loss of safety function of the system or cause a component to be inoperable, nor did it screen as potentially risk significant due to a seismic, flooding, or severe weather-initiating event. (Section 1R12)

Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Two Examples of Inadequate Operability Evaluations
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V involving two examples of a failure to follow procedures which resulted in inadequate operability evaluations. The first example involved an inadequate evaluation of foreign material in the condensate storage tank. The evaluation relied on an assumption that the high-pressure core spray and reactor core isolation cooling pumps would not be damaged by metal debris entrained in the pumps suction. The second example involved an inadequate evaluation of the structural integrity of the standby service water cooling towers that only considered the loss of structural support from a single beam. The licensee entered these issues into the corrective action program as Condition Reports CR GGN 2008 05685 and CR GGN 2008 06044.
This finding is more than minor because the failure to perform adequate operability evaluations, 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 human performance associated with decision making because licensee personnel failed to use conservative assumptions and did not verify the validity of the underlying assumptions used in making safety-significant decisions [H.1(b)]. (Section 1R15

Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Prevent Recurrence of Standby Service Water Corrosion
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, involving a failure to take corrective actions to prevent recurrence of severe corrosion in piping hangers, piping supports, and piping in the standby service water basin cooling towers. Significant corrosion of the standby service water supports in October 2008 had been previously identified by plant personnel during a ten-year in-service inspection on October 3, 1993. At that time, plant personnel determined this to be a significant degraded condition of a safety related system, requiring replacement of the piping and associated supports. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-05434.
This finding was more than minor because the corrosion represented a degrading condition that if left uncorrected could become more significant safety concern. The finding was also more than minor because it was associated with the protection against external factors 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, this finding was of very low safety significance since it did not represent an actual loss of safety function, nor did it screen as potentially risk significant due to a seismic, flooding, or severe weather-initiating event. (Section 4OA3)

Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Untimely Corrective Actions Following Identification of Degrading Standby Service Water Supports
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion XVI, involving the failure to take timely corrective actions for corrosion on distribution beam structural support posts in the standby service water basin cooling towers. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-05434.
The finding was more than minor because it was associated with the protection against external factors 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 Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, the finding was determined to be of very low safety significance since it did not represent an actual loss of 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 has a crosscutting aspect in the area of problem identification and resolution associated with the corrective action program because licensee personnel failed to identify issues completely, accurately, and in a timely manner commensurate with their safety significance [P.1(a)]. (Section 4OA3)

Inspection Report# : 2008005 *(pdf)*

Significance: G Nov 06, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
B.5.b. Phase 2 and 3 Mitigating Strategy
This finding, affecting the Mitigating Systems Cornerstone, is related to mitigative measures developed to cope with losses of large areas of the plant; in response to Section B.5.b. of the February 25, 2002, Interim Compensatory Measures (ICM) Order (EA-02-026) and related NRC guidance. This finding has been designated as "Official Use Only - Security-Related Information;" therefore, the details of this finding are being withheld from public disclosure. This finding has no cross-cutting aspect. See inspection report 2008-007 for more details.
Inspection Report# : 2008007 *(pdf)*

Significance: G Sep 21, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Monitor Performance of Four Maintenance Rule Systems.
The inspectors identified a Green noncited violation of 10 CFR 50.65(a)(2) involving the failure to adequately monitor the performance of four Maintenance Rule systems. Several discrepancies in the Maintenance Rule Program were discovered by the inspectors, including unevaluated condition monitoring failures in the neutron monitoring system and an unevaluated functional failure in the standby gas treatment system. Plant personnel implemented additional corrective actions to fully investigate the potential extent of this condition and the apparent weakness in the condition report screening process used for the Maintenance Rule program. As a result, the Maintenance Rule expert panel classified four systems as needing increased monitoring and goal setting, moving these systems from an a(2) to an a(1) status. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-02219.
This finding is more than minor since it was similar to Inspection Manual Chapter 0612, Appendix E, Example 7.b in that the problem involved degraded equipment performance. This finding was characterized under the significance determination process as having very low safety significance because the maintenance rule aspect of the finding did not cause an actual loss of safety function of the system nor did it cause a component to be inoperable. The cause of this finding has a crosscutting aspect in the area of human performance associated with work practices because licensee personnel failed to use proper self-checking and peer-checking to identify repetitive maintenance rule functional failures and also failed to properly document condition report screening activities [H.4(a)] (Section 1R12).
Inspection Report# : 2008004 *(pdf)*

