

Grand Gulf 1

2Q/2007 Plant Inspection Findings

Initiating Events

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: FIN Finding

Insufficient Preventive Maintenance of Bus Duct Cooling System Results in Unplanned Power Reduction

The inspectors reviewed a Green, self-revealing finding for failure to implement preventive maintenance on the bus duct cooling system components prior to system failures, causing a plant transient. The licensee entered this into their corrective action program as Condition Report CR-GGN-2006-3996.

The finding is more than minor since it affects the equipment performance attribute of the initiating events cornerstone and affects the cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. Using the NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, the finding has a very low safety significance since it did not contribute to the likelihood of a loss of coolant accident, did not contribute to a loss of mitigation equipment, and did not increase the likelihood of a fire or internal/external flood (Section 40A3).

Inspection Report# : [2006005](#) (*pdf*)

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: FIN Finding

Failure to Document Deficiencies in the Corrective Action Program

A finding was identified for failure to implement adequate controls to maintain the integrity of the 34.5 kV switchyard animal intrusion fence and for failure to initiate condition reports when the fence was found de-energized or the gate found open. The animal intrusion resulted in a reactor scram and an excessive reactor coolant system cooldown on February 11, 2005. The licensee entered this issue into their corrective action program as Condition Report CR-GGN-2006-3139.

The finding was greater than minor because it affected the initiating events cornerstone objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions. The finding was determined to be of very low safety significance following completion of a modified Phase 2 significance determination process analysis. Although the NRC identified a performance deficiency related to maintaining the integrity of the animal intrusion fence and for failure to enter events into the corrective action program, the inspectors determined that no violation of regulatory requirements had occurred. In response to this event, the licensee revised operations procedures to require inspection of the switchyard fence conditions and required documenting deficiencies in their corrective action program. This item had cross cutting aspects related to human performance because procedures did not direct nonlicensed operators to monitor the condition of the fence. In addition, this item had crosscutting aspects related to problem identification and resolution because the licensee did not effectively implement corrective actions.

Inspection Report# : [2006004](#) (*pdf*)

Mitigating Systems

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures Resulting in an Inadequate Operability Evaluation.

The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V involving the failure to follow procedures resulted in an inadequate operability evaluation for a degraded switchgear ventilation system.

Specifically, the evaluation utilized several non-conservative input assumptions and failed to adequately evaluate the potential adverse effects from changing weather conditions. The licensee entered this issue in their corrective action program as Condition Report CR-GGN-2007-0554.

This finding is more than minor because the failure to perform an adequate operability evaluation, if left uncorrected, could become a more significant safety concern. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, this finding is of very low safety significance since it did not result in a loss of operability. 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 (Section 1R15).

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Ineffective Command and Control Results in Inappropriate Valve Manipulations.

The inspectors identified a Green noncited violation of Technical Specification 5.4.1(a) for failure to meet procedural requirements involving command and control in the control room. Specifically, the control room supervisor was not informed of a system alignment change directed by the shift technical advisor. The licensee entered this issue in their corrective action program as CR-GGN-2007-1060.

This finding is more than minor since the failure to maintain appropriate command and control in the control room, if left uncorrected, could lead to a more significant safety concern. The inspectors determined that this finding affected the mitigating systems cornerstone. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheets, the finding is of very low safety significance since it did not result in an actual loss of operability. This finding has a crosscutting aspect in the area of human performance associated with work practices because the failure to communicate the system realignment to the control room supervisor prevented the control room supervisor from maintaining proper supervisory oversight of work activities.

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedure Resulting in Isolation of Switchgear Room Ventilation.

A self-revealing Green noncited violation of Technical Specification 5.4.1(a) was identified for the failure to follow a surveillance procedure resulting in the inadvertent isolation of ventilation to the Division 1 and Division 3 safety-related switchgear rooms. The licensee entered this issue in their corrective action program as CR-GGN-2006-4394.

This finding is more than minor since it affected 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. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, the inspectors determined the finding was of very low safety significance because it did not result in a loss of operability. This finding has a crosscutting aspect in the area of human performance associated with work practices because licensee personnel did not effectively utilize human error prevention techniques, such as self and peer checking.

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Identify and Correct Standby Service Water System Leakage.

