Grand Gulf 1
1Q/2008 Plant Inspection Findings

Initiating Events

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)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: FIN Finding
Improper Control of Troubleshooting Causes a Loss of Condenser Vacuum
The inspectors identified a finding involving a loss of condenser vacuum caused by improper troubleshooting of the seal steam pressure controller. Specifically, the licensee failed to provide adequate work instructions and procedural limitations during troubleshooting of the seal steam pressure controller. As a result, the plant experienced a loss of condenser vacuum and a plant transient. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2007-04626.
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 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 assumed that only the power conversion system was affected and all other mitigating systems were available. Based on the results of the Phase 2 analysis, the finding was determined to have very low safety significance.
The cause of the finding was related to the human performance crosscutting component of decision making, in that the licensee failed to use conservative assumptions during troubleshooting activities and performed these activities without determining the validity of the troubleshooting instructions and identifying possible unintended consequences [H.1(b)] (Section 4OA3).
Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: FIN Finding
Inadequate Engineering Review of Plant Service Water Modification
A self-revealing finding was identified involving the failure of a plant service water piping flange due to an improper flow control valve design modification. Specifically, the licensee failed to perform an adequate review of an engineering modification and the maintenance work orders did not have detailed installation instructions. As a result, the plant experienced a plant transient. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2007-05040.
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 Manual Chapter 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 or functions would not be available following a reactor trip. The cause of the finding was related to the human performance crosscutting component of work practices in that the responsible engineers failed to perform adequate self and peer checking during the development and review of the design modification to the plant service water flow control check valves [H.4(a)] (Section 4OA3).
Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: FIN Finding
Failure to Follow Procedure Results in Loss of Condener Vacuum
A self-revealing finding was identified involving a loss of condenser vacuum caused by plant operators improperly removing a steam jet air ejector from service. Specifically, the licensee failed to isolate the steam jet air ejector from service as delineated in the system operating instructions. As a result, the plant experienced a loss of condenser vacuum and a plant transient. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2007-05676.
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 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 assumed that only the power conversion system was affected and all other mitigating systems were available. Based on the results of the Phase 2 analysis, the finding was determined to have very low safety significance.
The cause of the finding was related to the human performance crosscutting component of work practices in that the control room supervisor failed to ensure supervisory and management oversight of work activities such that nuclear safety is supported [H.4(c)] (Section 4OA2).
Inspection Report# : 2007005 *(pdf)*

Significance: G Sep 30, 2007
Identified By: Self-Revealing
Item Type: FIN Finding
Reactor SCRAM due to Turbine Trip caused by Loss of Condenser Vacuum
A self-revealing finding was identified involving the failure to properly calibrate the main condenser hydraulic vacuum switch that established a higher trip setpoint that would prematurely actuate an automatic turbine trip and reactor scram for a degraded main condenser vacuum condition. This issue was entered into the licensee’s corrective action program as condition Report CR-GGN-2007-02756.

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 shutdown and 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 or functions would not be available following a reactor trip. The cause of the finding was related to the human performance crosscutting component of resources in that the calibration procedure did not provide clear instructions detailing the methodology to adjust the speed simulation screw to the required position.[H.2(c)]
Inspection Report# : 2007004 *(pdf)*

Mitigating Systems

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: G 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)*

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate Venting Procedure for the Reactor Core Isolation Cooling System
The inspectors identified a noncited violation of Criterion V, "Instructions, Procedures, and Drawings," of 10 CFR Part 50, Appendix B for the failure to demonstrate compliance with Technical Specification Surveillance Requirement 3.5.3.1 due to an inadequate surveillance procedure. The reactor core isolation cooling system is vented at the injection valve through a hard-piped drain with no visual means of detecting air in the system. The inspectors determined that the procedure failed to contain adequate acceptance criteria to qualitatively or quantitatively assess abnormal amounts of air in the reactor core isolation cooling system. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2007-03818.
The finding was greater than minor because it affects the procedure quality attribute of the mitigating systems cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Using the Inspection Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding was determined to have a very low safety significance in that it did not result in the actual loss of the reactor core isolation cooling system, and was not potentially risk-significant due to external initiating events.
Inspection Report# : 2007005 *(pdf)*

