

November 7, 2005

Mr. Christopher M. Crane  
President and CEO  
AmerGen Energy Company, LLC  
200 Exelon Way, KSA 3-E  
Kennett Square, PA 19348

SUBJECT: OYSTER CREEK GENERATING STATION - NRC INTEGRATED INSPECTION  
REPORT 05000219/2005004

Dear Mr. Crane:

On September 30, 2005, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Oyster Creek Generating Station. The enclosed integrated inspection report documents the inspection findings, which were discussed on October 13, 2005, with Mr. C. N. Swenson and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

Based on the results of this inspection, one finding was identified as having very low safety significance (Green) that involved a violation of NRC requirements. However, because of the very low safety significance and because it was entered into your Corrective Action Program, the NRC is treating this finding as a non-cited violation consistent with Section VI.A of the NRC's Enforcement Policy. If you contest this NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, NRC, Washington, DC 20555-0001; and the NRC Resident Inspector at Oyster Creek.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Mr. Christopher M. Crane

2

We appreciate your cooperation. Please contact me at (610) 337-5200 if you have any questions regarding this letter.

Sincerely,

**/RA/**

Ronald R. Bellamy, Ph.D., Chief  
Projects Branch 7  
Division of Reactor Projects

Docket No. 50-219  
License No. DPR-16

Enclosure: Inspection Report 05000219/2005004  
w/Attachment: Supplemental Information

cc w/encl:

Chief Operating Officer, AmerGen  
Site Vice President, Oyster Creek Nuclear Generating Station, AmerGen  
Plant Manager, Oyster Creek Generating Station, AmerGen  
Regulatory Assurance Manager, Oyster Creek, AmerGen  
Senior Vice President - Nuclear Services, AmerGen  
Vice President - Mid-Atlantic Operations, AmerGen  
Vice President - Operations Support, AmerGen  
Vice President - Licensing and Regulatory Affairs, AmerGen  
Director Licensing, AmerGen  
Manager Licensing - Oyster Creek, AmerGen  
Vice President, General Counsel and Secretary, AmerGen  
T. O'Neill, Associate General Counsel, Exelon Generation Company  
J. Fewell, Assistant General Counsel, Exelon Nuclear  
Correspondence Control Desk, AmerGen  
J. Matthews, Esquire, Morgan, Lewis & Bockius LLP  
Mayor of Lacey Township  
K. Tosch, Acting Assistant Director of Radiation Programs, State of New Jersey  
Chief, Bureau of Nuclear Engineering, NJ Dept. of Environmental Protection  
R. Shadis, New England Coalition Staff  
N. Cohen, Coordinator - Unplug Salem Campaign  
W. Costanzo, Technical Advisor - Jersey Shore Nuclear Watch  
E. Gbur, Chairwoman - Jersey Shore Nuclear Watch  
E. Zobian, Coordinator - Jersey Shore Anti Nuclear Alliance

Distribution w/encl: (VIA E-MAIL)

- S. Collins, RA
- M. Dapas, DRA
- R. Bellamy, DRP
- R. Fuhrmeister, DRP
- A. Rosebrook, DRP
- M. Ferdas, DRP, Senior Resident Inspector
- S. Kennedy, DRP, Acting Senior Resident
- J. Herrera, DRP, Resident Inspector
- A. Patel, DRP, Acting Resident Inspector
- J. DeVries, DRP, Resident OA
- S. Lee, RI OEDO
- R. Laufer, NRR
- P. Tam, PM, NRR
- T. Colburn, NRR
- J. Boska, NRR
- ROPreports@nrc.gov
- Region I Docket Room (with concurrences)

DOCUMENT NAME: E:\Filenet\ML053110028.wpd

**SISP Review Complete: RRB (Reviewer's Initials)**

After declaring this document "An Official Agency Record" it **will** be released to the Public.

To receive a copy of this document, indicate in the box: "C" = Copy without attachment/enclosure  
"E" = Copy with attachment/enclosure "N" = No copy

OFFIC E	RI/DRP	RI/DRP	RI/DRP	RI/DRP
NAME	SKennedy/RRB for	ARosebrook/RRB for	RFuhrmeister/ RLF	RBellamy/RRB
DATE	11/04/05	11/04/05	11/04/05	11/04/05

OFFICIAL RECORD COPY

**U. S. NUCLEAR REGULATORY COMMISSION**

**REGION I**

Docket No.: 50-219

License No.: DPR-16

Report No.: 05000219/2005004

Licensee: AmerGen Energy Company, LLC (AmerGen)

Facility: Oyster Creek Generating Station

Location: Forked River, New Jersey

Dates: July 01, 2005 - September 30, 2005

Inspectors: Silas Kennedy, Acting Senior Resident Inspector  
Jeffrey Herrera, Resident Inspector  
Amar Patel, Acting Resident Inspector  
Andrew Rosebrook, Project Engineer  
Stephen Pindale, Senior Reactor Inspector  
Karl Diederich, Reactor Inspector  
Ronald Nimitz, Senior Health Physicist

Approved By: Ronald R. Bellamy, Ph.D., Chief  
Projects Branch 7  
Division of Reactor Projects

# CONTENTS

SUMMARY OF FINDINGS .....	iii
REACTOR SAFETY .....	1
1R01 Adverse Weather Protection .....	1
1R04 Equipment Alignment .....	2
1R05 Fire Protection .....	2
1R07 Heat Sink Performance .....	4
1R11 Licensed Operator Requalification .....	5
1R12 Maintenance Rule Implementation .....	5
1R13 Maintenance Risk Assessment and Emergent Work Evaluation .....	6
1R14 Personnel Performance During Non-routine Plant Evolutions .....	6
1R15 Operability Evaluations .....	7
1R16 Operator Work-Arounds .....	8
1R19 Post-Maintenance Testing .....	8
1R22 Surveillance Testing .....	9
1R23 Temporary Plant Modifications .....	11
1EP6 Drill Evaluation .....	12
RADIATION SAFETY .....	12
2OS1 Access Control to Radiologically Significant Areas .....	12
2OS3 Radiation Monitoring Instrumentation and Protective Equipment .....	13
2PS2 Radioactive Material Processing and Transportation .....	14
OTHER ACTIVITIES (OA) .....	15
4OA2 Problem Identification and Resolution .....	15
4OA3 Event Follow-up .....	17
4OA4 Cross Cutting Aspects of Findings .....	19
4OA5 Other Activities .....	19
4OA6 Meetings, including Exit .....	19
SUPPLEMENTAL INFORMATION .....	A-1
KEY POINTS OF CONTACT .....	A-1
LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED .....	A-2
LIST OF DOCUMENTS REVIEWED .....	A-3
LIST OF ACRONYMS .....	A-7

## SUMMARY OF FINDINGS

IR 05000219/2005004; 07/01/05 - 09/30/05; Oyster Creek Generating Station; Surveillance Testing.

This report covers a 13-week period of inspection by the resident inspectors and announced inspections by four regional inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3 dated July 2000.