Significance: G Sep 21, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Risk Assessment during Adverse Weather Conditions.
The inspectors identified a Green noncited violation of 10 CFR 50.65 (a)(4), involving the failure to perform risk assessments following multiple declared tornado watches affecting Grand Gulf Nuclear Station during the landfall of Hurricane Gustav. On the morning of September 3, 2008, the inspectors noted that the licensee had not evaluated the increased risk from a declared tornado watch for the Claiborne County area. The inspectors brought this to the attention of plant personnel and a risk assessment was performed and plant risk was changed from a 'Green' to a 'Yellow' risk condition. The inspectors then reviewed the tornado watches declared by the National Weather Service that affected Claiborne County during the landfall of Hurricane Gustav, and noted that six separate tornado watches had been declared over the previous three days. A review of the control room logs showed no documentation of changes in plant risk condition. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-04397.
This finding is more than minor because the risk assessments failed to consider unusual external conditions that were present or imminent. Using Manual Chapter 0609, Appendix K, "Maintenance Risk Assessment and Risk Management Significance Determination Process," Flowchart 1, "Assessment of Risk Deficit" and consulting with the regional senior risk analyst, the inspectors determined the finding of very low safety significance due to a calculated incremental core damage probability deficit of 4.38E-08. This finding has a crosscutting aspect in the area of human performance associated with work practices in that plant personnel failed to follow the risk management procedure [H.4(b)] (Section 1R13).

Inspection Report# : 2008004 *(pdf)*

Significance: G Sep 21, 2008
Identified By: NRC
Item Type: VIO Violation
Failure to Perform an Adequate Inspection of PMP Door Seals Protecting Safety Related Equipment.
The inspectors identified a Green cited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," involving the failure to perform an adequate inspection of probable maximum precipitation door seals protecting safety related equipment. The licensee had previously received a noncited violation

for inadequate inspections of probable maximum precipitation door seals in NRC Inspection Report 05000416/2008002. On July 9, 2008, the inspectors found the entrance door to the Train B standby service water pump house not meeting the standards of the maintenance procedure because the door seals failed to make contact with the door. The extent of condition review found seven additional door seals degraded, including the doors to the diesel generator building and control building. The door seal on the Train B standby service water pump house identified by the inspectors on July 9, 2008, had not been identified by plant personnel during an extent of condition review on February 29, 2008. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-03216.
The finding is more than minor since it affects the protection against external factors attribute of mitigating system cornerstone. The door seals also represent a degrading condition that if left uncorrected could affect the availability, reliability, and capability of mitigating systems required to respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors used the seismic, flooding, and severe weather Table 4b and determined it would affect multi-trains of safety equipment. The inspectors consulted the regional senior reactor analyst, who performed a Phase 3 analysis using many bounding and conservative assumptions. The result was a delta-CDF of 3.3E 7/yr and a delta-LERF of 6.6E-8/yr. These results confirmed that the finding had very low safety significance (Green). The cause of this finding has a crosscutting aspect in the area of problem identification and resolution in that the licensee failed to take adequate corrective actions to ensure degraded probable maximum precipitation door seals were properly evaluated and repaired in a timely manner [P.1(d)] (Section 4OA2).

Inspection Report# : 2008004 *(pdf)*
Inspection Report# : 2009002 *(pdf)*

Significance: G Jun 21, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Fireproofing on Fire Barrier Protecting the Safeguards Switchgear Room
The inspectors identified a Green noncited violation of Facility Operating License Condition 2.C(41) involving the failure to ensure that fire barriers protecting safety-related areas were functional. The inspectors identified an 8-foot length of structural steel in the east stairwell wall, which is shared by the Division I safeguards switchgear room, that did not have the required fireproofing to maintain an adequate fire barrier. The missing passive fire protection reduced the fire rating of the wall by allowing heat to transfer through the unprotected steel, thus degrading the fire containment capability assumed in the fire hazards analysis. The licensee entered this issue into their corrective action program as Condition eport CR GGN 2008 01849.
The finding was more than minor since it was associated with the protection against external factors 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 Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," the inspectors determined that the finding impacted the fire confinement category. The inspectors assigned a high degradation rating due to the fact that the required fireproofing was missing. The inspectors used the supplemental screening process for fire confinement findings and concluded that the finding was of very low safety significance (Green) due to the fact that the degraded barrier would have provided a minimum of 20 minutes fire endurance protection and there were no fire ignition sources or combustible materials in the area that would subject the barrier to direct flame impingement.
Inspection Report# : 2008003 *(pdf)*

