

## Three Mile Island 1

### 3Q/2004 Plant Inspection Findings

---

## Initiating Events

---

## Mitigating Systems

**Significance:**  Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Identify and Correct a Degraded 'A' EDG Fuel Injection Line**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI "Corrective Action" for failure to identify a degraded 'A' emergency diesel generator (EDG) common header fuel injector tube. In addition, after the condition was identified by the inspectors, station personnel failed to document, evaluate and correct this degraded condition, which had the potential to degrade further and adversely affect the operability of the 'A' EDG, until prompted by the inspectors. The tube degradation was caused by rubbing between the tube and the fuel oil duplex filter metal cover plate and resulted in a 40 percent reduction in tube wall thickness. The initial assessment of this degraded condition was untimely and lacked technical rigor. The duplex filter cover plate was ultimately modified to establish proper clearance and prevent further tube degradation. In addition, corrective actions were initiated to replace the degraded fuel ejector tube during the next 'A' EDG outage.

This issue is more than minor since the failure to identify and correct the degraded EDG fuel ejector tube reduced the reliability of a mitigating system component. In addition, if left uncorrected, the condition could have degraded further and affected the operability of the 'A' EDG. This finding is of very low safety significance (Green) because it did not result in an actual failure of the 'A' EDG fuel injector tubing, nor did it cause the 'A' EDG to be inoperable.

Inspection Report# : [2004004\(pdf\)](#)

**Significance:**  Jun 30, 2004

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Failure to Identify Abnormally High River Pump Vibrations**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, Corrective Action. On March 9, 2004, AmerGen did not recognize that vibration levels on the 1C Nuclear River (NR) Pump (NR-P-1C) motor exceeded predictive maintenance program alert levels. The failure to recognize the elevated vibration resulted in the inoperability of the pump. The pump shaft and bearings were ultimately replaced.

This self-revealing finding is more than minor since the failure to take timely action reduced the reliability and availability of a mitigating systems component. Corrective action to address the slowly degrading motor bearings could have been commenced prior to the vibration levels exceeded the fault level. This finding was determined to be of very low safety significance because at least two NR pumps remained available.

Inspection Report# : [2004003\(pdf\)](#)

**Significance:**  Mar 31, 2004

Identified By: NRC

Item Type: FIN Finding

### **Inability of 25 Percent of the Crews to Pass the Dynamic Simulator Portion of the Facility-Administered Annual Operating Examinations**

A finding of very low safety significance was identified. The finding was associated with operating crew performance on the simulator during facility-administered licensed operator requalification examinations. Of the eight crews evaluated, two did not pass their simulator examinations. The finding is of very low safety significance because the failures occurred during annual testing of the operators on the simulator, because there were no actual consequences to the failures, and because the crews were removed from watch-standing duties, refrained and re-evaluated before they were authorized to return to control room watches.

Inspection Report# : [2004002\(pdf\)](#)

**Significance:**  Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Follow Scaffolding Installation Procedures**

The inspectors identified a non-cited violation (NCV) of technical specification 6.8.1.a for inadequate implementation of scaffold control requirements and for not performing engineering evaluations as required by procedures MA-MA-796-024-1001 and LS-AA-104-1000. The procedural violations resulted in scaffold construction deviations that were not evaluated for adequacy by engineering to ensure that safety related equipment would not be adversely impacted by the scaffold during a seismic event. The finding is of very low safety significance since no equipment was rendered inoperable due to the scaffolding, and the scaffolding would not have caused a loss of any safety function during or following a seismic event.

Inspection Report# : [2004002\(pdf\)](#)

**G**

**Significance:** Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Lack of Assurance that Each Section of the Operating Exam is at Least 50 Percent Unique Compared to any Other Operating Exam Administered During the Same Cycle**

An NCV was identified for non-adherence to an established Exelon/AmerGen licensed operator requalification test (LORT) program procedure that provided guidance for satisfying the requirements of 10 CFR 55.59 in the development of the Senior and Reactor Operator 2004 annual requalification exams.