### A. NRC-Identified and Self-Revealing Findings

Cornerstone: Barrier Integrity

- Green. A self-revealing non-cited violation (NCV) of Technical Specification (TS) 3.5.A.3 was identified for AmerGen's failure to maintain primary containment penetration integrity. On July 12, 2005, while conducting a primary containment isolation valve surveillance for the nitrogen supply system, the operators failed to adequately evaluate an unexpected indication on the drywell makeup flow recorder. Without pursuing other potential causes, AmerGen concluded that the nitrogen supply system inboard containment isolation valve was leaking by its closed seat and declared the inboard containment isolation valve inoperable. However, on July 13, 2005, AmerGen found that the local leak rate test (LLRT) connection cap located between the two isolation valves was missing. This condition resulted in the outboard containment isolation valve being rendered functionally operable. Amergen's failure to adequately access the plant indications resulted in the primary containment penetration not being properly isolated for a period of time greater than the TS action statement (after discovery).

This finding is considered more than minor because it was associated with the configuration control attribute of the barrier integrity cornerstone and affected the cornerstone objective to provide reasonable assurance that containment will protect the public from radionuclide releases caused by accidents or events. The condition of concern is a failure of the inboard valve to isolate during a design basis accident. This violation has been determined to have a very low safety significance since there was not an actual open pathway in the physical integrity of reactor containment. This finding is related to the cross-cutting area of Human Performance. (Section 1R22)

### B. Licensee-Identified Violations

None.

## REPORT DETAILS

### Summary of Plant Status

Oyster Creek began the inspection period at 100% power. On July 14, 2005, power was reduced to 61% due to low vacuum conditions while backwashing the main condensers. Full power operation was restored on July 15, 2005. On July 26, 2005, Oyster Creek reduced power to 85% to maintain circulating water discharge temperature within limits. Oyster Creek returned to 100% power on July 27, 2005, but reduced power to 78% the same day again due to high circulating water discharge temperature. Full power operation was restored on July 28, 2005. On August 6, 2005, power was reduced to approximately 44% due to higher than normal levels of grassing at the intake structure, causing lowering water levels in the north intake bay. Full power operation was restored on August 8, 2005. On August 13, 2005, power was reduced to 56% due to high circulating water discharge temperature. Oyster Creek returned to 95% on August 14, 2005, but reduced power again to 44% due to high circulating water discharge temperatures. Full power was restored on August 15, 2005, and remained there through the end of the period.

### **1. REACTOR SAFETY**

Cornerstones: Initiating Events/Mitigating Systems/Barrier Integrity

#### 1R01 Adverse Weather Protection (71111.01 - Two Site Samples)

##### a. Inspection Scope

Two samples involving an actual adverse weather condition were selected for review by the inspectors. The inspectors observed the site preparations made by the licensee associated with Tropical Storm Cindy during the week of July 7, 2005. Prior to the arrival of the storm, the inspectors toured all outside plant areas including the switchyard, the fire diesel building, and the intake and dilution pump structures to verify that adequate protection of systems and components required for continued plant operation or safe shutdown would be maintained. A second sample involving hot weather alerts was selected by the inspectors during the week of July 16, 2005. The inspectors reviewed the licensee response to hot weather conditions in order to verify that their actions for protection of components required for continued operation or safe shutdown were maintained according to established procedures. Documents reviewed during this inspection are listed in the Attachment.

##### b. Findings

No findings of significance were identified.

Enclosure

#### 1R04 Equipment Alignment

##### a. Inspection Scope

###### Partial System Walkdown. (71111.04Q - Three Samples)

This activity represented three inspection samples. The inspectors performed three partial system walkdowns during this inspection period. To evaluate the operability of the selected systems, the inspectors checked for a correct valve lineup by comparing positions of valves with system drawings, as well as examining overall system material condition. The results of inspections, as well as minor deficient equipment conditions identified by the inspectors, were discussed with the appropriate system engineers and operations staff to ensure entry into the corrective action program. Documents reviewed during this inspection are listed in the Attachment.

This inspection activity involved the following systems:

- Emergency Service Water System #2 during recovery activities on north side of intake structure due to heavy grassing event on August 6, 2005
- 4160V 'C' Bus due to trip of 4160V 'D' bus tie breaker on August 25, 2005
- C Standby Gas Treatment System #1 during planned maintenance activity that affected Standby Gas Treatment System #2 during the week of August 17, 2005

##### b. Findings

No findings of significance were identified.

#### 1R05 Fire Protection

##### .1 Quarterly Sample Review (71111.05Q - Nine Samples)

##### a. Inspection Scope

This activity represented nine inspection samples. The inspectors walked down accessible portions of the nine fire zones noted below due to the potential impact to mitigating systems. Plant walkdowns included observations of combustible material control, fire detection and suppression equipment availability, and compensatory measures. As part of the inspection, the inspectors had discussions with fire protection personnel, and reviewed procedure 333, "Plant Fire Protection System," OP-AA-201-009, "Control of Transient Combustible Material," and the Oyster Creek Fire Hazards Analysis Report to verify that the fire program was implemented in accordance with all conditions stated in Oyster Creek's license.



- C RB-FZ-1C, 75' Elevation, Isolation Condenser Valves and Spent Fuel Pool Cooling System Area
- C RB-FZ-1D, 51' Elevation, Reactor Building Closed Cooling Water (RBCCW) Heat Exchanger and Pumps Area, Core Spray Booster Pump Area
- C OB-FZ-5, Control Room Complex , Elev. 46'-6"
- C OB-FZ-22A, New Cable Spreading Room (Mechanical Equipment Room), Elev. 63'-6"
- C TB-FA-3A, 4160V Emergency Switchgear (1C & 1D) Vaults
- C TB-FZ-11F, Feedwater Pumps, Elevs. 0'-6" and 3'-6"
- C MT-FA-12, Main Transformer and Condensate Area
- C FS-FA-16, Emergency Diesel Generator Fuel Storage Area
- C FW-FA-18, Fire Water Pump House

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill Observation (71111.05A - One Sample)

a. Inspection Scope

The inspectors observed one sample of personnel performance during a fire brigade drill on September 6, 2005, to evaluate the readiness of station personnel to prevent and fight fires. The drill simulated a fire in the Site Emergency Building. The inspectors observed the fire brigade members using protective clothing, turnout gear, and self-contained breathing apparatus. The inspectors also observed the fire fighting equipment brought to the fire scene to evaluate whether sufficient equipment was available to effectively control and extinguish the simulated fire. The inspectors evaluated whether the permanent plant fire hose lines were capable of reaching the fire area and whether hose usage was adequately simulated. The inspectors verified that the preplanned drill scenario was followed and observed the post drill critique to evaluate if the drill objectives were satisfied and that any drill weaknesses were discussed. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07B - Two Samples)a. Inspection Scope

Based on a plant specific risk assessment, past inspection results, and recent operational experience, the inspectors selected a sample of two sets of heat exchangers (HXs), the Isolation Condensers (IC) and the Turbine Building Closed Cooling Water (TBCCW). The Service Water (SW) system, which provides cooling to the TBCCW HXs, was also reviewed.