Significance: G Jun 21, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Recognize the Division III Diesel Generator being Non-Functional.
The inspectors reviewed a self-revealing Green noncited violation of Technical Specification 5.4.1(a) involving the failure to follow a system operating instruction. While shutting down the Division III diesel generator, operators failed to place the outside air fan in automatic alignment resulting in the Division III diesel generator being nonfunctional. On May 5, 2008, operators had shutdown the Division III diesel generator, but they failed to recognize that the outside

air fan was not running when they depressed the shutdown pushbutton for the outside air fan per the system operating instruction. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2008-02265
The finding is more than minor since it affects configuration control attribute of the Mitigating System Cornerstone objective, in that it affected the availability, reliability and capability of an onsite power source that supplies a bus that provides power to mitigating systems that respond to initiating events to prevent undesirable consequences. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, inspectors determined that the finding has very low safety significance (Green) since it did not represent a loss of a safety function that exceeded the Technical Specification allowed outage time. The cause of this finding has a crosscutting aspect in the area of human performance associated with work practices in that the operating crew did not use the proper human performance techniques of self checking while securing the outside air fan for the Division III diesel generator [H.4(a)].

Inspection Report# : 2008003 *(pdf)*

Significance: G Apr 18, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate Fire Wrap Testing Discrepancies
A noncited violation of License Condition 2.C(41), "Fire Protection Program," was identified because the licensee failed to evaluate vendor fire test results to ensure that deviations from the acceptance criteria did not result in a reduction in the effectiveness of the approved Fire Protection Program. The licensee replaced existing fire barrier material installed on conduits with 3M Interam fire wrap without recognizing that applicable NRC test criteria were not met. As a result, the licensee failed to perform an evaluation to determine whether the test results would result in a reduction in the effectiveness of the fire protection provided to the cables inside the affected conduits. The new fire wrap was installed to protect redundant trains of cables necessary for safe shutdown between 2004 and 2007. This finding was entered into the licensee’s corrective action program under Condition Report 2008-01910. The licensee took prompt compensatory measures and implemented hourly fire watches while the issue was being evaluated. Failure to properly evaluate vendor fire test results that did not satisfy the acceptance criteria in Generic Letter 86-10, Supplement 1 prior to changing the existing fire wrap with 3M Interam fire wrap as required by the approved Fire Protection Program was a performance deficiency. This finding was more than minor because it affected the protection against external factors (fire) attribute of the Mitigating Systems Cornerstone Objective to ensure the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. This performance deficiency was also similar to the "more than minor" portion of Inspection Manual Chapter 0612, Appendix B, Example 3.i, in that an engineering evaluation was necessary to determine the acceptability of the existing fire wrap to perform its intended function. This finding was evaluated using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because it affected fire protection defense-in-depth strategies involving post-fire safe shutdown systems. This finding screened as having very low safety significance because it involved a fire barrier with a low degradation, since the nonconforming condition was subsequently determined to provide an acceptable margin to damage for the cables being protected.

Inspection Report# : 2008006 *(pdf)*

Significance: G Apr 18, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Fire Brigade Members Assigned Responsibilities That Conflicted with Fire Brigade Responsibilities.
A noncited violation of License Condition 2.C.(41) was identified for failure to maintain required staffing available to respond to a fire. Specifically, the approved Fire Protection Program requires that a five-person fire brigade be available onsite at all times and not assigned duties that conflict with the duties of the fire brigade. Contrary to this, on three occasions in March 2008, operators assigned as fire brigade members were directed to perform operator rounds at the radial wells. Because the Mississippi River was at flood stage, this required traveling by boat, so the operators were unable to return to the plant promptly for approximately 2 hours. This was further complicated by the fact that operator/fire brigade radios did not work during most of the boat trip and in the vicinity of the most distant well, meaning that operators could not be quickly recalled. This finding was entered into the corrective action program

under Condition Report 2008-01616. This finding had a crosscutting aspect in the area of Human Performance – Work Control (H.3.b) because the licensee did not ensure that different job activities were coordinated to ensure that the fire brigade remained available at all times.
Failure to maintain a fully staffed fire brigade available onsite at all times was a performance deficiency. This finding was more than minor because it affected the protection from external factors (fire) attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events to prevent undesireable consequences. This finding was evaluated using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because it affected a fire protection defense-in-depth element. This finding was assigned a low degradation rating because the operations shift during the times when the fire brigade member was unavailable included extra fire brigade-trained personnel that could supplement the fire brigade. The delay in a replacement person reporting to the scene of a fire would not have impacted the initial fire fighting effort, since enough fire brigade personnel were available to perform the functions.