The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI for the failure to promptly identify and correct a condition adverse to quality. Specifically, the licensee failed to take adequate corrective actions in response to service water leakage from drywell purge compressor oil cooler drain plugs. The licensee entered this issue in their corrective action program as CR-GGN-2006-4762.

This finding is more than minor because if left uncorrected, the zinc drain plugs could have deteriorated to a point at which service water leakage would have impacted the performance of the standby service water system. This finding also affects the equipment performance attribute of the mitigating systems cornerstone and impacts the cornerstone

objective to ensure the availability, reliability, and capability of systems that respond to initiating events. 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. 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 thoroughly evaluate the cause and extent of condition for corrosion identified on the drain plugs of the Train B purge compressor oil cooler.

Inspection Report# : [2007002](#) (*pdf*)

Significance:  Mar 12, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Prevent Recurrence of High Standby Diesel Generator Temperatures (Section 3.0).

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," involving the failure to identify and correct the cause of elevated temperatures adversely affecting the safety function of the Division I standby diesel generator that had previously occurred in 1999 and 2004. Subsequently, on January 30, 2007, the Division I standby diesel generator again experienced elevated temperatures during a surveillance run and was subsequently declared inoperable. This issue was entered into the licensee's corrective action program as Condition Report GGN-2007-0378.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of equipment performance and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. The Phase 1 Worksheets in Manual Chapter 0609, "Significance Determination Process," were used to conclude that a Phase 2 analysis was required because the condition represented a loss of safety function of a single train of a Technical Specification system for greater than its allowed outage time. The inspectors performed a Phase 2 analysis using Appendix A, "Technical Basis For At Power Significance Determination Process," of Manual Chapter 0609, "Significance Determination Process," and the Phase 2 Worksheet for Grand Gulf. The Phase 2 evaluation concluded that the finding was of very low safety significance. A Phase 3 significance determination analysis also determined the finding was of very low safety significance. The cause of the finding is related to the problem identification and resolution crosscutting area in that the licensee failed to thoroughly evaluate the problem resulting in ineffective corrective actions being implemented that failed to prevent recurrence of a significant condition adverse to quality (Section 3.0).

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Mar 12, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Alarm Response Instruction for SDG High Jacket Water Temperature (Section 4.0).

The team identified a noncited violation of Technical Specification 5.4.1 (a) involving the failure to maintain an adequate alarm response instruction for standby diesel generator high jacket water temperature. Specifically, Procedure 04-1-02-1H22-P400, "Alarm Response Instruction, Panel No.: 1H-22-P400, Safety Related," Revision 109, failed to provide adequate guidance to manually override the standby diesel generator jacket water cooling system temperature control valve during emergency conditions. This issue was entered into the licensee's corrective action program as Condition Report GG-2007-1837.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of procedure quality and affects 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 is determined to have very low safety significance because it did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating events. The cause of the finding is related to the problem identification and resolution crosscutting area in that the licensee did not take appropriate corrective actions to adequately address a previously identified safety concern (Section 4.0).

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Mar 12, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Promptly Identify a Degraded Condition (Section 5.0).

The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," involving the failure to promptly identify a condition adverse to quality. Between February 2-15, 2007, the licensee failed to promptly identify that corrective actions taken in response to a January 30, 2007, failure of the Division 1 standby diesel generator jacket water cooling system temperature control valve had not addressed the cause of the valve failure. Specifically, following the valve's failure, the licensee inappropriately concluded the valve's internal thermal elements were faulty, replaced the elements, performed postmaintenance testing, and declared the valve and associated standby diesel generator operable on February 1, 2007. Subsequent testing of the suspect faulty thermal elements on February 2 and 13, 2007, found the components were functional. Following receipt of the testing results, the licensee failed to promptly identify that replacement of the thermal elements failed to address the cause of the problem resulting in the failure to evaluate a potential degraded condition affecting operability of the standby emergency diesel generator. This issue was entered into the licensee's corrective action program as Condition Report GGN-2007-2255.