The IC system is part of a system unique to certain reactor plants that is used for heat removal as well as inventory control during certain plant events. The IC system is considered "significant to safety" and is risk significant, though not covered by Generic Letter 89-13. The inspectors reviewed the licensee's inspection, inventory control, and chemistry monitoring programs and results. The inspectors compared inspection data to established acceptance criteria to verify that the results were acceptable, and that operation was consistent with design. The inspectors walked down the selected heat exchangers to assess their material condition.

The inspectors also reviewed AmerGen's inspection, cleaning and performance monitoring of the TBCCW HXs, because the TBCCW system is a risk-significant system. The TBCCW HXs provide cooling to Turbine Building loads, including feed pump lube oil coolers, turbine lube oil coolers, and are cooled by service water. The inspectors compared inspection data to the established acceptance criteria to verify that the results were acceptable, and that operation was consistent with design. The inspectors walked down the selected heat exchangers to assess the material condition and proper functioning.

The inspectors verified that potential common cause heat sink performance problems that had the potential to increase risk were identified and corrected by AmerGen, and closely examined potential macro fouling (silt, debris) issues and biotic fouling issues. The inspectors walked down the service water intake, chlorination, and other parts of the service water system.

The inspectors reviewed a sample of condition reports (CRs) related to the IC and TBCCW HXs and the SW system to ensure that AmerGen was appropriately identifying, characterizing, and correcting problems related to these systems and components. Documents reviewed during this inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11Q - One Sample)a. Inspection Scope

This activity represented one inspection sample. This inspection assessed the Licensed Operator Requalification Training (LORT) provided to the Senior Reactor Operators (SRO) and the Reactor Operators (ROs) and the evaluation conducted on the simulator on August 3, 2005. The inspectors assessed the proficiency of the operating crew and verified that the evaluations of the crew identified and addressed operator performance issues. The inspection activity was performed using NUREG-1021, Rev. 8, "Operator Licensing Examination Standards for Power Reactors," and Inspection Procedure Attachment 71111.11, "Licensed Operator Requalification Program."

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12Q - Two Samples)a. Inspection Scope

This activity represented two inspection samples. The inspectors reviewed AmerGen's implementation of the maintenance rule as described in Oyster Creek procedure ER-AA-310, "Implementation of the Maintenance Rule." The inspectors verified that the selected Systems, Structures and/or Components (SSCs) were properly classified as (a)(1) or (a)(2) in accordance with 10 CFR 50.65. The inspectors reviewed Action Requests (ARs), (a)(1) corrective action plans and routine preventive maintenance activities. The inspectors also discussed the current system performance, associated issues and concerns, and planned activities to improve performance with the system engineers. In addition, equipment unavailability data was compared with control room log entries to verify accuracy of data and compliance with (a)(1) goals. The inspectors also reviewed AmerGen's trending data. Documents reviewed during this inspection are listed in the Attachment. The two SSCs reviewed during this inspection period were:

C Recirculation System

C Instrument Air System

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation (71111.13 - Four Samples)

a. Inspection Scope

This activity represented four inspection samples. The inspectors evaluated four on-line risk work activities and verified that the licensee evaluated the risk associated with the unavailability of the system along with other ongoing maintenance work. In addition, the inspectors reviewed work schedules, recent corrective action documents, troubleshooting plans, repair and retest results, and control room logs to verify that other concurrent planned and emergent maintenance or surveillance activities did not adversely affect the plant risk already incurred with the out of service components. The inspectors assessed AmerGen's risk management actions during shift turnover meetings, control room tours, and plant walkdowns. The inspectors also used AmerGen's on-line risk monitor (ORAM Sentinel) to evaluate the risk associated with the plant configuration and to assess AmerGen's risk management. When appropriate, the inspectors verified compliance with Technical Specifications (TS). The following activities were reviewed:

- C Reactor Building Closed Cooling Water (RBCCW) and Turbine Building Closed Cooling Water (TBCCW) cleaning during the week of July 5, 2005
- C 'B' 125V DC Station Battery system inoperable due to trip of 'B' battery charger motor generator set on July 25, 2005
- C Emergency Service Water System #2 inoperable due to north intake bay low level from heavy grassing on August 6, 2005
- C Emergency Diesel Generator #2 weekly battery surveillance during "A" Control room HVAC system out of service due to scheduled maintenance on September 28, 2005

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions (71111.14 - Two Samples)

a. Inspection Scope

This activity represented two inspection samples. For the non-routine events described below, the inspectors reviewed operator logs, plant computer data, and system procedures to determine how the operators responded, and to determine if the response was in accordance with Oyster Creek's procedures.

- C On July 26, 2005, operators responded to a high circulating water discharge temperature. AmerGen reduced power in accordance with Procedure 202.1,

"Power Operation," to 85% to maintain discharge temperature within limits. Operators returned Oyster Creek to 100% power on July 27, 2005, but reduced power to 78% the same day due to high circulating water discharge temperature. Operators restored Oyster Creek to full power operations on July 28, 2005. AmerGen determined that the reason for the high circulating water temperature was due to the summer environmental conditions at the intake.

- C On August 6, 2005, the inspectors observed the site response to a heavy grassing event at the intake structure. The excessive debris caused a partial collapse of the grating on all three trash racks in the north intake. The resultant debris caused the traveling screens for the north side to clog, causing a low intake level. The operators responded by reducing power level to 44%, removing the affected circulating water pumps from service, and declaring an Unusual Event and Alert. The primary plant remained in a stable condition throughout the event and safety systems were maintained. Once the traveling screens were restored and the intake level recovered, AmerGen exited the emergency classifications.

b. Findings

No findings of significance were identified for the July 26, 2005, event. The findings and issues associated with the August 6, 2005, event will be discussed in Inspection Report 05000219/2005011.

1R15 Operability Evaluations (71111.15 - Six Samples)

a. Inspection Scope

This activity represented six inspection samples. The inspectors reviewed operability evaluations in order to verify that they were performed as required by Oyster Creek procedure LS-AA-105, "Operability Determinations." The inspector assessed the accuracy of the evaluations, the use and control of compensatory measures if needed, and appropriate action if a component was determined to be inoperable. The inspectors verified that the technical specification limiting conditions for operation were properly addressed. The six selected samples are listed below:

- C Columns "A" and "B" of the Exhaust Tunnel and Fan Foundation Structure Degradations (OC-2005-OE-0007, Technical Evaluation A2050958)
- C AR 00358647, Heat balance calculation 12 MWth in the non-conservative direction
- C AR 00364480, 10 CFR 21 defect in fan blade primer coat
- C AR00372547, Core spray fill pump failure to auto start

C OC-2005-OE-0006, Reactor Building Switches DPS-101L/R Atmospheric Pressure Sensing Line Supports Degraded, Rev. 1

C IR 378963, Unplanned shutdown LCO entered due to scheduling issues

b. Findings

No findings of significance were identified.