Inspection Report# : 2008006 *(pdf)*

Significance: G Apr 18, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Plant Modification Blocked Access for Manual Firefighting.
A noncited violation of License Condition 2.C.(41), "Fire Protection Program," was identified related to making a plant change that negatively impacted the effectiveness of the approved Fire Protection Program. The team identified that the licensee had permanently blocked the door to the abandoned Unit 2 portion of the joint control room without performing a fire protection impact evaluation. The only remaining access path was a small hatch that would have made it difficult for fire fighters to gain access with protective clothing and equipment. A fire in this area could threaten operations in the Unit 1 control room if not promptly suppressed. This finding was determined to have a cross-cutting aspect in problem identification and resolution timeliness (P.1.d) because fire protection personnel recognized that a new access door was needed in 2006, but no substantial action had been taken to install it by the time of this inspection. This finding was entered in to the licensee's corrective action program under Condition Reports 2008-001893 and 2008-01913.
Blocking access to the Unit 2 control room area and not promptly restoring access to allow manual fire suppression was a performance deficiency. This finding was more than minor because it affected the protection against external factors (fire) attribute of the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events in order to prevent undesirable consequences. This finding was evaluated using Inspection Manual Chapter 0609, Appendix F, "Fire Protection Significance Determination Process," because it affected a fire protection defense-in-depth element. This finding was determined to have very low safety significance because all potential fire ignition sources in the affected area screened out in Task 2.3.4 in the Phase 2 evaluation. There were no ignition sources because the licensee had removed electrical power from this area, and administratively prevented hot work and storage of transient combustible material from this area.

Inspection Report# : 2008006 *(pdf)*

Significance: G Apr 18, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Ensure That Potential Damage to Motor-Operated Valve Circuits Would Not Prevent Safe Shutdown.
A noncited violation of 10 CFR Part 50, Appendix R, Section III.G.1.a was identified because the licensee failed to evaluate the impact of a potential motor operated valve failure mechanism on the ability to implement post-fire safe shutdown following a control room evacuation. The team identified that the Residual Heat Removal Pump Minimum Flow Valve F064A could be damaged by fire in the control room and not be available to perform its safe shutdown function. This finding involved mechanistic damage due to hot shorts as described in Information Notice 92-18, "Potential for Loss of Remote Shutdown Capability During Control Room Fire." The licensee had incorrectly interpreted this operating experience and concluded that no action was required. This finding was entered into the corrective action program under Condition Reports 1999-0236 and 2008-01904.

The team determined that failure to ensure that components necessary to safely shutdown the reactor would remain operable following a fire was a performance deficiency. This deficiency was more than minor because it impacted the Mitigating Systems Cornerstone objective to ensure the availability, reliability, and capability of systems that respond to external events (fire) to prevent undesirable consequences. The Phase 3 risk evaluation performed by the senior reactor analyst determined this deficiency had very low safety significance because the probability of having a fire in either of the two control room panels where the postulated damage could occur and lead to a control room evacuation was very low.

Inspection Report# : 2008006 *(pdf)*

Barrier Integrity

Significance: G Mar 31, 2009
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Enter a Limiting Condition for Operation for Primary Containment Isolation Valves
The inspectors identified a Green noncited violation of Grand Gulf Nuclear Station Technical Specifications 3.6.1.3, for failure to enter a limiting condition for operation action statement for primary containment isolation valves. As a result, the limiting condition for operation action statement time was exceeded. The inspectors identified that surveillance test data for the residual heat removal Train A minimum flow valve was missing. The inspectors discovered that operations staff failed to properly review the work order for the valve work, and they had made an assumption the work order had been canceled. The licensee reviewed the identified issue for extent of condition and identified that in addition to a missed postmaintenance stroke test, they had also failed to enter the limiting condition for operation for two containment isolation valves. The licensee entered this issue into the corrective action program as Condition Report CR-GGN-2009-01069.
This finding was more than minor since it affects the configuration control attribute of barrier integrity cornerstone, in that failing to properly test containment isolation valves could affect the assurance that physical design barriers that protect the public from radionuclide releases caused by accidents 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 did not represent an actual open pathway in the physical integrity of the containment system. The cause of this finding has a crosscutting aspect in the area of human performance associated with work practices, in that the operations shift supervisor and maintenance coordinator failed to perform proper self- and peer-checking and proper documentation of the completed work activity.

