

# Oyster Creek

## 4Q/2006 Plant Inspection Findings

---

### Initiating Events

**Significance:**  Dec 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Clearance Activity Performed Out of Sequence And Causes Trip of 'A' Shutdown Cooling Pump**

A self-revealing finding was identified regarding inadequate procedure adherence when work activities on the 480 V '1A2' switchgear during 1R21 refueling outage resulted in a trip of a reactor building closed cooling water (RBCCW) and shutdown cooling (SDC) pump on October 22, 2006. Specifically, the steps in the clearance order were performed out of sequence. This finding was determined to be a non-cited violation of technical specification 6.8.1a, "Procedures and Programs." AmerGen's corrective actions for this issue involved re-mediating the operators involved; and senior management lead training sessions with all operations personnel which reviewed management's expectations for use of error prevention tools such as procedural compliance, peer checking, and questioning attitude.

The finding was more than minor because it was associated with the configuration control attribute of the initiating events cornerstone and affected the objective to limit the likelihood of events that upset plant stability and challenge critical safety functions during shutdown operations. This finding was evaluated using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process," attachment 1, checklist 7 because it occurred during a refuel outage and reactor coolant system level in the reactor vessel was greater than 23 feet. The finding was of very low safety significance because the issue did not degrade the licensee's ability to recover decay heat removal once it was lost. The performance deficiency had a cross-cutting aspect in the area of human performance because operators did not follow procedures. (Section 1R20)  
Inspection Report# : [2006005](#) (*pdf*)

**Significance:**  Sep 30, 2006

Identified By: Self-Revealing

Item Type: FIN Finding

#### **Inadequate Work Planning Results in #1 Air Compressor Trip**

A self-revealing finding was identified when AmerGen did not implement adequate work planning to ensure the availability and reliability of the #1 air compressor. This resulted in a trip of the air compressor on September 7, 2006. This finding was determined not to be a violation of NRC requirements. AmerGen's corrective actions included repairing the air compressor by replacing several valves internal to the air compressor.

The finding was more than minor because it was associated with the equipment performance attribute of the initiating events cornerstone and affected the objective to limit the likelihood of those events that upset plant stability and challenge critical safety functions during power operation. In accordance with Inspection Manual Chapter (IMC) 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined that a detailed Phase 2 evaluation was required to assess the safety significance because the finding contributed to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The finding was determined to be of very low safety significance based upon a Phase 2 evaluation. The performance deficiency had a human performance cross-cutting aspect. (Section 1R12)  
Inspection Report# : [2006004](#) (*pdf*)

**Significance:**  Jun 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

#### **Failure to Follow Procedures Results in a Hydrogen Detonation in Augmented Offgas System**

A self-revealing finding was identified regarding inadequate procedure adherence when operators did not properly

implement an alarm response procedure which contributed to a hydrogen detonation and the isolation of the offgas and augmented offgas (AOG) and systems on February 13, 2006. This finding was determined to be a non-cited violation of technical specification 6.8.1a, "Procedures and Programs." AmerGen's corrective actions involved providing training to operations personnel on this event and communicating expectations regarding procedure usage.

The finding was more than minor because it was associated with the human performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the likelihood of those events that upset plant stability during shutdown as well as power operations. The inspectors conducted a significance determination process (SDP) Phase 1 screening in accordance with Inspector Manual Chapter (IMC) 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." The finding was of very low safety significance (Green) because the finding did not contribute to both the likelihood of a reactor trip and the likelihood that mitigation equipment would not be available. The performance deficiency has a human performance cross-cutting aspect. (Section 40A3)

Inspection Report# : [2006003](#) (*pdf*)

**Significance:**  Apr 24, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**Failure to Identify That a Main Steam Isolation Valve Did Not Close Within TS Surveillance Acceptance Criteria**

The inspectors identified a Green NCV of 10CFR50, Appendix B, Criterion XVI, "Corrective Action," for the failure to identify that the "A" outboard main steam isolation valve (MSIV) did not stroke closed within the allowable time specified in the surveillance test procedure in February 2006. As a result of not recognizing that the valve did not meet stroke time acceptance criteria, the plant was started up with an inoperable MSIV. This was found by the inspectors during a review of data from a test performed in May 2006 during a forced outage. In May 2006, the same valve again failed to stroke closed in the allowable time; however, the station operators recognized the problem this time. The valve closing mechanism was adjusted before the plant was started up in May 2006. The failure to identify the failure in February 2006 was entered into the licensee's CAP.