1R16 Operator Work-Arounds (71111.16 - One Sample)

a. Inspection Scope

This activity represented one inspection sample. The inspectors reviewed the operator work-around database to identify conditions that could adversely affect the operability of mitigating systems or impact human reliability in responding to initiating events. The inspector reviewed the licensee's implementation of procedure OP-AA-102-103, "Operator Work-Around Program." A review by the inspectors of the licensee's database revealed no significant operator work-arounds or challenges. Based on an aggregate review of the database, the inspectors determined that the licensee has taken appropriate corrective and compensatory measures to minimize the affect of these conditions.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing (71111.19 - Seven Samples)

a. Inspection Scope

This activity represented seven inspection samples. The inspector reviewed and observed portions of post maintenance testing associated with the maintenance activities listed below because of their function as mitigating systems and their potential role in increasing plant transient frequency. The inspectors reviewed the post maintenance test documents to verify that they were in accordance with AmerGen procedure MA-AA-716-012, "Post Maintenance Testing," and that the equipment was restored to an operable state. The following post maintenance test activities were selected for review:

C 654.4.003, Control Room HVAC System Operability Test after routine preventative maintenance scheduled on July 7, 2005 (WO M2118414)

C 678.4.001, Primary Containment Isolation Valve Operability and In-Service Test (IST) after repair of Containment Nitrogen outboard isolation valve V-23-18 and replacement of isolation valve test connection cap performed on July 15, 2005 (WO A2119195)

- C 'D' 4160V Breaker replacement due to spurious trip on August 25, 2005 (WO A2122180)
- C Troubleshooting and replacement of the 1-2 reactor building closed cooling water breaker due to failure of the closing springs to charge performed on August 25, 2005 (WO A2122184)
- C Standby Gas Treatment System (SGTS) post maintenance test after removal of debris found in the SGTS exhaust ventilation duct on September 2, 2005 (WO C2006970)
- C 610.4.003, Core spray valve operability and in-service test performed on September 5, 2005 (WO R2069376 and R2069363)
- C 641.4.001, Service Water Pump Operability and In-Service Test (Pump 1-1) performed on September 20, 2005 (WO R2070539)

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22 - 5 Samples)

a. Inspection Scope

This activity represented five inspection samples. The inspectors observed and reviewed the Surveillance Tests (ST) listed below, concentrating on verification of the adequacy of the test as required by TS to demonstrate operability of the required system or component safety function. The inspectors observed pre-test briefings and portions of the ST performance for procedure adherence, and verified that the resulting data associated with the ST met the requirements of the plant TS and the Update of Final Safety Analysis Report (UFSAR). The inspector also reviewed the results of past ST for the selected system component to verify that degraded or non-conforming conditions were identified and corrected, if needed. The following five activities were reviewed:

- C 604.3.018, Drywell wide range pressure calibration, performed on July 5, 2005
- C 612.4.001, Standby liquid control pump and valve IST, performed on July 6, 2005
- C 678.4.001, Primary containment isolation valve operability and IST, performed on July 13, 2005
- C Emergency service water system test using Procedure 310, "Containment Spray System Operation," after intake heavy grassing event on August 6, 2005

C 619.3.011, Scram dump instrument volume digital level and calibration, performed on August 11, 2005

b. Findings

Introduction. A Green, self-revealing, non-cited violation of Technical Specification (TS) 3.5.A.3 was identified for AmerGen's failure to maintain primary containment penetration integrity. While conducting a primary containment isolation valve surveillance, AmerGen failed to adequately assess an unexpected indication on the drywell makeup flow recorder. This resulted in AmerGen improperly isolating a degraded primary containment penetration and subsequently exceeding the associated 4 hour TS action statement.

Description. On July 12, 2005, during the performance of procedure 678.4.001, "Containment Valve Operations and IST," Operations observed unexpected flow on the drywell nitrogen makeup flow recorder when the outboard containment isolation valve, V-23-17, was opened. It was also noted that there was flow indicated when the inboard containment isolation valve, V-32-18, was opened later in the same procedure. The operators surmised that the inboard containment isolation valve, V-23-18, was leaking by. After completing the surveillance on the inboard and outboard containment isolation valves, the operators cycled the outboard valve once more with the inboard valve shut. Again, flow was indicated on the drywell nitrogen makeup recorder. The operators concluded that the inboard valve was leaking by and entered TS 3.5.A.3, Primary Containment Integrity. Based on this conclusion, Operations failed closed the outboard containment isolation valve to comply with the 4 hour TS action statement which requires an inoperable containment isolation valve to be restored to an operable status within 4 hours or isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolation position or use of a manual valve/blind flange. The Limiting Conditions of Operations (LCO) was recorded as completed and the TS action statement exited. However, on July 13, 2005, further investigation revealed that the local leak rate test (LLRT) connection cap located between the two isolation valves was missing, which created a 1/4 inch opening in the Nitrogen Makeup and Purge system piping. This effectively rendered the outboard containment isolation valve functionally inoperable. Therefore, the inboard valve instead of the outboard valve should have been deactivated on July 12, 2005, to meet the 4 hour TS requirement. Upon discovery of the missing test connection cap, AmerGen re-entered the TS Action Statement (TSAS), replaced the missing cap which restored the primary containment isolation boundary, and exited the TSAS.

The inspectors reviewed applicable drawings and walked down the isolation valves, piping, and the LLRT connection. Additionally, the inspectors discussed with Operations management the extent of operators' evaluation of the unexpected indication. The inspectors concluded that operators did not adequately assess the unexpected indication on the drywell makeup flow recorder while conducting the containment isolation valve surveillance. Specifically, the operators did not maintain a questioning attitude, and assumed that the inboard valve was leaking by without pursuing other potential causes. AmerGen determined that leakage through the open test connection



would be in excess (approximately 15 times) of the LLRT acceptance criteria for the penetration. Therefore, the outboard valve could not perform its intended containment isolation function, resulting in it being functionally inoperable during the period in which the cap was missing.

Analysis. The performance deficiency associated with this issue is AmerGen's failure to adequately assess an unexpected indication while conducting a surveillance on the nitrogen supply containment isolation valves. This led the operators to take inadequate corrective action to maintain primary containment integrity and resulted in a violation of TS 3.5.A.3.a(1). This finding is considered more than minor because it was associated with the configuration control attribute of the barrier integrity cornerstone and affected the objective to provide reasonable assurance that containment barriers protect the public from radionuclide releases caused by accidents or events. The condition of concern is a failure of the inboard containment isolation valve to isolate during a design basis accident. The inspectors determined that the finding was of very low safety significance (Green) through performance of a Phase 1 Significance Determination Process (SDP) in accordance with IMC 0609, Appendix A, "Significance Determination of Reactor Inspection Findings for At-Power Situations." Specifically, this finding did not represent an actual open pathway in the physical integrity of reactor containment. The inboard containment isolation valve was operable at all times during the exposure period. This finding was related to the cross-cutting area of Human Performance in that AmerGen failed to adequately assess an unexpected condition which led to taking improper action to maintain primary containment integrity.