Inspection Report# : 2009002 *(pdf)*

Significance: G Dec 31, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Correct Leaking Reactor Water Cleanup System Primary Containment Isolation Valves
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion XVI, involving the failure to correct leaking reactor water cleanup system primary containment isolation valves. During refuelling Outage 16, plant personnel were performing local leak rate testing of reactor water cleanup backwash containment penetration. Testing determined that these primary containment isolation valves exceeded the allowable leakage rate by greater than 10 times the leakage limits. The inspectors determined that for four consecutive operating cycles, the site had failed to take corrective actions to correct the excessive leakage through these valves. The licensee entered this issue into the corrective action program as Condition Report CR GGN 2008 05139.
The finding was more than minor because it was associated with systems, structures, and components and the reactor coolant system barrier performance attribute of the barrier integrity cornerstone and adversely affected the cornerstone objective to provide reasonable assurance that physical design barriers would protect the public from 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 did not represent an

actual open pathway in the physical integrity of the containment system. The cause of this finding has a crosscutting aspect in the area of human performance associated with resources in that the licensee failed to take actions to correct a long-standing equipment issue associated with excessive leakage from primary containment isolation valves [H.2 (a)]. (Section 1R20)

Inspection Report# : 2008005 *(pdf)*

Significance: G Dec 31, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Properly Monitor Plant Parameters to Control Reactor Coolant System Cooldown Rate
The inspectors identified a Green finding involving the failure to demonstrate proper monitoring of plant parameters to control reactor coolant system cooldown rate to within expected management standards. The plant experienced a reactor scram from approximately 15 percent power during plant start-up from a refuelling outage due to a total loss of feedwater. Reactor pressure decreased at a faster rate than expected due to low decay heat levels and the injection of relatively cold condensate storage tank water to reactor vessel. The control room supervisor did not give a pressure band after pressure decreased below the low end of the emergency operating procedure band of 800 psig or assign a licensed operator to monitor reactor pressure during the event. The inspectors identified to the operators that the plant was approaching the procedural limit for cooldown rate; operators then closed the inboard main steam isolation valves to prevent exceeding the cooldown rate. The licensee entered this issue into the corrective action program as Condition Report CR GGN 2008 06201.
The finding is more than minor since it affects the human performance attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, inspectors determined that the finding has very low safety significance (Green) since it did not represent an actual degradation of the radiological barrier function of the reactor coolant system barrier. The cause of this finding has a crosscutting aspect in the area of human performance associated with decision making because control room supervision failed to maintain proper oversight to ensure reactor coolant cooldown rate was maintained within procedural limits [H.1(a)]. (Section 4OA3)

Inspection Report# : 2008005 *(pdf)*

Significance: G Jun 21, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedures Causing a Loss of Decay Heat Removal to the Spent Fuel Pool.
The inspectors identified a Green noncited violation of Technical Specification 5.4.1(a) involving the failure of operators to follow a safety-related off normal event procedure resulting in a loss of decay heat removal to the spent fuel pool. The operators elected to remove cooling to the fuel pool cooling heat exchangers to minimize the temperature rise on the component cooling water system during a partial loss of the plant service water system. This action was not specified in the off-normal event procedure. The off-normal event procedure only permitted the isolation of component cooling water flow to the fuel pool cooling heat exchangers for degraded component cooling water flow or pressure. This resulted in the spent fuel pool losing decay heat removal for approximately 3 hours and 22 minutes. The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2008-02147.
The finding is more than minor since it affects the human performance attribute of the barrier integrity cornerstone and affects the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 Worksheet, inspectors determined that the finding has very low safety significance (Green) since it did not preclude operators from restoring spent fuel pool cooling to ensure the Fuel Barrier Cornerstone. The cause of this finding has a crosscutting aspect in the area of human performance associated with decision making in that operators did not use a systematic decision making process when faced with unexpected plant conditions [H.1(a)].

Inspection Report# : 2008003 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Public Radiation Safety

Physical Protection

Although the NRC is actively overseeing the Security cornerstone, the Commission has decided that certain findings pertaining to security cornerstone will not be publicly available to ensure that potentially useful information is not provided to a possible adversary. Therefore, the cover letters to security inspection reports may be viewed.

Miscellaneous

Last modified : June 05, 2009