The finding is greater than minor because it is associated with the mitigating systems cornerstone attribute of equipment performance and affects the associate 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 is determined to have very low safety significance because the condition did not screen as potentially risk significant due to a seismic, flooding, or severe weather initiating events. The cause of the finding is related to the problem identification and resolution crosscutting area in that the licensee did not identify an issue completely, accurately, and in a timely manner commensurate with its safety significance resulting in the failure to evaluate a potential degraded condition for operability (Section 5.0).
Inspection Report# : [2007006](#) (*pdf*)

Significance:  Mar 12, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Procedures Resulting in an Inadequate Operability Evaluation (Section 5.0).

The inspectors identified a Green noncited violation of 10 CFR Part 50 Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for a failure to follow procedures which resulted in an inadequate operability evaluation. Specifically, the evaluation did not include an analysis of conditions that could be causing the valve to fail, and it provided no assessment of the effect these conditions would have related to the specified safety function and mission time of the standby diesel generator. The licensee entered this issue in their corrective action program as Condition Report GGN-2007-2256.

This finding is more than minor because the failure to perform an adequate operability evaluation, if left uncorrected, could become a more significant safety concern. Using 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. 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 (Section 5.0).

Inspection Report# : [2007006](#) (*pdf*)

Significance:  Dec 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Follow Station Procedures for Conducting Maintenance Activities

The inspectors reviewed a Green, self-revealing noncited violation of Technical Specification 5.4.1(a) for failure to follow station maintenance procedures while troubleshooting the control rod drive Pump A hand switch green indicating light socket. The licensee entered this into their corrective action program as Condition Report CR-GGN-2006-4474.

The finding is more than minor since it affects the human performance attribute of the mitigating systems cornerstone and affects the cornerstone objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. Additionally, improper maintenance practices on control room equipment could lead to a more significant safety concern. Using the NRC Manual Chapter 0609, "Significance Determination Process," Phase 1 worksheet, inspectors determined that the finding has very low safety significance because it did not result in a loss of safety function. This finding has a crosscutting aspect in the area of human performance associated with work practices in that licensee personnel proceeded to troubleshoot the bulb in the face of uncertainty surrounding the required bulb type and expected system response (Section 1R19).

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Control Loose Items in Safety Related Areas

The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures and Drawings," for a failure to control loose items in safety related structures. Between July 25 and September 13, 2006, the inspectors identified six examples of loose items in the auxiliary building and control building that did not meet the requirements of plant loose item control procedures. The licensee entered this issue in their corrective action program as CR-GGN-2006-3836.

The failure to control loose items in the vicinity of safety related equipment was a performance deficiency. This finding is more than minor because it is associated with the Mitigating Systems cornerstone attribute of protection against external factors (seismic) and affects the associated cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events. 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. The cause of this finding is related to the cross-cutting element of human performance in that licensee work practices did not effectively define and communicate expectations regarding compliance with plant procedures for the control of loose items in safety related structures.

Inspection Report# : [2006004](#) (pdf)

Significance:  Aug 07, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Standby Diesel Generator Cylinder Head Failures

A self-revealing noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for the failure of licensee personnel to preclude repetition of a significant condition adverse to quality. Specifically, the licensee failed to take actions to prevent subsequent standby diesel generator engine head failures attributed to corrosion fatigue in 1992, 1996, and 2006. This issue was entered into the licensee's corrective action program as Conditon Report CR-GGN-2006-1955.

The finding was more than minor since it affected the Mitigation System Cornerstone attribute of availability and reliability of mitigating equipment, specifically the standby diesel generators. Using Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheets, the finding is of very low significance since it only involved the loss of one train of diesel generators for less than the technical specification allowed outage time (Section 4.b).

Inspection Report# : [2006010](#) (pdf)

Barrier Integrity

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Inadequate Design Control of Leakage Detection Sensing Lines

The inspectors identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," for the failure to maintain the original design configuration of a leakage detection instrument sensing line in the fuel pool cooling and cleanup system. The licensee entered this issue in their corrective action program as CR-GGN-2006-3569.

This finding is more than minor since it affects the design control attribute of the spent fuel pool cooling aspect of the Barrier Integrity cornerstone and affects the cornerstone objective of providing 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, this finding is of very low safety significance since it only affected the radiological barrier function provided by the spent fuel pool.