Enforcement. TS 3.5.A.3.a(1) requires, in part, that at least two primary containment isolation valves be operable in each penetration and requires an inoperable valve to be restored to an operable status within 4 hours or isolate each affected penetration by use of at least one deactivated automatic valve secured in the isolation position or use of a manual valve/blind flange. Contrary to the above, on July 12, 2005, AmerGen improperly isolated a degraded primary containment penetration and, as a result, exceeded the associated 4 hour TS action statement. However, because this violation was of very low safety significance and has been entered into the corrective action program (AR 00352335), this violation is being treated as a non-cited violation consistent with Section VI.A.1 of the NRC Enforcement Policy. **(NCV 05000219/2005-004-01, Failure to Maintain Primary Containment Penetration Integrity)**

1R23 Temporary Plant Modifications (71111.23 - One Sample)

a. Inspection Scope

This activity represented one inspection sample. The inspectors reviewed a Temporary Modification (TM) associated with Primary Containment Valve V-23-17. The inspectors reviewed the associated implementing documents to verify that the plant design basis and the system or component operability were maintained, which included CC-AA-112, "Temporary Configuration Changes," Rev. 6. The TM allowed for the primary containment valve to be failed closed per TS Action statement 3.5.A.3.(1) by

disconnecting the air supply to the actuator. TS action statement was entered due to indications of a leaking primary containment valve while performing containment isolation valve operability testing. The inspectors reviewed action request number 00352335 and TM number 2005-05501132 that described this concern and identified the corrective actions.

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness [EP]**

1EP6 Drill Evaluation (71114.06 - One Sample)

a. Inspection Scope

This activity represented one inspection sample. The inspectors observed the conduct of licensed operator simulator training on August 3, 2005. The inspectors evaluated the Operations crew activities related to a reactor scram followed by a stuck open Electromagnetic Relief Valve (EMRV). The inspectors verified that the classifications were accurate and timely. Additionally, the inspectors assessed the ability of AmerGen's evaluators to adequately address operators' performance deficiencies identified during the exercise. Documents reviewed during the inspection are listed in the Attachment.

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

**Cornerstone: Occupational Radiation Safety**

2OS1 Access Control to Radiologically Significant Areas (71121.01 - Two Samples)

a. Inspection Scope

The inspector reviewed activities, and associated documentation, in the below listed areas. The inspector evaluated AmerGen's performance against criteria contained in 10 CFR 20, applicable TS, and Oyster Creek's procedures.

Inspection Planning - Performance Indicators

The inspector reviewed performance indicators (PIs) for the Occupational Exposure Cornerstone.

Plant Walkdowns, Radiation Work Permits (RWP) Reviews, and Jobs in Progress Reviews

The inspector toured the station and reviewed radiological controls. The inspector made independent radiation surveys during the tours and reviewed housekeeping, material conditions, posting, barricading, and access controls to determine if radiological controls were acceptable. The inspector verified access controls for two High Radiation Areas.

Problem Identification and Resolution

The inspector reviewed self-assessments and audits since the previous inspection to determine if identified problems were entered into the corrective action program for resolution. The inspector evaluated the database for repetitive deficiencies or significant individual deficiencies to determine if self-assessment activities were identifying and addressing identified deficiencies.

The review also included a review of problem reports since the last inspection which involved potential radiation worker or radiation protection personnel errors to determine if there was an observable pattern traceable to a similar cause. The review included an evaluation of corrective actions, as appropriate. (See Section 4OA2)

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment (71121.03 - Two Samples)

a. Inspection Scope

The inspector selectively reviewed activities, and associated documentation, in the below listed areas. The inspector evaluated AmerGen's performance against criteria contained in 10 CFR 20, applicable TS, and Oyster Creek's procedures.

Radiation Monitoring Instrumentation

The inspector reviewed calibration and operability checks of the whole body counter. The review included evaluation of radionuclide libraries and minimum detectable activity values.

Self-Contained Breathing Apparatus (SCBA)

The inspector reviewed the training and certification of those individuals authorized to perform maintenance and testing on SCBA components. The inspector reviewed records of testing of four ready for service SCBA units (TR5, MR06, MR102, RM29).

### Problem Identification and Resolution

The inspector reviewed audits and self-assessments in the areas of radiation monitoring equipment and protective equipment to determine if identified issues in this area were entered into the corrective action program. The inspector reviewed condition reports and action requests to evaluate AmerGen's threshold for identifying, evaluating, and resolving problems in this area. (See Section 4OA2)

#### b. Findings

No findings of significance were identified.

### **Cornerstone: Public Radiation Safety [PS]**

#### 2PS2 Radioactive Material Processing and Transportation (71122.02 - Three Samples)

#### b. Inspection Scope

The inspector selectively reviewed activities, and associated documentation, in the below listed areas. The inspector evaluated AmerGen's performance against criteria contained in 10 CFR 20, 10 CFR 61, 10 CFR 71, the UFSAR, the Process Control Program, applicable NRC Branch Technical Positions, and Oyster Creek's procedures.

#### System Walkdown

The inspector selectively walked down accessible portions of the station's radioactive liquid and solid waste collection, processing, and storage systems and locations to evaluate their general material conditions; and to identify changes made to systems. The inspector discussed radwaste facility material condition improvement efforts. In addition, the inspector toured outdoor yard storage areas.

#### Waste Characterization and Classification

The inspector selectively reviewed AmerGen's 10 CFR 61 program including the development of scaling factors for difficult to detect and measure radionuclides; classification and characterization of waste relative to 10 CFR 61.55 and 10 CFR 61.56; implementation of applicable NRC Branch Technical Positions on waste classification, concentration averaging, waste stream determination, and sampling frequency; and current waste streams and their processing relative to descriptions contained in the UFSAR and Oyster Creek's approved Process Control Program.

#### Shipment Preparation

The inspector reviewed the preparation of a package for shipment (OC-1005-05). The inspector observed, where applicable, shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, manifest, shipping papers

provided to the driver, and licensee verification of shipment readiness. The inspector reviewed adequacy of packaging. The inspector verified the receiving licensee was authorized to receive the shipment package.

The inspector observed radiation workers during the conduct of radioactive waste processing and radioactive material shipment preparation activities. The inspector determined if the shippers were knowledgeable of the shipping regulations and whether shipping personnel demonstrated adequate skills to accomplish the package preparation requirements for public transport with respect to NRC Bulletin 79-19 and 49 CFR Part 172, Subpart H. The inspector selectively reviewed the training provided to personnel responsible for the conduct of radioactive waste processing and radioactive material shipment preparation activities.

#### Shipping Records

The inspector reviewed five non-excepted package shipment (e.g., LSA I, II, III, SCO I, II, Type A, or Type B) records for compliance with NRC and DOT requirements. The review included verification that AmerGen included emergency response information and a 24-hour contact telephone number as required by 49 CFR Part 172. (Shipments: OC-1005-05, OC-221-05, OC-1004-05, OC-232-05, OC-1001-05)

#### Identification and Resolution of Problems

The inspector reviewed assessments of the radioactive waste handling, processing, storage, and shipping programs including the Process Control Program. The inspector also reviewed selected corrective action documents written since the previous inspection. (See Section 4OA2)

#### Findings

No findings of significance were identified.