Significance: G Dec 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to perform a root cause analysis for RHR heat exchanger B fouling, and implement corrective action to prevent recurrence
A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, was identified for failure to perform an adequate cause analysis for fouling of the Residual Heat Removal Heat Exchanger B on the standby service water side, and implement corrective action to prevent recurrence. This fouling reduced the thermal performance margin to 0.6 percent, but was not treated as a significant condition adverse to quality within the corrective action program. The licensee chose to temporarily restore margin by increasing the flow rate, but this did not remove or stop the fouling from continuing to occur. This finding has cross cutting aspects in the decision-making area of Human Performance (H.1.b) because the licensee's decision-making in response to this degraded condition did not use conservative criteria in deciding when to clean this heat exchanger, and did not verify that the underlying assumptions remained valid. Failure to treat Residual Heat Removal Heat Exchanger B degradation as a significant condition adverse to quality, and perform an adequate cause analysis, and implement corrective action to prevent recurrence was a performance deficiency. This was more than minor because, if left uncorrected, it could lead to a more significant safety concern in

that the system could become fouled enough to prevent removing the required heat load without the licensee recognizing this condition. This finding affected the Mitigating Systems and Barrier Integrity Cornerstones, since this component was required for both decay heat removal and containment heat removal functions. In accordance with the Phase 1 Significance Determination Process instructions, the significance was assessed using the Mitigating Systems Cornerstone, since this represented the dominant risk. This finding was determined to have very low safety significance (Green) during a Phase 1 Significance Determination Process, since it was confirmed to not involve loss of the design heat removal capability. This issue was entered into the licensee's corrective action program under Condition Report 2007-5766. (Section 4OA2.e.1(b)(1))

Inspection Report# : 2007008 *(pdf)*

Significance: G Dec 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Inadequate thermal performance testing of the residual heat removal heat exchangers
A noncited violation of 10 CFR 50, Appendix B, Criterion XI, "Test Control," was identified because the licensee's thermal performance test procedures for the residual heat removal heat exchangers were inadequate to ensure the quality of the test results. Specifically, the test procedure failed to specify adequate prerequisites for minimum heat load and use of high-accuracy instrumentation. This resulted in test results used to meet commitments for the Generic Letter 89-13 test program which provided little useful information due to high inaccuracy.
Failure to adequately test and trend the thermal performance of the residual heat removal heat exchangers was a performance deficiency because it masked the actual thermal performance to the point where the licensee did not recognize the onset of fouling. The team determined that these heat exchangers began to experience fouling between 1997 and 1998, but this was not recognized. In the case of Residual Heat Removal Heat Exchanger B, the degraded performance was determined to be sufficient to make the fouling factor exceed the design value, necessitating compensatory action to be able to show continued operability. This was more than minor because, if left uncorrected, it could lead to a more significant safety concern in that the system could become fouled enough to prevent removing the required heat load without the licensee recognizing this condition. This finding affected the Mitigating Systems and Barrier Integrity Cornerstones, since this component was required for both decay heat removal and containment heat removal functions. In accordance with the Phase 1 SDP instructions, the significance was assessed using the Mitigating Systems Cornerstone, since this represented the dominant risk. This finding was determined to have very low safety significance (Green) during a Phase 1 Significance Determination Process, since it was confirmed to not involve loss of the design heat removal capability. This issue was entered into the licensee's corrective action program under Condition Report 2008-0412. (Section 1R07)

Inspection Report# : 2007008 *(pdf)*

Significance: G Sep 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Monitor Performance of the Control Rod Drive System.
The inspectors identified a Green noncited violation (NCV) of 10 CFR Part 50.65(a)(2) for the failure to adequately monitor the performance of the control rod drive system. Specifically, the licensee failed to adequately perform a functional failure determination for a degraded flow control valve. Following licensee review of this condition the system was placed in the maintenance rule (a)(1) monitoring status.