The finding is greater than minor because the Performance Deficiency (PD) affected the mitigating systems cornerstone objective to ensure mitigating system reliability and availability, and its related attribute on human performance (Human Error (Pre-Event and Post-Event)). The finding is of very low safety significance because the discrepancy did not have an adverse impact on the operator's ability to safely operate the plant this past year and there were no identified concerns regarding exam compromise.

Inspection Report# : [2004002\(pdf\)](#)

**G**

**Significance:** Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Lack of Documentation of Adequate Remediation Plans for Senior Reactor Operators and Reactor Operators**

An NCV was identified for non-adherence to an established Exelon/AmerGen licensed operator requalification program procedure for documenting remediation plans for Senior and Reactor Operators developed as a result of failures on 2003 biennial written and annual operating exams and as required by 10 CFR 55.59(c)(5).

The finding is greater than minor because the performance deficiency affected the mitigating systems cornerstone objective to ensure mitigating system reliability and availability, and its related attribute on human performance (Human Error (Pre-Event and Post-Event)). The finding is of very low safety significance because the discrepancy did not have an adverse impact on the operator's ability to safely operate the plant this past year.

Inspection Report# : [2004002\(pdf\)](#)

**G**

**Significance:** Mar 31, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

**Simulator Did Not Replicate Expected Plant Response to Steady State Conditions**

An NCV was identified for simulator modeling discrepancies that should have been identified and corrected during required steady state performance testing as required by ANSI/ANS 3.5-1985 and 10 CFR 55.46.

This finding is more than minor because it affects the human performance (human error) attribute of the mitigating systems cornerstone. The finding is of very low safety significance because the discrepancy did not have an adverse impact on operator actions such that safety-related equipment was made inoperable during normal operations or in response to a plant transient.

Inspection Report# : [2004002\(pdf\)](#)

**G**

**Significance:** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Identify, Document, and Evaluate Conditions Adverse to Quality which had the Potential to Adversely Affect ECCS Containment Sump Availability**

The inspectors identified a non-cited violation for failure to identify, document, and assess conditions adverse to quality which had the potential to adversely affect emergency core cooling system (ECCS) containment sump availability. The inspectors observed numerous sources of debris within containment and sump screen conditions which had the potential to degrade ECCS performance. Station personnel saw most of these same conditions, but did not document or assess the associated impact on containment sump operability until the issue was raised by the inspectors. Failure to recognize and evaluate screen blockage and sources of continued debris within containment could lead to further

containment sump degradation and make ECCS systems inoperable.

This finding affected the mitigating systems cornerstone and is more than minor because it had the potential to adversely impact equipment availability and reliability for multiple ECCS systems which are designed to respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was of very low safety significance (Green) because subsequent engineering evaluations concluded that the adverse sump conditions would not cause an actual loss of safety function.

Inspection Report# : [2003005\(pdf\)](#)

---

## Barrier Integrity

**G**

**Significance:** Sep 30, 2004

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Perform Testing of the Reactor River Water Pumps in Accordance with ASME OM Code**

The inspectors identified a self-revealing non-cited violation of 10 CFR 50.55a.(f)(4)(ii) "Codes and Standards" which requires, in part, that testing of safety-related pumps meet the requirements of the American Society of Mechanical Engineers (ASME) Operation and Maintenance (OM) Code. Contrary to this requirement, AmerGen did not perform quarterly Inservice Testing (IST) of the reactor river water (RR) pumps in accordance with the ASME OM-6 Code. Specifically, the quarterly test procedure did not set pump differential pressure (d/p) or flow at a reference value which was readily duplicated during subsequent tests. Additionally, the test throttle valve position, which could significantly influence pump d/p, was not monitored, documented or analyzed. The inspectors determined that over the last five years, the quarterly RR pump test was not in accordance with the Code and would not have detected a degraded pump hydraulic condition.

This issue is more than minor because it affected the Barrier Integrity cornerstone objective and the containment barrier performance attribute. Failure to test the pumps in accordance with the code did not ensure the availability of the RR system's safety function to provide containment cooling and pressure suppression in the event of a design basis accident. However, because full flow testing had been satisfactorily conducted in November 2003 and testing performed subsequent to the identification of the issue determined that the pumps were operable, this violation was determined to have a very low safety significance. Corrective actions included revision of the test method to meet code requirements as documented in Issue Report 244066.