The finding is more than minor and is similar to an example described in NRC Inspection Manual Chapter (IMC) 0612, Appendix E, because when the closure time for the February 2006 test was calculated correctly, a Technical Specification (TS) limit was exceeded. The finding is associated with the equipment performance attribute of the Initiating Events cornerstone; in that, the fast closure of the MSIV challenged the reactor vessel integrity and increased the potential for a loss of coolant accident. The finding was determined to be of very low safety significance (Green) because the finding would neither result in exceeding the TS limit for identified reactor coolant system leakage nor would the finding have affected other mitigation systems resulting in a total loss of their safety function. The finding has a cross-cutting aspect in the area of human performance due to inattention to detail by the personnel performing the surveillance test procedure. (Section 40A2.1.b)

Inspection Report# : [2006006](#) (*pdf*)

**Significance:**  Mar 31, 2006

Identified By: Self-Revealing

Item Type: FIN Finding

**Untimely Corrective Actions Causes Unplanned Power Reduction Due to 'A' Feedwater Packing Leakage**

A self-revealing finding was identified regarding untimely corrective actions when packing on the 'A' feedwater regulating valve failed on February 10, 2006, and resulted in an upset of plant stability. This finding was determined not to be a violation of NRC requirements. AmerGen's corrective actions involved repairing the valve and replacing the packing.

This finding was more than minor because it was associated with the equipment performance attribute of the initiating events cornerstone and affected the cornerstone objective to limit the likelihood of those events that challenge plant stability during power operation. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Operations," the inspectors conducted a Phase 1 SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue does not contribute to both the likelihood of a reactor trip and unavailability of mitigating equipment. The performance deficiency had a problem identification and resolution cross-cutting aspect. (Section 1R12)

Inspection Report# : [2006002](#) (*pdf*)

## Mitigating Systems

**Significance:**  Dec 31, 2006

Identified By: NRC

Item Type: FIN Finding

### **Inadequate Operability Determination Associated With Elevated Isolation Condenser Shell Temperatures**

The inspectors identified that AmerGen did not perform an adequate operability determination to assure the 'A' isolation condenser (IC) could meet its design bases requirements with elevated shell temperatures on October 6, 2006. This finding was determined not to involve a violation of regulatory requirements. AmerGen's corrective actions included repairing the valve, operator training on operability determinations, and revising procedures and calculations.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. This finding is also similar to more than minor example 3.I in NRC Inspection Manual Chapter 0612, Appendix E, "Examples of Minor Issues," in that calculations had to be re-performed to assure design requirements were met. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue was not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function for a single train of equipment for a period of time greater than allowed by technical specifications, did not result in an actual loss of safety function of non-technical specification equipment considered risk significant in the maintenance rule program for greater than 24 hours, and was not screened as potentially risk significant from external events. This performance deficiency had a cross-cutting aspect in the area of problem identification and resolution because AmerGen did not thoroughly evaluate a problem for operability. (Section 1R15)

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

**Significance:**  Dec 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Inadequate Procedure Implementation Results in Loss of Power to the 'B' 125V DC Distribution Center**

A self revealing finding was identified regarding inadequate procedure implementation when the 'B' 125 VDC battery main breaker was inadvertently operated and resulted in a loss of power to the 'B' DC distribution center on October 10, 2006. This finding was determined to be a non-cited violation of technical specification 6.8.1, "Procedures and Programs." AmerGen's corrective actions included disqualifying and re-mediating the operators involved, re-communicating management's expectations that self and peer checks and other error prevention tools should be utilized, and revising the operating procedure.

