

## Grand Gulf 1

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### Initiating Events



**Significance:** Dec 27, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to prescribe instructions for tightening a reactor recirculation system flange allows unquantifiable torquing of bolts which construct part of the reactor coolant system boundary.**

A noncited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," was identified for failure to establish appropriate instructions for restoration of a reactor recirculation Loop B decontamination flange which resulted in improper torquing of flange bolting and degrading a reactor coolant system pressure boundary. This issue was documented in the licensee's corrective action program as CR-GGN-2002-1988. The noncited violation is greater than minor because it was related to the initiating events cornerstone objective of limiting the likelihood of an initiating event in the form of a loss of coolant from the flanged pressure boundary. The finding was of very low safety significance because although the bolts were improperly torqued and would have been exposed to reactor coolant system pressure, the bolts were replaced by the licensee prior to taking the reactor coolant system to operating pressure due to inspector intervention.

Inspection Report# : [2002005\(pdf\)](#)



**Significance:** Jun 29, 2002

Identified By: Self Disclosing

Item Type: FIN Finding

**Failure to perform an adequate technical evaluation for implementation of a modification to the circulating water lubricating water system which nearly initiated a plant transient.**

Grand Gulf Nuclear Station engineers failed to perform an adequate technical evaluation for Engineering Request 1997-0615-0000 to address the removal of lubricating water flow from upper internals of circulating water Pump A, which had a zero leakage packing installed on the pump shaft. This failure resulted in an unanticipated rise in pump vibrations after commencing maintenance, and placed the plant in a condition where, for 4 minutes, alarm response procedures directed reducing power and securing circulating water Pump A. Condition Report GGNS 2002-0768 was written to document this finding. This finding is more than minor because it was a precursor to a significant event and could have increased the frequency of an initiating event. However, the safety significance was very low (Green) because although an emergency down-power was called for by procedure, increased licensee oversight allowed the operators to restore lubrication and cooling water quickly enough to mitigate the rise in pump vibration eliminating the need for the emergency down-power necessitated by securing the circulating water pump.

Inspection Report# : [2002002\(pdf\)](#)

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### Mitigating Systems



**Significance:** Dec 27, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate corrective actions associated with operating the residual heat removal system heat exchanger outlet valve (E12-F003A) beyond its optimum throttling range leads to excessive system vibratio**

A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, "Corrective Actions," was identified for inadequate corrective actions which resulted in operating the residual heat removal system heat exchanger outlet Valve (E12-F003A) beyond its optimum throttling range causing small bore piping failures. This issue was documented in the licensee's corrective action program as CR-GGN-2002-1779. This self-revealing noncited violation is greater than minor because it affected the mitigating systems cornerstone objective of equipment reliability, in that operation of this valve beyond its optimum throttling capability would lead to system small bore piping failures. The finding was of very low safety significance because all other emergency core cooling systems remained available.

Inspection Report# : [2002005\(pdf\)](#)



**Significance:** Dec 27, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate design controls associated with adding a permanent pressure locking modification to a residual heat removal system valve resulted in low stress high cycle fatigue whenever the residual heat**

A noncited violation of 10 CFR Part 50, Appendix B, Criterion III, "Design Control," was identified for inadequate design controls which resulted in a pressure locking design modification being completed without provisions for adequate piping supports resulting in a small bore piping failure. This issue was documented in the licensee's corrective action program as CR-GGN-2002-1779. This self-revealing noncited violation is greater than minor because it affected the Mitigating Systems Cornerstone objective of equipment reliability, in that the inadequate design of the pressure locking piping modification allowed cyclic stress to cause a failure of a small bore piping socket weld. The finding was of very low safety significance because all other emergency core cooling systems remained available.

Inspection Report# : [2002005\(pdf\)](#)

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**Significance:** Oct 04, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Performance of maintenance using an inadequate procedure leads to isolation of the reactor core cooling isolation system**

Performance of maintenance using an inadequate procedure leads to isolation of the reactor core cooling isolation system. The licensee failed to establish appropriate instructions for the circumstances when backfilling the reactor core isolation cooling high steam flow transmitter. This resulted in technicians improperly backfilling the detector. This caused the detector to isolate steam to the reactor core isolation cooling turbine, rendering the system inoperable. This violation of Technical Specification 5.4.1 is noncited in accordance with Section VI.A of the NRC's Enforcement Policy, and is in the licensee's corrective action program (CR-GGN-2002-0947). The finding was of very low safety significance because although the reactor core isolation cooling system was inoperable, all other remaining mitigating systems remained operable and the duration of the system inoperability was short.