### **4. OTHER ACTIVITIES (OA)**

#### 4OA2 Problem Identification and Resolution (71152)

##### .1 Routine Resident Review of Corrective Action Program (CAP) Documents

##### a. Inspection Scope

As required by Inspection Procedure 71152, "Identification and Resolution of Problems," and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into AmerGen's corrective action program. This review was accomplished by accessing the licensee's computerized database.



b. Findings

No findings of significance were identified.

.2 Public and Occupational Radiation Safety (71121.01, 71121.03, 71122.02)

a. Inspection Scope

The inspector reviewed selective corrective action documents to determine if identified problems were entered into the corrective action program for resolution and to evaluate AmerGen's threshold for entering issues into the program. The review included a check of possible repetitive issues, such as radiation worker or radiation protection technician errors. Also reviewed were recent audits and assessments as appropriate (Check-in Self-Assessment - High Radiation Area Controls, Radiation Protection).

The inspector also reviewed corrective action documents (ARs; 346254, 355559, 348776, 355688, 355592, 355566, 354934, 351753, 370894).

The review was against the criteria contained in 10 CFR 20, Technical Specifications, and station procedures.

b. Findings

No findings of significance were identified.

.3 Annual Sample Review (One Sample)

a. Inspection Scope

The inspector selected AmerGen Root Cause Investigation CAP 2005-1407, associated with NRC identified deficiencies in the effluent monitoring program. (Reference NRC Inspection Report 50-219/2005-003, Accession No. ML051260463), to review the adequacy and effectiveness of corrective actions. During this inspection, the inspector reviewed corrective actions including: complete and accurate identification of the problem; extent of condition reviews; conduct of an appropriate evaluation; identification of root and contributing causes, and specification and prioritization of appropriate corrective actions in a timely manner including revision and enhancement of associated program procedures.

This review was with respect to applicable TS and Oyster Creek's procedure requirements.

b. Findings

No findings of significance were identified. AmerGen conducted a comprehensive root cause analysis associated with this matter. The inspector verified that the root cause

evaluation and associated corrective actions were appropriate, relative to the identified problem in the effluent program area.

4OA3 Event Follow-up (71153 - Five Samples)

.1 Downpower due to Low Vacuum Conditions

a. Inspection Scope

The inspectors reviewed the event involving a reactor downpower to 61% due to low vacuum conditions while backwashing main condensers on July 14, 2005. The review consisted of observing plant parameters and status, including mitigating systems and fission product barriers; reviewing alarms and conditions preceding or indicating the event; evaluating the performance of mitigating systems and licensee actions; and confirming that the licensee properly classified the event in accordance with emergency action level procedures and made timely notifications to NRC and state and county governments, as required.

b. Findings

No findings of significance were identified.

.2 Low Intake Level due to Excessive Grassing

a. Inspection Scope

On August 6, 2005, the inspectors observed AmerGen's response to a heavy grassing event at the intake structure. The excessive debris caused a partial collapse of the grating on all three trash racks in the north intake. The resultant debris caused the traveling screens for the north side to clog, resulting in low intake level. The operators responded by reducing power level to 44%, removing the circulating water pumps from service, and declaring an Unusual Event and Alert. The primary plant remained in a stable condition throughout the event and safety systems were maintained. Once the traveling screens were restored and the intake level recovered, AmerGen exited the emergency classifications.

b. Findings

The findings and issues associated with the August 6, 2005, event will be discussed in Inspection Report 0500219/2005011.

.3 (Closed) LER 05000219/2004-01, Rev. 0. #1 EDG Inoperable Caused by Cooling Fan Bearing Bolts Not Torqued Properly Following Preventive Maintenance Activities.

On May 17, 2004, at 4:40 a.m., during the Bi-weekly #1 Emergency Diesel Generator (EDG) load test, an operator reported that the EDG was making an unusual noise and the cooling fan belts and pulleys were observed to be loose. It was also observed that



the pillow block bearing supporting the cooling fan drive shaft and sheave assembly had one bolt missing and one bolt loose. A seven day TS LCO was entered at 5:00 a.m. The previous maintenance on the pillow block bearing occurred about 17 days earlier during the two year overhaul completed in late April 2004. An investigation determined that the pillow block bearing hold down bolts had not been torqued as required by the vendor manual.

This event was previously documented in Inspection Report 05000219/2004003 Section 4AO2 and in Enforcement Action EA-04-142. NCV 05000219/200400305, Human Error Involving Procedure Adherence Violation Results In A Loss of Emergency Diesel Generator Capability, was issued. The inspectors reviewed the LER and no additional findings were identified. The licensee has documented this issue in their corrective action program under CAP O2004-1184 and A2089090. This LER is closed.

- .4 (Closed) LER 05000219/2005-01, Rev. 0. Supplemental Report to "A" Control Rod Drive Pump Was Returned to Service Prior to Correcting the Cause of Failure Resulting in a Technical Specification Violation

On February 17, 2005, during a functional test of the 1A2 Local Shutdown Panel (LSP), the "A" Control Rod Drive (CRD) Pump failed to start from the Main Control Room. The cause of this failure was attributed to contact high resistance on relay TR-2 in the 1A2 LSP. AmerGen concluded that the high resistance cleared itself during subsequent relay operation. The relay was then scheduled for future replacement. The "A" CRD Pump was then tested and returned to service. On March 16, 2005, during a regular monthly surveillance, the "A" CRD Pump did not start. Subsequent investigation found the 480 VAC breaker closing spring was not charged. Further investigation revealed a loose terminal wire connection to relay TR-2 within the 1A2 LSP, which prevented charging of the closing spring. It is believed this condition existed on February 17, 2005, and should have been identified and corrected. Technical Specification 3.4.D LCO allows a 7-day out of service time for CRD Pumps. Corrective actions included replacing the relay, sending the relay out for failure analysis and performing verification of closing spring conditions on all safety related 480 VAC breakers. This issue was documented in Inspection Report 05000219/2005002 Section 1R15 and NCV 05000219/2005002-02, Ineffective Corrective Actions Leading to the "A" CRD Pump Being Inoperable on February 17, 2005, being issued. The inspectors reviewed the LER and no additional findings were identified. The licensee has documented this issue in their corrective action program under CAPs O2005-0753 and O2005-1174. This LER is closed.

- .5 (Closed) LER 05000219/2005-02, Rev. 0. Actuation Of Reactor Protection System Due to An Anticipatory Generator Load Reject Caused by Faulted Arrestors in a Local Sub-Station.