The finding was more than minor because it was associated with the human performance attribute of the mitigating systems cornerstone and affected the objective to maintain the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with Inspection Manual Chapter (IMC) 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue was not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function for a single train of equipment for greater than allowed by technical specifications, did not result in an actual loss of safety function of one or more non-technical specification trains of equipment considered risk significant in the maintenance rule program for greater than 24 hours, and was not screened as potentially risk significant from external events. The performance deficiency had a cross-cutting aspect in the area of human performance because operations personnel did not properly utilize human error prevention techniques such as self and peer checking. (Section 4OA3)

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

**G****Significance:** Sep 30, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

**Fire Protection Plan Requirements Not Implemented**

The inspectors identified that AmerGen did not implement fire protection plan requirements on August 17, 2006. Specifically, AmerGen did not identify that a low pressure condition existed on the 4160 Volt carbon dioxide (CO<sub>2</sub>) suppression system which resulted in the system being inoperable, and a continuous fire watch was not established in accordance with fire protection procedures. This finding was determined to be a non-cited violation of License Condition 2.C(3), "Fire Protection." AmerGen's proposed corrective actions included changing the analog gauge to a digital gauge, implementing an alarm response procedure for the local alarm, and operator training on proper gauge reading.

The finding was more than minor because it was associated with the protection against external factors (fires) attribute of the mitigating systems cornerstone and affected the objective to maintain the reliability and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix F, "Fire Protection Significance Determination Process," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue was assigned a degradation rating of low since the fire protection program element would have only minimally impacted the reliability and performance of the system. The performance deficiency had a human performance cross-cutting aspect. (Section 1R05)

Inspection Report# : [2006004](#) (*pdf*)**G****Significance:** Sep 30, 2006

Identified By: Self-Revealing

Item Type: FIN Finding

**Inadequate Foreign Material Control Results in #1 Emergency Diesel Generator Unavailability**

A self-revealing finding was identified regarding inadequate foreign material control during performance of a maintenance activity on the #1 emergency diesel generator (EDG) on July 10, 2006. During performance of vibration data collection, a vibration probe cable became entangled with the shaft of the EDG intake air bin blower, resulting in the unit being secured, and the EDG being unavailable for inspection and retrieval of foreign material. This finding was determined not to involve a violation of NRC requirements. AmerGen's corrective actions included taking the EDG out of service to remove all foreign material, and a subsequent post maintenance test to verify operability of the EDG.

The finding was more than minor because it was associated with the human performance attribute of the mitigating systems cornerstone and affected the objective to maintain the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue was not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function for a single train of equipment for a period of time greater than allowed by technical specifications, did not result in an actual loss of safety function of equipment considered risk significant in the maintenance rule program for greater than 24 hours, and was not screened as potentially risk significant for external events. The performance deficiency had a human performance cross-cutting aspect. (Section 1R22)

Inspection Report# : [2006004](#) (*pdf*)**G****Significance:** Sep 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

**Untimely Corrective Actions for the 'A' ESW pump breaker**

A self-revealing finding was identified when AmerGen did not take timely corrective actions for a degraded condition on the 'A' emergency service water (ESW) pump. Specifically, a corrective action identified in February 2006 was not completed in a timely manner and resulted in the pump not starting on July 14, 2006. This finding was determined to be a non-cited violation of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." AmerGen's corrective actions included performing resistance checks on the contacts which could impact proper operation of the other ESW pump breakers.

The finding was more than minor because it was associated with the equipment performance attribute of the mitigating systems cornerstone and affected the objective to maintain the reliability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue was not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function for a single train of equipment for a period of time greater than allowed by technical specifications, did not result in an actual loss of safety function of non-technical specification equipment considered risk significant in the maintenance rule program for greater than 24 hours, and was not screened as potentially risk significant from external events. The performance deficiency had a problem identification and resolution cross-cutting aspect. (Section 1R22)

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

**Significance:**  Jun 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Inadequate Scaffold Disassembly Results in Core Spray Booster Pump Unavailability**

A self-revealing finding was identified regarding an inadequate disassembly of scaffold which resulted in the unavailability of the 'B' core spray booster pump on June 27, 2006. During disassembly of a scaffold, a scaffold coupler fell and damaged the 'B' core spray booster pump's trico oiler reservoir. This finding was determine to be a non-cited violation of technical specification 6.8.1a, "Procedures and Programs." AmerGen's corrective actions included communicating this event to maintenance personnel and enhancing the pre-job walkdown checklist to identify potential hazards.