Inspection Report# : [2002004\(pdf\)](#)

G

**Significance:** Sep 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Inadequate alternative shutdown procedure**

A noncited violation of Technical Specification 5.4.1.a was identified for the failure to provide an adequate procedure for a control room fire. Technical Specification 5.4.1.a, requires the licensee to establish procedures for implementation of activities recommended in Regulatory Guide 1.33, which lists procedures for combating a fire in the control room and forced evacuation of the control room. The licensee's Alternative Shutdown Procedure 05-1-02-II-1, "Shutdown from the Remote Shutdown Panel," Revision 25, was inadequate, because it did not instruct operators to verify that a flow diversion pathway was closed, which could render the credited reactor vessel injection source unable to perform its safety function. In the event of a fire in the control room requiring control room evacuation and remote shutdown, this pathway could have diverted coolant to containment spray and away from the reactor vessel through a spuriously opened containment spray valve. Operators would not normally check the valve position on their own and would not have adequate indication from the remote shutdown panel to identify the potential flow diversion path. The licensee entered this finding into their corrective action program as Condition Report CR-GGN-2002-01460. The issue was of greater than minor significance because it impacted the mitigating systems cornerstone and affected the ability of the low pressure coolant injection system to provide adequate core cooling to prevent core damage. Using the Phase 2 Significant Determination Process, this finding was determined to be of very low safety significance, due to the extremely low fire ignition frequency in conjunction with the low probability that fire would cause the spurious opening of the containment spray valve (Section 1R05.3).

Inspection Report# : [2002007\(pdf\)](#)

G

**Significance:** Sep 17, 2002

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to protect radio repeaters**

A noncited violation of Grand Gulf Nuclear Station, License Condition 2.C(41), which requires the licensee to implement and maintain the provisions of their NRC-approved fire protection program, was identified. The licensee failed to meet the fire protection program requirement to protect radio repeaters from exposure to fire damage in six fire areas; therefore, in the event of a fire in any one of these fire areas, radio communications necessary to support safe shutdown could be lost. The licensee entered this finding into their corrective action program as Condition Report CR-GGN-2002-1472. The issue was of greater than minor significance because it impacted the mitigating systems cornerstone objective. Specifically, ineffective fire brigade communications can hamper the brigade's ability to fight a fire, thereby, potentially endangering mitigating systems. A Phase 1 Significant Determination Process evaluation determined that the issue has very low safety significance (Green) because the problem only impacts the effectiveness of the fire brigade while other fire protection features, such as fire barriers and physical separation, remain available (Section 1R05.4).

Inspection Report# : [2002007\(pdf\)](#)

G**Significance:** Jun 29, 2002

Identified By: NRC

Item Type: FIN Finding

**Failure to assess and manage the risk associated with main steam line flow transmitter maintenance.**

Work control center personnel failed to assess and manage the increase in risk for scheduled main steam line flow transmitter maintenance with control rod drive system maintenance already in progress. Concurrent performance of these maintenance jobs would have resulted in the licensee unknowingly placing the plant in a much higher risk condition. Condition Report GGNS 2002-0684 was written to document this inspector finding. This finding is more than minor because it had a potential to create a higher risk condition than was anticipated by the work control center personnel. However, the safety significance was very low (Green) because, upon recognition of the potential for a higher risk condition, work control center personnel canceled the main steam line flow transmitter maintenance and the two maintenance activities were never performed concurrently.

Inspection Report# : [2002002\(pdf\)](#)

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## Barrier Integrity

G**Significance:** Jun 29, 2002

Identified By: NRC

Item Type: FIN Finding

**Failure to schedule and perform required periodic ultrasonic testing inspections of the residual heat removal system Train A piping elbow following an NRC authorized non-code piping repair.**

Nondestructive examination personnel failed to perform periodic inspections of a residual heat removal system non-Code repair location, preventing them from determining the rate or extent of future degradation to the elbow location, contrary to the non-Code repair commitment made to the NRC. Condition Report GGNS 2002-0597 was written to document this finding. The finding is more than minor because, following the non-Code piping repair, the nondestructive examination personnel did not have the required ultrasonic test information to diagnose further piping degradation, and may not have taken the appropriate action prior to the development of another residual heat removal system piping through-wall leak. The safety significance of this finding was very low (Green) because, although the elbow wall thickness was not inspected, the subject train was not relied upon for extended operation and the final ultrasonic test results showed no measurable elbow wall thinning.

Inspection Report# : [2002002\(pdf\)](#)

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## Emergency Preparedness

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## Occupational Radiation Safety

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## Public Radiation Safety

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## Physical Protection

**Significance:** N/A Dec 06, 2002

Identified By: NRC

Item Type: FIN Finding

**Verification of Compliance With Interim Compensatory Measures Order**

On February 25, 2002, the NRC imposed by Order, Interim Compensatory Measures to enhance physical security. The inspectors determined that, overall, the licensee appropriately incorporated the Interim Compensatory Measures into the site protective strategy and access authorization program; developed and implemented relevant procedures; ensured that the emergency plan could be implemented; and established and effectively coordinated interface agreements with offsite organizations.

Inspection Report# : [2002008\(pdf\)](#)

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## Miscellaneous

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