This finding was more than minor since the degraded control rod drive flow control valve caused the system to be placed in the (a)(1) monitoring status. This finding was characterized under the significance determination process as having a 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 become inoperable. 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)
Inspection Report# : 2007004 *(pdf)*

Significance: G Sep 30, 2007

Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Establish a Formal Procedure to Monitor Outdoor Air Temperatures.
The inspectors identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion III, “Design Control,” for the failure to translate a design basis limit for outdoor air temperature into an instruction or procedure. The licensee established a new Updated Final Safety Analysis Report maximum outdoor air temperature of 102.5 degrees F. If outside air temperatures exceeded 102.5 degrees F, safety-related equipment, which are located in rooms that are cooled by outdoor air (i.e., standby service water pump room), would be operationally challenged. The inspectors identified that no instruction or procedure was established to monitor high outside temperature or subsequent actions established in the event the design basis temperature limit is exceeded.

The inspectors determined that the finding was more than minor because the finding affects the mitigating system cornerstone objective of ensuring the reliability of the standby service water system that responds to initiating events to prevent undesirable conditions. Using the Phase 1 worksheet in Inspection Manual Chapter 0609, "Significance Determination Process," this finding is determined to be of very low safety significance because there was no actual loss of a safety function, and the design basis limits had not been exceeded. The inspectors determined that the finding has a crosscutting aspect in the area of human performance decision making because the licensee failed to use conservative assumptions in determining not to establish a procedure or instruction to monitor high outside temperature for design limits on the standby service water pump room. H.1(b)
Inspection Report# : 2007004 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Adequately Monitor the Performance of the Leakage Detection System
The inspectors identified a Green noncited violation involving the failure to adequately monitor the performance of the leakage detection system in accordance with 10CFR50.65(a)(2). Specifically, the licensee failed to account for the functional failure of a temperature switch which resulted in exceeding the performance criteria for the leakage detection system. The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2007-2955.
This finding was greater than minor since violations of 10 CFR Part 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 nor did it cause a component to be inoperable. This finding has a crosscutting aspect in the area of human performance associated with work practices in that the licensee failed to use human error prevention techniques such as self checking and peer checking when utilizing the maintenance rule database (H.4(a)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 30, 2007
Identified By: Self-Revealing
Item Type: FIN Finding
Inadequate Foreign Material Controls During Reactor Feed Pump Maintenance
A self-revealing Green finding was identified for inadequate foreign material controls during maintenance. Specifically, a foreign material exclusion device was left inside the reactor feed Pump B lube oil system following maintenance activities, which prevented placing the pump in service during reactor startup. The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2007-2158.
The finding was more than minor because it was associated with the human performance attribute of the mitigating systems cornerstone and impacted the cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. The inspectors determined this finding required a Phase 2 analysis because it resulted in the loss of function of a single train of the power conversion system (reactor feed) for greater than 24 hours. Based on the results of the Phase 2 analysis, the finding was determined to have very low safety significance because of the availability of the condensate booster pumps and emergency core cooling systems. The cause of this finding has a crosscutting aspect in the area of human performance associated with resources because licensee personnel were not adequately trained to consistently implement the foreign material exclusion program (H.2(b)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Follow Procedure for Safety-Related Breaker Inspections
The inspectors identified a Green noncited violation of Technical Specification 5.4.1(a) involving the failure to identify loose and missing fasteners on the standby service water Train B bus feeder breaker. The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2007-3081.
This finding was more than minor because the failure to ensure that loose parts are not present in safety related breakers, if left uncorrected, could become a more significant safety concern. Using the Significance Determination Process Phase 1 Screening Worksheet in Appendix A of Inspection Manual Chapter 0609, the inspectors determined the finding was of very low safety significance because it did not result in a loss of operability.
Inspection Report# : 2007003 *(pdf)*