The finding was more than minor because it was associated with the human performance attribute of the mitigating systems cornerstone and affected the objective to maintain the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue was not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function for a single train of equipment for greater than allowed by technical specifications, did not result in an actual loss of safety function of one or more non-technical specification trains of equipment considered risk significant in the maintenance rule program for greater than 24 hours, and was not screened as potentially risk significant from external events. The performance deficiency has a human performance cross-cutting aspect. (Section 1R12)

Inspection Report# : [2006003](#) (*pdf*)

**Significance:**  Mar 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **'D' ESW Pump Start Failure**

A self-revealing finding was identified regarding inadequate procedure quality when the 'D' emergency service water (ESW) pump did not start on December 19, 2005. A preventive maintenance procedure was not adequate to identify a degraded condition associated with a contact in the pump's circuit breaker prior to placing the breaker in service. This finding was determined to be a non-cited violation of 10 CFR 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings." AmerGen's corrective actions included revising the procedure to ensure that resistance checks are performed on the contacts which could impact proper operation of the ESW pump breakers.

The finding was more than minor because it was associated with the procedure quality attribute of the mitigating systems cornerstone and affected the objective to maintain the reliability of systems that respond to initiating events to prevent undesirable consequences. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance because the issue was not a design or qualification deficiency that resulted in a loss of function, did not result in an actual loss of safety function for a single train of equipment for greater than allowed by technical specifications, did not result in an actual loss of safety function of non-technical specification equipment considered risk significant in the maintenance rule program for greater than 24 hours, and

was not screened as potentially risk significant from external events. The performance deficiency had a human performance cross-cutting aspect. (Section 1R12)

Inspection Report# : [2006002](#) (*pdf*)

---

## Barrier Integrity

**Significance:**  Jun 30, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### Untimely Corrective Actions for the Standby Gas Treatment System

A self-revealing finding occurred when AmerGen did not take timely corrective actions for a non-conforming condition on the standby gas treatment (SBGT) system between March 2005 and May 2006. Specifically, sand and debris were identified in the SBGT system '1' due to a hole in the system ductwork. This finding was determined to be a non-cited violation (NCV) of 10 CFR 50, Appendix B, Criterion XVI, "Corrective Action." AmerGen's corrective actions included a permanent modification which involved installing an aluminum sleeve inside the ductwork to correct the condition.

The finding was more than minor because it was associated with the barrier performance attribute of the barrier integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that physical design barriers protect the public from radio nuclide releases caused by accidents or events. In accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations," the inspectors conducted a Phase I SDP screening and determined the finding to be of very low safety significance (Green). The finding was of very low safety significance (Green) because the finding only represents a degradation of the radiological barrier function provided for the SBGT system. The performance deficiency has a problem identification and resolution cross-cutting aspect. (Section 1R12)

Inspection Report# : [2006003](#) (*pdf*)

---

## Emergency Preparedness

**Significance:** N/A Jun 12, 2006

Identified By: NRC

Item Type: FIN Finding

### NRC Emergency Preparedness 95002 Supplemental Inspection

The NRC performed this supplemental inspection, in accordance with Inspection Procedure 95002, to assess the licensee's evaluation and corrective actions associated with two White findings. This inspection also included an independent extent of condition and extent of cause review of issues related to the White findings. The two findings, which were in the EP Cornerstone, placed the performance of Oyster Creek into the Degraded Cornerstone Column of the NRC's Action matrix for the third quarter 2005. The first White finding involved an inaccurate EAL threshold value used for making a GE declaration. That White finding was evaluated and closed in Supplemental Inspection Report 05000219/2005007.

The second White finding involved operators not recognizing during an actual event that plant parameters met the EAL thresholds for declaring a UE and a subsequent Alert. In consideration of the NRC work already completed in the above listed prior inspection, this supplemental inspection primarily focused on the second White finding, and the combined assessment of the two White findings that resulted in the Degraded EP Cornerstone.

### August 2005 Event Analysis and Corrective Actions (Second White Finding)

AmerGen determined that the root cause of the event was that operations senior management failed to consistently reinforce strict compliance with human performance and EP fundamentals. AmerGen also identified several causal factors and contributing causes associated with EP and issued corrective actions to prevent recurrence. The completed corrective actions associated with the EP deficiencies appeared to be effective.

However, the human performance issues related to procedural compliance were determined to be a primary causal factor that led to the performance problems identified during the August 2005 event response. The inspectors determined, despite the corrective actions taken and the time available for the actions to become effective, that licensed operators continued to demonstrate weaknesses associated with understanding of management expectations and site requirements for procedural use and adherence. The inspectors based this conclusion on information obtained during interviews with multiple licensed operators and on review of NRC-identified procedural usage issues during recent operating events. (Section 02.03)

As a result, the White finding associated with the August 2005 event will remain open pending completion of an additional follow-up NRC inspection to review additional AmerGen corrective actions to improve the licensed operators' knowledge of and adherence to procedural usage requirements.