On June 1, 2005, at 9:09 p.m., with Oyster Creek at 100% power, an Anticipatory Generator Load Reject Scram occurred. During restoration of a transformer by the transmission utility at their substation, a failure of lightning arrestors resulted in a phase to phase to ground short circuit. This resulted in a grid transient of sufficient magnitude

that the Oyster Creek Turbine Generator sensed a load reject condition. A reactor scram signal was generated and the trip signal was sent to the turbine generator. The Reactor Protection System and all other safety systems performed as expected. AmerGen's corrective actions included completing restart required evaluations, testing, and confirmation from the transmission utility that conditions in the substation would not result in recurrence of the grid disturbance. The inspectors reviewed this LER and no findings were identified. The licensee has documented this event in their corrective action program under CAP O2005-2337 and IR 373737. This LER is closed.

#### 4OA4 Cross Cutting Aspects of Findings

Section 1R22 of the report describes a finding where AmerGen fail to maintain primary containment penetration integrity in accordance with Technical Specifications. This finding is related to the cross cutting area of Human Performance in that AmerGen did not adequate assess an unexpected indication on the drywell makeup flow recorder.

#### 4OA5 Other Activities

TI 2515/161 - Transportation of Reactor Control Rod Drives in Type A Packages - (One Sample)

##### f. Inspection Scope

The inspector completed Phase II of the Temporary Instruction. The inspector interviewed cognizant personnel and determined that AmerGen had undergone refueling/defueling activities between January 1, 2002, and present, and that it had shipped irradiated control rod drives. The inspector selectively reviewed the suitability of packaging for the shipment including conformance with applicable DOT requirements 49 CFR parts 173.412 and 173.415, as applicable.

##### g. Findings

No findings of significance were identified.

#### 4OA6 Meetings, including Exit

##### Exit Meeting Summary

On October 13, 2005, the resident inspectors presented the inspection results to Mr. C. N. Swenson and other members of Oyster Creek's management. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. Proprietary information identified was returned to the licensee or safeguarded appropriately.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

Licensee

R. Artz, Chemistry Supervisor  
B. Barbieri, System Engineering  
P. Bloss, BOP Systems Manager  
J. Booty, System Engineering  
M. Browne, Environmental Specialist  
J. Camire, SW System Engineer  
T. Cipolla, Acting Director, Maintenance  
C. Connelly, Radiation Protection/Chemistry Manager  
J. Derby, Radiological Engineer  
R. Detwiler, Director, Operations  
K. Drieher, Security Manager  
D. Fawcett, Licensing Engineer  
M. Filippone, System Engineering  
M. Ford, Interim Chemistry Manager  
J. Freeman, Shift Operations, Superintendent  
R. Gayley, Programs Engineer  
M. Godknecht, Maintenance Rule Coordinator  
S. Hutchins, Electrical Systems Manager  
E. Johnson, System Engineer  
A. Judson, Radiological Engineer  
J. Kandasamy, Manager, Regulatory Assurance  
R. Larzo, Engineering  
J. Magee, Director, Engineering  
T. McLean, CAP Coordinator  
B. Mussel, System Engineering  
L. Newton, Chemistry Manager  
J. O'Rourke, Assistant Engineering Director  
T. Powell, Engineering Programs Manager  
J. Randich, Plant Manager  
J. Renda, Radiation Protection Manager  
G. Seals, Radiological Engineer  
H. Shoap, Normandeau Associates  
S. Schwartz, System Manager for ESW and IC  
C. Swenson, Site Vice President  
J. Vaccaro, Director, Training

**LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**Opened and Closed

05000219/2005004-01	NCV	Failure to Maintain Primary Containment Penetration Integrity (Section IR22)
---------------------	-----	--

Closed

05000219/2004001-00	LER	#1 EDG Inoperable Caused by Cooling Fan Bearing Bolts Not Torqued Properly Following Preventative Maintenance Activities. (Section 4OA3)
---------------------	-----	--

05000219/2005001-00	LER	Supplemental Report to "A" Control Rod Drive Pump Was Returned to Service Prior to Correcting the Cause of Failure Resulting in a Technical Specification Violation. (Section 4OA3)
---------------------	-----	---

05000219/2005002-00	LER	Actuation Of Reactor Protection System Due to An Anticipatory Generator Load Reject Caused by Faulted Arrestors in a Local Sub-Station. (Section 4OA3)
---------------------	-----	--

Discussed

None

**LIST OF DOCUMENTS REVIEWED**Section 1R01: Adverse Weather Protection

OP-AA-108-111-1001, Severe Weather and Natural Disaster Guidelines  
 ABN-31, High winds  
 ABN-60, Grid Emergency

Section 1R04: Equipment Alignment

Procedure 337, 4160 Volt Electrical System  
 BR 3007, sheet 2, 4160V switchgear elementary diagram  
 310, Containment spray system operation  
 BR 2005, Flow diagram circulating, HP screen watch, service and emergency service water systems  
 GE 148F740, P&ID Containment spray system  
 GE 237E901, Containment spray elementary diagram  
 GU 3E-822-21-1000, SH 1, Standby gas treatment system flow diagram  
 Procedure 330, Standby gas treatment system

Section 1R05: Fire Protection

OP-AA-201-003, Rev 6, Attachment 1, Fire Drill Record

Section 1R07: Heat Sink Performance

Calculations

Foster Wheeler 2-33-114/5-1, rev 0, 3/11/65, Jersey Central Emergency Dump Condenser

Drawings

GE 148F262 rev 51, 1/7/04, Emergency Condenser Flow Diagram

BR 2005, sh 2 of 6, rev 90, 11/17/04, Reactor & Turbine Building service water system flow diagram

BR 2005, sh 6 of 6, rev 61, 7/10/03, Circulating Water System flow diagram

LGA Engineering File No. 507377000300, multiple unnumbered drawings, 10/22/04,

Bathymetric Map, Forked River

Procedures

OC 326, rev 56, Chlorination System

OC 828.2, rev 9, Secondary Systems [chemistry] Analysis: Service and Circulating Water Systems

OC ABN-31, rev 1, High Winds

OC ABN-32, rev 3, Abnormal Intake Level

OC 828.1, rev 25, 5/31/02, Secondary Systems Analysis: Treated Waters

Work Orders

WO R2052318, TBCCW Clean HX & Replace Anodes in the HX

WO R2065545, TBCCW Clean HX & Replace Anodes in the HX

Miscellaneous

Focused Area Self-Assessment Report A2110900, 2005 NRC SSD&PC on Containment Spray and ESW

Focused Area Self-Assessment Report AT354289, OC 89-13 Program FASA

IC System Health Report, June 2005

ESW System Health Report, June 2005

SW System Health Report, June 2005

IC System Health Report, Dec 2004

ESW System Health Report, Dec 2004

SW System Health Report, Dec 2004

Risk-informed Inspection Notebook for Oyster Creek Nuclear Generating Station, rev 1, 3/26/03 (PROPRIETARY)

BNL #04334, Summary Report on Bench marking Trip to the Oyster Creek Nuclear Generating Station, Attachment A, 12/6/02.