Barrier Integrity

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)*

Significance: G Sep 30, 2007
Identified By: Self-Revealing
Item Type: NCV NonCited Violation
Failure to Follow Procedures Caused Loss of Decay Heat Removal in the Spent Fuel Pool.
A self-revealing Green non-cited violation of Technical Specifications 5.4.1(a) was identified involving the failure to adequately follow procedure to align valves in the fuel pool cooling and cleanup system. The valves were aligned in the wrong sequence, contrary to the system operating instructions, causing both fuel pool cooling and cleanup pumps to trip and a subsequent loss of fuel pool cooling. The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2007-04284.
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 a very low safety significance since it only represents a degradation of the radiological barrier function provided by the spent fuel pool system. The cause of this finding has a crosscutting aspect in the area of human performance associated with work practices because licensee personnel failed to follow the correct sequence of valve manipulations required by procedure. [H.4 (b)]
Inspection Report# : 2007004 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Repair Crack in Containment Building Structure
The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, involving the failure to correct a crack in the ceiling of the reactor water cleanup heat exchanger room internal to the containment building structure. Specifically, the licensee identified the crack in 1987 but failed to complete planned corrective actions to evaluate or repair the crack during Refueling Outage 2. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2007-1970.
This finding was more than minor because the reactor water cleanup (RWCU) ceiling crack represented a degrading condition that if left uncorrected could become a more significant safety concern. The inspectors determined this finding affected the Barrier Integrity 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 open pathway in the physical integrity of the reactor containment or an actual reduction in defense-in-depth for the atmospheric pressure control or hydrogen control functions of the reactor containment.
Inspection Report# : 2007003 *(pdf)*

Emergency Preparedness

Occupational Radiation Safety

Significance: G Dec 31, 2007
Identified By: NRC
Item Type: FIN Finding
Inadequate Procedure
The inspectors reviewed a self-revealing noncited violation of Technical Specification 5.4.1.a for the failure to provide a detailed work order package to perform vent and fill operations on a pressure transmitter. Specifically, the licensee did not provide appropriate instructions in a work order package to properly isolate pressure Transmitter 1N64N006B prior to opening the drain valve. Consequently, this resulted in the release of radioactive gas from the system and an unplanned and unintended exposure for two individuals involved in the work activity.
The finding is more than minor because it is associated with the occupational radiation safety attribute of program and process and affected the cornerstone objective because it involved unplanned and unintended dose to two workers. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined that the finding was of very low safety significance because: it did not involve: (1) as low as reasonably achievable planning and controls, (2) an overexposure, (3) a substantial potential for overexposure, or (4) an impaired ability to assess dose. In addition, this finding has a cross-cutting aspect in the area of work control associated with work planning because the licensee failed to properly plan work activities by incorporating specific plant system details into the work order to allow the instrumentation and control technicians to properly drain a pressure transmitter [H.3(a)] (Section 2OS2).
Inspection Report# : 2007005 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Evaluate the Radiological Hazard Caused by Foreign Material Retrieval from the Reactor Vessel
The inspectors reviewed a self-revealing, noncited violation of 10 CFR Part 20.1501(a) because the licensee failed to evaluate the radiological hazard of foreign material retrieval from the reactor vessel. A contract radiation protection technician misinterpreted his survey instrument readings, picked up a bolt with a radiation dose rate of 19.9 rem per hour, and received a shallow dose equivalent of 41 millirems. The radiation protection technician was alerted to the problem by an electronic dosimeter alarm. As corrective action, the licensee revised the appropriate radiation work permit template to incorporate a dose rate limit for items removed from pools and included a discussion of the

violation in radiation protection training.
This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, in that the lack of knowledge of radiological conditions could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined that this finding was of very low safety significance because it did not involve: (1) an as low as is reasonably achievable (ALARA) planning or work control issue; (2) an overexposure; (3) a substantial potential for overexposure; or (4) an impaired ability to assess dose. Additionally, this finding has a crosscutting aspect in the area of human performance associated with work practices because the workers failed to use error prevention techniques such as peer checking and self checking (H.4(a)).
Inspection Report# : 2007003 *(pdf)*