Significance:  Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Monitor Containment Pool Liner Leakage

The inspectors identified a Green noncited violation of Technical Specification 5.4.1(a) involving the failure of the licensee to take actions required by operator rounds in response to containment pool liner leakage. The licensee entered this issue into their corrective action program as CR-GGN-2006-3500.

The finding was more than minor since the failure of operators to perform operator rounds could lead to a more significant safety concern if left uncorrected. Additionally, the identified liner leakage represented a degrading condition that, if left uncorrected, could continue to degrade and could potentially result in the migration of water to other portions of the containment structure. The inspectors determined this finding affected the Barrier Integrity cornerstone. Using the Manual Chapter 0609, "Significance Determination Process," Phase 1 Worksheet, this finding is of very low safety significance since it does 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. The cause of this finding is related to the crosscutting element of human performance in that licensee work practices did not effectively define and communicate expectations regarding compliance with plant procedures for the conduct of operator rounds.

Inspection Report# : [2006004](#) (pdf)

Emergency Preparedness

Occupational Radiation Safety

Significance:  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Procedural Guidance and Radiation Work Instructions While Supporting Radiography Operations

A self-revealing, Green noncited violation of Technical Specification 5.4.1 was identified for the failure to follow procedural guidance and radiation work instructions while supporting radiography operations. All entrances to the area in which radiography was conducted were not barricaded and posted at the two millirem per hour point, as required. However, the high radiation area was barricaded, posted, and guarded. As immediate corrective action, the licensee postponed additional radiography and initiated a review of the occurrence. Further corrective action is being evaluated.

This finding is greater than minor because it is associated with the occupational radiation safety program attribute of exposure control and affected the cornerstone objective, in that the failure to control access to areas in which radiography is conducted could result in unplanned personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined the finding had very low safety significance because (1) it was not an ALARA finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure because no one entered the area in which high doses were possible, and (4) the ability to assess dose was not compromised. Additionally, this finding has a crosscutting aspect in the area of human performance associated with work control because the licensee did not coordinate work activities by incorporating actions to address the need to keep personnel apprised of work status.

Inspection Report# : [2007002](#) (pdf)

Significance:  Mar 31, 2007

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

Failure to Follow Radiation Work Permit Instructions Prohibiting High Radiation Area Entry.

A self-revealing Green noncited violation of Technical Specification 5.4.1 was identified for the failure to follow radiation work permit instructions prohibiting high radiation area entry. Two outage workers entered a high radiation area on the 139-foot elevation of the auxiliary steam tunnel, in violation of their radiation work permit instructions. The licensee was alerted to the entry into the high radiation area by one of the worker's alarming dosimeter. As immediate corrective action, the licensee revoked the worker's access to the radiologically controlled area. Further corrective action is being evaluated.

This finding is greater than minor because it is associated with the occupational radiation safety program attribute of exposure control and affected the cornerstone objective, in that the failure to follow radiation work permit instructions could result in unplanned personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined the finding had very low safety significance because (1) it was not an ALARA finding, (2) there was no overexposure, (3) there was no substantial potential for overexposure because, at the highest dose rate, it would have taken 40 hours to receive a whole-body overexposure, and (4) the ability to assess dose was not compromised. 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 self and peer checking.

Inspection Report# : [2007002](#) (*pdf*)



Significance: Mar 31, 2007

Identified By: NRC

Item Type: NCV NonCited Violation

Failure to Evaluate the Radiological Hazard Caused by Water Leaking in the Drywell.

The inspector identified a Green noncited violation of 10 CFR 20.1501(a) because the licensee failed to adequately evaluate the radiological hazard caused by water leaking from a valve in the drywell. The licensee failed to maintain knowledge of changing radiological conditions. As immediate corrective action, the licensee surveyed the area to obtain current information. Further corrective action is 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 lack of knowledge of radiological conditions could increase personnel dose. Using the Occupational Radiation Safety Significance Determination Process, the inspector determined the finding had very low safety significance because (1) it was not an ALARA finding, (2) there was no overexposure, (3) there was no substantial potential for an overexposure, and (4) the ability to assess dose was not compromised. Additionally, this finding has a crosscutting aspect in the area of human performance associated with decision making because the licensee did not use conservative assumptions in deciding the correct contamination survey frequency in the drywell.

Inspection Report# : [2007002](#) (*pdf*)

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

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