#### Summary of Combined Review

The inspectors performed a collective assessment of the July 2004 event and the August 2005 event to determine if a commonality existed between the two events. For the first event, a process was not used; whereas for the second event, the procedure was used, but not strictly followed. Though somewhat similar, AmerGen determined the causes for the events were different; therefore, no additional corrective actions were necessary. The team reviewed the two events, discussed the root causes with AmerGen personnel, and concluded that AmerGen's collective evaluation for the multiple performance issues was adequate.

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

**Significance:** **W** Sep 23, 2005

Identified By: NRC

Item Type: VIO Violation

#### **EAL Matrix Not Reviewed For Declaring an Alert**

An NRC-identified notice of violation (NOV) of 10 CFR 50.47(b)(4) was identified. This NOV, which has low to moderate safety significance, occurred because the Oyster Creek E-Plan EAL matrix was not properly utilized to determine if a plant parameter met the EAL threshold for declaring an emergency classification. This resulted in not recognizing during an actual event, that plant parameters met the EAL thresholds for declaring a UE and a subsequent Alert. Immediate corrective actions were taken in which shift crews were retrained on the implementation of E-Plan requirements.

The finding is greater than minor because it is associated with the EP cornerstone attribute of response organization (RO) performance (actual event response). It affects the cornerstone objective of ensuring the capability to implement measures to protect the health and safety of the public during an emergency. The licensee did not use the Oyster Creek E-Plan EAL matrix when plant parameters met the EAL thresholds for declaring a UE and a subsequent Alert. As a consequence, both the onsite and offsite EROs were not activated during actual Alert conditions. Had the event degraded further, the onsite ERO would not have been readily available to assist in the mitigation of the event and the offsite agencies could have been prevented from taking initial offsite response measures. This finding is of low to moderate safety significance because it constituted a failure to implement a Risk Significant Planning Standard during an actual event in which plant conditions met an Alert. The cause of the finding is related to the cross-cutting element of human performance (personnel).

Inspection Report# : [2005011](#) (*pdf*)

---

## Occupational Radiation Safety

**Significance:** **G** Mar 31, 2006

Identified By: NRC

Item Type: NCV NonCited Violation

#### **Inadequate Administrative Control of High Radiation Area Keys**

The inspectors identified that AmerGen did not properly implement administrative controls for locked high radiation area (HRA) access keys maintained under the control of operations personnel. This finding was determined to be a non-cited violation of technical specification 6.13.2, "High Radiation Area." As of the end of this inspection period, AmerGen was

determining the appropriate corrective actions for this issue.

The finding was more than minor because it was associated with the program and process attribute of the occupational radiation safety cornerstone and affected the objective to ensure the adequate protection of the worker health and safety from exposure to radiation from radioactive material during routine civilian nuclear reactor operation. The finding was evaluated using IMC 0609, Appendix C, "Occupational Radiation Safety Significance Determination Process," because it was an exposure control issue. The inspectors determined the finding to be of very low safety significance (Green) because it did not involve an As Low As Reasonably Achievable (ALARA) finding, it did not involve an overexposure, there was no substantial potential for an overexposure, and the ability to assess dose was not compromised. The performance deficiency had a problem identification and resolution cross-cutting aspect. (Section 2OS1)

Inspection Report# : [2006002](#) (pdf)

---

## Public Radiation Safety

**Significance:**  Apr 24, 2006

Identified By: NRC

Item Type: FIN Finding

### **Failure to Take Timely Corrective Actions to Ensure the Availability and Reliability of the Augmented Off-Gas System**

The inspectors identified a Green Finding for the failure to take timely actions to correct known deficiencies associated with the augmented off-gas (AOG) system, which impacted the system's reliability and availability since October 2003. In 2003, Oyster Creek performed a Common Cause Analysis (CCA) due to multiple equipment issues and system trips of the AOG system. The CCA recommended four system enhancements and also that routine preventive maintenance was necessary to address some of the deficiencies which had contributed to system unavailability. The preventative maintenance tasks were developed; however, none of the recommended system enhancements were completed. From 2003 to September 2005, the "B" train of AOG system was unavailable due to the degraded condition of the recombiner bed. When "B" train was returned to service in October 2005, it operated intermittently until February 13, 2006, when a hydrogen detonation rendered the "B" train unavailable. Oyster Creek completed a second CCA which identified the same enhancements that had been recommended in 2003. A system improvement plan was prepared to address how the plant was going to resolve the issues in the upcoming years. This performance deficiency was entered into the licensee's CAP.