Significance: G Jun 30, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Post and Control a High Radiation Area
The inspectors reviewed a self-revealing, noncited violation of Technical Specification 5.7.1 resulting from a failure to post and control a high radiation area. Room 0R123 on the 93-foot elevation of the radwaste building had dose rates as high as 265 millirems per hour at 30 centimeters from the G17D069 filter housing and was not posted and controlled as a high radiation area. The licensee was alerted to the situation when the electronic dosimeters of two radwaste operators alarmed when they entered the higher dose rates. Poor communications between operations and radiation protection personnel contributed to the failure to identify the high radiation area. Radiation protection supervisors stated they were unaware at the time of the operators' dose rate alarms that reactor water cleanup reject flow was approximately twice the normal flow rate and both of the reactor water cleanup demineralizers had been out of service from approximately 3:00 p.m. on May 19 until 9:00 a.m. on May 20, 2007. As immediate corrective action, the area was barricaded and conspicuously posted as a high radiation area. Additional planned corrective actions were still being evaluated.
This finding is greater than minor because it is associated with the occupational radiation safety program and process attribute and affected the cornerstone objective, in that the failure to post and control a high radiation area had the potential to increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspectors determined that this finding was of very low safety significance because it did not involve: (1) an as low as is reasonably achievable (ALARA) planning or work control issue; (2) an overexposure; (3) a substantial potential for overexposure; or (4) an impaired ability to assess dose. Additionally, this finding has a crosscutting aspect in the area of human performance associated with work control because the licensee failed to ensure proper communication, coordination, and cooperation during activities in which interdepartmental coordination was necessary to assure plant and human performance (H.3(b)).
Inspection Report# : 2007003 *(pdf)*

Public Radiation Safety

Significance: G Sep 14, 2007
Identified By: NRC
Item Type: NCV NonCited Violation
Failure to Provide Function-Specific Training to Hazardous Material Workers.
The team identified a noncited violation (NCV) of 10 CFR 71.5 because the licensee failed to provide required training to hazardous material workers involved in the shipment of radioactive material. Specifically, the licensee did not provide function-specific training, pursuant to 49 CFR 172.704(a) of Department of Transportation shipping regulations, to maintenance personnel involved in the reassembly the shipping casks. Corrective actions are still being evaluated; however, the licensee plans to provide hazardous material training to these employees. The licensee documented this issue in the corrective action program as Condition Report-GGN-2007-04572.
The finding is greater than minor because it is associated with the Public Radiation Safety Cornerstone attribute of program and process and affects the cornerstone objective. Inadequate training of hazardous material workers regarding the reassembly and loading of shipping casks has a potential impact on public dose and on the licensee's ability to safely package and transport radioactive material on public roadways. The violation involved an occurrence in the licensee's radioactive material transportation program that is contrary to NRC or Department of Transportation

regulations. When processed through the Public Radiation Safety Significance Determination Process, the finding was determined to be of very low safety significance because it: (1) was associated with radioactive material control, (2) involved the licensee's program for radioactive material packaging and transportation, (3) did not cause radiation limits to be exceeded, (4) did not result in a breach of package during transit, (5) did not involve a certificate of compliance issue, (6) did not involve a non-compliance with low level burial ground, and (7) did not involve a failure to make notifications or to provide emergency information. In addition, this finding had cross-cutting aspects in the area of human performance in the component of resources because the licensee did not ensure the availability and adequacy of training for hazardous material workers involved in the shipment of radioactive material was available. Hazardous material workers are required to be trained and qualified to prepare radioactive material shipments for transport. (H.2.b) (Section 2PS2)

Inspection Report# : 2007007 *(pdf)*

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

Significance: N/A Dec 30, 2007
Identified By: NRC
Item Type: FIN Finding
Identification and resolution of problems
The inspectors reviewed approximately 200 condition reports, work orders, associated root and apparent cause evaluations, and other supporting documentation to assess problem identification and resolution activities. The team concluded that the licensee was generally effective in identifying, evaluating, and correcting problems. Corrective actions, when specified, were generally implemented in a timely manner, although the team identified a significant number of longstanding equipment problems that were not being resolved in a timely manner. The team concluded that the licensee continued to have problems with the quality of operability assessments, and this was not being effectively addressed. The licensee performed quality higher-tier self-assessments, but the overall effectiveness was reduced by being slow to implement recommended improvements. The team concluded that the licensee was making progress in their efforts to address a trend in human performance, but this has not yet been completely effective. On the basis of 32 interviews conducted during this inspection, workers at the site felt free to report problems to their management, and were willing to use the corrective action program. An increased awareness and confidence in the Employee Concerns Program was also apparent. The team concluded that a positive safety-conscious work environment exists at Grand Gulf Nuclear Station.
Inspection Report# : 2007008 *(pdf)*

Last modified : June 05, 2008