Table of combined risk measures for IC, TBCCW, RBCCW, ESW, and Containment Spray, at component level, produced 9/19/05

IC A total Cl and total sulfates graph for last 2 years, 9/19/05

IC B total Cl and total sulfates graph for last 2 years, 9/19/05

A-5

Student Handout 6250.PGD.2720/104.0/.0026 rev 2, TBCCW System  
K:/OCCHEM/EWS/EWS9U, chemistry table for Service Water at 30" header  
K:/occhem/ews/ews3a-5z, chemistry table for isolation condenser A & B  
GE Specification 21A1607 rev 1, 7/13/66, Emergency Condenser  
DBD for ESW System, DBD-OC-532, rev 3, 1/30/91  
DBD for ESW System, DBD-OC-532, rev 4, 5/9/05  
LS-AA-125-1001, rev 4, Root Cause Investigation Report  
ECR (Engineering Change Request) OC 04-00895 000, V-14-34/35 Modification to prevent  
bonnet over pressurization  
AR 00367950 Report, IC Shell Water Corrosion Inhibitor  
Material Nonconformance Resolution Form for CAP O1998-1355, IC shell thickness  
Material Nonconformance Resolution Form for CAP O2000-1562, IC coating degradation  
AR A2013398 to clean CW intake pits, to WO R2046744  
AR A2079469 PM for inspection/cleaning of intake sump structure  
List of all periodic maintenance performed on IC system  
WO R2065545, 6/9/05, PM, TBCCW HX Inspect, clean, and replace anodes  
WO R2052318, 5/10/05, PM, TBCCW HX, Clean HX & Replace Anodes in the HX  
Design Criteria 419-80-2, rev 0, 10/8/81, IC shell side corrosion protection  
SP-1302-28-001, rev 2, Technical Specification for Water Quality  
TDR 637 rev 1, 3/3/88, Technical Data Report, OC Chemistry Control Program  
Docket No. 50-363 Supplement No. 2, Amendment 9, April 1, 1971, Figure 2.12-1 (and -2, -4,  
-5), Seismic Collapse Study for bridges over South Branch of the Forked River  
Nuclear Event Report (NER) OC-03-XXX Green, draft NER for Sonar Mapping of Intake  
Successful  
GPU Nuclear letter, 1/30/90, GL 89-13 response  
GPU Nuclear letter C321-91-2274, 9/26/91, GL 89-13 response  
GPU Nuclear letter C321-92-2012, 1/13/92, GL 89-13 response and closeout

Condition Reports

O2003-1598  
O2003-1778  
O2003-2400  
O2004-0165  
O2004-0439  
O2004-1876  
O2004-3044  
O2004-3529  
O2005-1622  
O2005-1784  
O2005-2044  
AR 00349237  
AR 00349985  
AR 00349999  
CR 00368119

Section 1R12

ER-AA-310, Implementation of the Maintenance Rule, Rev. 3  
Maintenance Rule Performance Document - Instrument Air - Performance Criteria, 8/10/05  
Instrument Air Dryers - Out of Service Performance Curve, June 2005  
Instrument Air Compressors - Out of Service Performance Curve, June 2005  
Quarterly SHIP System Report (Service and Instrument Air), 2<sup>nd</sup> Quarter 2005  
System Health Overview Report (Service and Instrument Air), June 2005

CAPs:

O2004-0647, An unplanned risk change occurred from green to yellow, when a failure of both sets of instrument air dryers was determined  
O2004-2211, The A/B air dryer breaker was found tripped  
O2004-4235, Post maintenance testing of the A & B dryers failed  
O2005-0217, "A" and "B" air dryers had a failure alarm locked in  
O2005-1524, Multiple issues surrounding SP-05-002 "Purge hot spot on V-6-143"  
O2005-1822, Unexpected alarm, M-3-b, RCV 2/Instrument air pressure low  
O2005-1824, Some issues have surfaced regarding the replacement of V-6-931  
O2005-1946, Received H-1-A, control air press lo alarm while performing surveillance on SDV vent and drain valves  
O2005-1951, Unexpected alarm, M-3-b, RCV 2/instrument air pressure low  
O2005-2126, Unexpected alarm M-7-b, Instrument air dryer failure  
O2005-2127, Received instrument air dryer failure alarm in the main control room  
O2005-2128, Administrative shortfalls exist with operations of the C & D air dryers  
Maintenance Rule Performance Document - Recirculation System - Performance Criteria, 8/31/2005  
System Performance monitoring plan for Recirculation System  
AR00343769, "A" Recirc Pump #2 Seal Pressure is trending up over time  
AR00350666, #2 Seal pressure on the A RCP is trending up slowly  
AR00352980, Failure of "A" Reactor Recirc pump #1 seal  
Maintenance rule expert panel meeting, July 28, 2005

Section 1EP6: Drill Evaluation

EP-OC-1010, Rev. 4, Radiological Emergency Plan for Oyster Creek Generating Station

Section 2OS1: Access Control to Radiologically Significant Areas &  
Section 2OS3: Radiation Monitoring Instrumentation and Protective Equipment &  
Section 2PS2: Radioactive Material Processing and Transportation

Root Cause Investigation Report - CAP 02005-1407  
Procedure 820.4, Rev. 7 Operation of SEEDS Software  
Procedure CY-OC-170-201, Rev. 0, Compliance with Technical Specification 6.8.4 Radioactive Effluents Control Program  
Check-in Self Assessment - 00318301  
Various worker training records associated with radioactive waste shipping and processing

Procedure 6633-PMI-4222.06, Rev. 6, Calibration of the Canberra Whole Body Counting System

Procedure RP-OC-220-1001, Rev.0, Operation of the Canberra Whole Body Counting System

### LIST OF ACRONYMS

ADAMS	Agency-wide Documents Access and Management System
ALARA	As Low As Is Reasonably Achievable
AmerGen	AmerGen Energy Company, LLC
BTP	Branch Technical Positions
AR	Action Request
CAP	Corrective Action Process
CFR	Code of Federal Regulations
CR	Condition Report
CRD	Control Rod Drive
CW	Circulating Water
DBD	Design Basis Document
EAL	Emergency Action Level
EDG	Emergency Diesel Generator
EOF	Emergency Operations Facility
EP	Emergency Preparedness
E-Plan	Emergency Plan
ESW	Emergency Service Water
FASA	Focused Area Self Assessment
HRA	High Radiation Area
HX	Heat Exchanger
IC	Isolation Condenser
LCO	Limiting Conditions for Operation
LLRT	Local Leak Rate Test
LORT	Licensed Operator Requalification Training
MFRV	Main Feedwater Regulating Valve
MSIV	Main Steam Isolation Valve
NER	Nuclear Event Report
NOS	Nuclear Oversight
NRC	Nuclear Regulatory Commission
PCP	Process Control Program
PI	Performance Indicator
PM	Planned Maintenance
PRA	Probabilistic Risk Analysis
RCA	Radiologically Controlled Area
RO	Reactor Operator
RWP	Radiation Work Permit
SDP	Significance Determination Process
SRO	Senior Reactor Operator
ST	Surveillance Test
SW	Service Water
TBCCW	Turbine Building Closed Cooling Water
TM	Temporary Modification



TS	Technical Specification
TSAS	Technical Specification Action Statement
UFSAR	Updated Final Safety Analysis Report
WO	Work Order