The finding is more than minor because it is associated with the plant equipment attribute of the Public Radiation Safety cornerstone and affected the objective to ensure adequate protection of public health and safety from exposure of radioactive materials released into the public domain as a result of routine civilian nuclear plant operation. The finding was determined to be of very low safety significance (Green) because there was no radiological release associated with the event. The finding has a cross-cutting aspect in the area of problem identification and resolution due to the failure to take timely corrective actions to minimize the unavailability and unreliability of the AOG system. (Section 4OA2.3.b)

Inspection Report# : [2006006](#) (pdf)

**Significance:**  Mar 31, 2006

Identified By: Self-Revealing

Item Type: NCV NonCited Violation

### **Unauthorized Unmonitored Effluent Discharge to the Environment**

A self-revealing finding was identified regarding inadequate procedure adherence when work activities on the main condenser during a forced maintenance outage resulted in an unauthorized, unmonitored effluent discharge to the environment between January 31 and February 2, 2006. This finding was determined to be a non-cited violation of technical specification 6.8.1a, "Procedures and Programs." As of the end of this inspection period, AmerGen was determining the appropriate corrective actions for this issue.

The finding was more than minor because it was associated with the program and process attribute of the public radiation safety cornerstone and affected the objective to ensure adequate protection of public health and safety from exposure to radioactive materials released into the public domain as a result of routine civilian nuclear reactor operation. This finding

was evaluated using IMC 0609, Appendix D, "Public Radiation Safety Significance Determination Process," because it was a radioactive effluent release program issue. The inspectors determined the finding to be of very low safety significance (Green) because AmerGen was able to assess the dose from the release of the radioactive effluent and the radiological release associated with the event was not greater than 10 CFR 50 Appendix I, "Numerical Guides for Design Objectives for Operation to Meet the Criterion 'As Low As Is Reasonably Achievable' for Radioactive Material in Light -Water-Cooled Nuclear Power Reactor Effluents" or 10 CFR 20.1301(d), "Dose Limits for Individual Members of the Public," regulatory limits. The performance deficiency had a human performance cross-cutting aspect. (Section 1R20)

Inspection Report# : [2006002](#) (*pdf*)

---

## Physical Protection

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

---

## Miscellaneous

**Significance:** N/A Apr 24, 2006

Identified By: NRC

Item Type: FIN Finding

### Identification and Resolution of Problems

The team concluded that the implementation of the corrective action program (CAP) at Oyster Creek was generally adequate, and improving compared to documented inspection results since the last team inspection of the corrective action program in May 2004. The team determined that Oyster Creek had a low threshold for identifying problems and entering them in the CAP; however, the station did not always recognize that individual problems could be indicative of a larger performance issue. In addition, the station did not consistently use trend data to identify potential problems, as evidenced by two examples where opportunities to prevent failures existed but were not acted upon. Once entered into the system, items were screened and prioritized in a timely manner using established criteria. Items entered into the CAP were properly evaluated commensurate with their safety significance. However, documentation supporting conclusions in several causal evaluations and the operability determinations was weak. Corrective actions were typically implemented in a timely manner. Licensee audits and self-assessments were generally critical at identifying problems. On the basis of interviews conducted during the inspection, workers at the site expressed freedom to enter safety concerns into the CAP.

There was one Green NCV and one Green Finding identified by the inspectors during this inspection. The NCV was associated with the failure to identify that a main steam isolation valve (MSIV) closed too fast during a surveillance test; as a result the plant was started up with an MSIV exhibiting a closure time outside the specified acceptance criteria. The Finding was associated with a failure to take timely corrective actions for repetitive deficiencies in the augmented off-gas system, impacting the system's reliability and availability.

Inspection Report# : [2006006](#) (*pdf*)

Last modified : March 01, 2007