Inspection Report# : [2004004\(pdf\)](#)

**G**

**Significance:** Dec 31, 2003

Identified By: Self Disclosing

Item Type: NCV NonCited Violation

### **Failure to Evaluate and Correct Reactor Coolant System Pressure Boundary Leak in a Timely Manner**

A self-revealing non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," was identified for failure to identify and correct reactor coolant system (RCS) pressure boundary leakage in a timely manner. Failure to identify the leakage during the previous refueling outage resulted in continued RCS barrier degradation and power operation from November 2001 until October 2003 with non-isolable RCS strength boundary leakage.

The issue is more than minor because it adversely affected the barrier integrity cornerstone in that it reduced the likelihood that the physical RCS design barrier would protect the public from radio nuclide releases. In addition, if left uncorrected, the issue could become a more significant safety concern (i.e., RCS inventory loss). The inspectors determined this finding is of very low safety significance (Green) because the RCS leakage was small, the likelihood of a rapid increase in RCS leak rate was small due to the robust cover plate design, the remaining mitigation functions were unaffected, and the containment barrier remained fully functional to prevent radio nuclide release to the public.

Inspection Report# : [2003005\(pdf\)](#)

**G**

**Significance:** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

### **Failure to Identify and Correct Boric Acid Corrosion of Reactor Building Containment Liner and Protective Moisture Barrier**

The inspectors identified a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action," for failure to implement proper corrective actions to prevent corrosion of the containment liner. The corrosion resulted in reduced liner wall thickness that exceeded the ASME XI acceptance criteria.

This issue affected the barrier integrity cornerstone and is more than minor because the condition impacted configuration control in that containment barrier wall thickness design parameters were not maintained. In addition, if left uncorrected, the condition could have affected the availability and reliability of the safety-related containment liner to protect the public from radio nuclide release. This finding is of very low significance since the issue did not involve an actual open pathway in the physical integrity of the containment.

Inspection Report# : [2003005\(pdf\)](#)

**G****Significance:** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Maintain Structural Design Clearances Inside Reactor Building Containment**

The inspectors identified a non-cited violation for failure to comply with 10 CFR 50, Appendix B, Criterion X, "Inspection." This violation involved the installation of a floor grating for a permanent structure inside the containment that did not meet the required separation distance to the containment liner per structural drawing 421054. Station personnel failed to identify this degraded condition during containment inspections. The inadequate structural clearance increased the likelihood that the safety-related containment liner would be damaged during a postulated seismic event.

This finding affected the barrier integrity cornerstone and is more than minor because the condition impacted configuration control in that the containment design parameter for clearance between structures and the containment liner was not maintained. In addition, if left uncorrected, the condition could have affected the availability and reliability of the safety-related containment liner to protect the public from radio nuclide release. The finding is of very low safety significance because the issue did not involve an actual open pathway in the physical integrity of the containment.

Inspection Report# : [2003005\(pdf\)](#)**G****Significance:** Dec 31, 2003

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Properly Perform Reactor Building Engineering Containment Coating Inspections**

The inspectors identified a non-cited violation of technical specification 6.8.1.a for failure to properly perform inspections to assess the overall health of coatings inside the containment as required by procedure EP-055T. This issue reflected deficient human performance and problem identification because the applicable station procedure was not used and numerous existing degraded containment coating conditions were not identified. The inspectors subsequently identified various degraded containment coating issues. Corrective actions included a complete reinspection of containment coatings, which resulted in identification and evaluation of 127 coating indications.

This finding is greater than minor because it affected the barrier integrity cornerstone and if left uncorrected, the condition could have degraded further and affected the operability of the safety-related containment sump and liner. The finding is of very low safety significance since the issue did not involve an actual open pathway in the physical integrity of the containment or an actual blockage of the containment sump.

Inspection Report# : [2003005\(pdf\)](#)

---

## Emergency Preparedness

---

## Occupational Radiation Safety

---

## Public Radiation Safety

---

## Physical Protection

[Physical Protection](#) information not publicly available.

---

## Miscellaneous

Last modified : December 29, 2004