Grand Gulf 1
4Q/2008 Plant Inspection Findings

Initiating Events

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)*

Significance: G Mar 22, 2008
Identified By: NRC
Item Type: FIN Finding
Ineffective Corrective Actions in Response to Resin in the Electro-hydraulic Control System.
The inspectors identified a finding involving ineffective corrective actions in response to resin intrusion in the electro-hydraulic control system. The inspectors reviewed the corrective actions from a condition report involving a resin intrusion into the electro-hydraulic control system via a failed temporary ion-exchange filter in 2003. Review of the corrective actions associated with the 2003 event revealed that a long-range recovery plan was developed to remove resin from the electro-hydraulic control system. However, the recovery plan corrective actions were closed without licensee actions to remove resin from the electro-hydraulic control system. The failure to implement effective corrective actions following the 2003 resin intrusion event directly resulted in electro-hydraulic control stability issues seen in the fall of 2007, including reactor pressure perturbations and reductions in reactor power. This issue was entered into the licensee’s corrective action program as Condition Report CR-GGN-2007-04972.
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 MC 0609, "Significance Determination Process," Phase 1 worksheet, the finding was determined to have very low safety significance because the finding did not contribute to the likelihood that mitigating equipment would not be available following a reactor trip.
(Section 4OA2)

Inspection Report# : 2008002 *(pdf)*

Mitigating Systems

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)*

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)*

Significance: G Mar 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform an Adequate Inspection of Probable Maximum Precipitation (PMP) Door Seals Protecting Safety Related Equipment.
The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V, “Instructions, Procedures, and Drawings,” for failure to perform an adequate inspection of probable maximum precipitation door seals protecting safety related equipment. The inspectors identified that the door seals did not make contact with the door frame and the door had a significant amount of corrosion underneath the door seals, indicating long term degradation. The extent of condition review found three additional door seals with degraded conditions, including doors to the standby service water pump houses. The licensee initiated compensatory actions for the degraded seals, staging sand bags in the area and requiring monitoring of the affected doors during heavy rainfall. This issue was entered into the licensee’s corrective action program as Condition Reports CR-GGN-2008-01123 and 2008-01623.
This finding was more than minor because the door seals represent a degrading condition that if left uncorrected could become a more significant safety concern. The inspectors determined this finding affected the mitigating systems cornerstone. Using the Manual Chapter 0609, “Significance Determination Process,” Phase 1 worksheet, this finding was determined to have very low safety significance since it did not represent an actual loss of safety function for the standby service water pumps or the diesel generators. The cause of this finding has a crosscutting aspect in the area of problem identification and resolution in that the licensee failed to properly identify the degraded conditions of the probable maximum precipitation door seals during their surveillance inspection. [P.1(a)] (Section 1R01)

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Implement an Adequate Compensatory Fire Watch per Station Fire Protection Procedures.

The inspectors identified a noncited violation of Facility Operating License Condition 2.C.41 for the failure to properly implement a compensatory fire watch per the station fire protection program. The inspectors performed a fire inspection of the auxiliary building electrical penetration room. The inspectors noted that plant personnel had not entered the room to perform a required fire watch. The inspectors questioned security personnel, reviewed the fire watch log and determined that the fire watch log had been checked off as completed. The completion time corresponded to the time the inspector was in the room. After further review and interviews with security personnel, the inspectors determined that the plant employee designated to perform the fire watch duties misunderstood the requirements for the fire watch. The employee had only verified the auxiliary building hallway area outside the room and failed to check inside the auxiliary building electrical penetration room as required. This issue was entered into the licensee's corrective action program as Condition Report CR-GGN-2008-00869.
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 had an adverse affect on the "Fixed Fire Protection Systems" element of fire watches posted as a compensatory measure for outages or degradations. The inspectors assigned a high degradation rating due to the fact that automatic fire suppression system was tagged out and inoperable. Because the system was degraded without compensatory actions for approximately 2 hours, the inspectors used a duration factor of 0.01. The inspectors used 2E-2 for a generic fire frequency area which corresponds to Table 1.4.2, "Generic Fire Area Fire Frequencies" for a switchgear room. The resulting calculated change in core damage frequency was 2E-4, which was greater than the high degradation Phase 1 Quantitative Screening Criteria of 1E-6, requiring a Phase 2 analysis. The inspectors consulted with a regional Senior Reactor Analyst and a simplified Phase 3 was performed using a duration factor of 2.3E-4 for the 2-hour time period, and the IPEEE specific room fire frequency of 7.2E-4. The resulting calculated change in core damage frequency was 1.7E-7, which would be less that the Phase 1 quantitative screening criteria. Using this information, the regional Senior Reactor Analyst, determined the finding to be of very low safety significance. The cause of this finding has a crosscutting aspect in the area of human performance associated with work practices in that the individual assigned to perform the fire watch proceeded in the face of uncertainty and failed to use appropriate human error prevention techniques. [H.4(a)] (Section 1R05)

Inspection Report# : 2008002 *(pdf)*

Significance:  Mar 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure of Licensed Senior Reactor Operators to Maintain the Required Proficiency to Maintain Their License Current.
The inspectors identified a noncited violation of 10 CFR 55.53.e, "Conditions of License," for failure of licensed senior reactor operators to maintain the required proficiency to maintain their license current. Senior reactor operators standing the shift supervisor/shift technical advisor position were taking credit for senior reactor operator proficiency watches while standing this position. The normal shift complement of senior reactor operators consist of a shift manager, a control room supervisor, and a shift supervisor/shift technical advisor. When this issue was brought to the attention of operations management; they stopped the practice of the shift supervisor/shift technical advisor receiving senior reactor operator proficiency watch credit for standing that position. All shift supervisor/shift technical advisor senior reactor operators were inactivated. The plant issued a standing order that prohibited the shift supervisor/shift technical advisor to be allowed to perform the senior reactor operators oversight function in the control room and the shift manager or control room supervisor had to be in the control room at all times. This issue was entered into the licensee's corrective action program as Condition Report CR-GGN-2008-01126.
This finding was more than minor because if left uncorrected the finding could become a more significant safety concern. This finding affects the mitigating system cornerstone. The finding was determined to be of very low safety significance using the Licensed Operator Requalification Significance Determination Process since it related to operator license conditions and more than 20 percent of the affected individuals were deficient (Section 1R11).

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Perform a Required Technical Specification Surveillance.
The inspectors identified a noncited violation of Technical Specifications 3.8.1, “AC Sources-Operating,” for the failure to perform a required surveillance following the loss of a required offsite power source. The plant suffered a loss of power from the Port Gibson 115 kV line during high winds. Due to the fact that there is no direct control room alarm to alert the operating crew, they were not immediately aware they had lost the offsite source of power. When the crew recognized the loss of the bus they only entered a potential limiting condition of operations, due to the crew failing to realize that this was one of the required offsite sources. This issue was entered into the licensee’s corrective action program as Condition Reports CR-GGN-2008-00737 and 2008-01202.
This finding was more than minor because it impacts the mitigating system cornerstone objective in that it affects the operability, availability, reliability of an offsite power source that supplies a bus that provides power to mitigating systems. 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 a safety function. The cause of this finding has a crosscutting aspect in the area of human performance associated with the resources attribute in that the operators did not have adequate procedural guidance to determine the loss of safety-related offsite power supply. [H.2(c)] (Section 1R22)

Inspection Report# : 2008002 *(pdf)*

Significance: G Mar 22, 2008
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate Cracks in Standby Service Water Pump House Structure.
The inspectors identified a Green noncited violation of 10 CFR 50 Appendix B, Criterion XVI, for failing to implement effective corrective actions after identifying concrete cracking in the standby service water pump houses. The inspectors determined that the program that evaluates, monitors, and repairs cracks for all safety related structures only identified a single crack for the entire site and does not track other structural cracks previously identified in the corrective action program. The last program inspection had been performed as recently as October 25, 2007, and only identified the single crack that had been documented in previous inspections. This issue was entered into the licensee’s corrective action program as Condition Report CR-GGN-2007-05824.
This finding was more than minor because the cracks represent a degrading condition that if left uncorrected could become more significant safety concern. The inspectors determined this finding affected the mitigating systems cornerstone. 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 a safety function. The cause of this finding has a crosscutting aspect in the area of human performance associated with work practices because the licensee personnel failed to properly maintain and utilize the program for evaluating, tracking and repairing identified concrete cracks in safety related structures. [H.4(b)] (Section 4OA2)

Inspection Report# : 2008002 *(pdf)*

Barrier Integrity

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)*

Significance: G Mar 22, 2008
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Inadequate Design Control of HPCS Minimum Flow Valve Motor-Operated Valve Over Current Setpoint.
The inspectors identified a self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for failure to properly set the over current trip setpoint for the high pressure core spray minimum flow motor operated valve. This resulted in a spurious over current trip of the valve breaker during a high pressure core spray momentary pump start for breaker operability following post Division 3 emergency core cooling system testing. As a result of the trip, the high pressure core spray minimum flow valve failed open. This issue was entered into the licensee’s corrective action program as Condition Report CR-GGN-2008-01201.
The finding was more than minor because it was associated with the barrier integrity cornerstone to provide reasonable assurance that the physical design barriers protect the public from radionuclide releases caused by accidents or events. Using the MC 0609, "Significance Determination Process," Phase 1 worksheet, the finding was determined to have very low safety significance since it did not result in a loss of the containment barrier. Additionally, the issue was screened and determined to not impact the High Pressure Core Spray mitigating system function. (Section 4OA3)

Inspection Report# : 2008002 *(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 : April 07, 2009