

May 28, 2002

Mr. Jack Skolds
President and CNO
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
5th Floor
Warrenville, IL 60555

SUBJECT: OYSTER CREEK GENERATING STATION - NRC INSPECTION REPORT 50-219/02-05

Dear Mr. Skolds:

On May 11, 2002, the NRC completed an integrated inspection at your Oyster Creek reactor facility. The enclosed report presents the results of that inspection. The results of this inspection were discussed on May 15, 2002, with Mr. Ernie Harkness and other members of your staff.

This 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 no findings of significance were identified.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories, and although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of your response to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design basis threat (DBT). On February 25, 2002, the NRC issued an Order to all nuclear power plant licensees, requiring them to take certain additional interim compensatory measures to address the generalized high-level threat environment. With the issuance of the Order, we will evaluate AmerGen's compliance with these interim requirements.

Mr. Jack Skolds

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We appreciate your cooperation. Please contact me at 610 337-5146 if you have any questions regarding this letter.

Sincerely,

/RA/

John F. Rogge, Chief
Projects Branch 7
Division of Reactor Projects

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

Enclosure: Inspection Report 50-219/02-05

Attachment: Supplemental Information

cc w/encl:

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REGION I

Docket No.: 50-219

License No.: DPR-16

Report No.: 50-219/02-05

Licensee: AmerGen Energy Company, LLC (AmerGen)

Facility: Oyster Creek Generating Station

Location: Forked River, New Jersey

Dates: March 31, 2002 - May 11, 2002

Inspectors: Laura Dudes, Senior Resident Inspector
Robert Summers, Senior Resident Inspector
Steve Dennis, Resident Inspector
Frank Arner, Reactor Inspector, April 4, 2002 - April 11, 2002

Approved By: John F. Rogge, Chief
Projects Branch 7
Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000219-02-05; on 03/31-05/11/2002; AmerGen Energy Company, LLC; Oyster Creek Generating Station; integrated report.

This report covered a seven week period of resident inspection and an announced inspection of the independent spent fuel storage installation operation by both resident and a region-based specialist inspectors. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at: <http://www.nrc.gov/NRR/OVERSIGHT/ASSESS/index.html>.

A. Inspector Identified Findings

No findings of significance were identified.

B. Licensee Identified Violations

No licensee identified violations were identified.

Report Details

Summary of Plant Status:

Oyster Creek (OC) began the inspection period at full power. On April 2, 2002, at 0120, power was reduced to 98 percent for turbine valve testing and a control rod/recirculation flow adjustment. Full power was restored April 2, 2002, at 0555. On April 12, 2002, at 2301, power was reduced to 40 percent for condenser leak repair and control rod drive (CRD) hydraulic control unit planned maintenance. Full power was restored on April 15, 2002, at 0126. On April 16, 2002, at 0122, power was reduced to 88 percent for a control rod pattern adjustment. Full power was restored on April 16, 2002, at 0543. OC remained at full power for the remainder of the inspection period.

1. REACTOR SAFETY Initiating Events, Mitigating Systems, Barrier Integrity (REACTOR-R)

1R04 Equipment Alignment

4160V System

a. Inspection Scope

The inspectors conducted a complete alignment verification of the 4160V system. The inspectors reviewed operating and surveillance procedures associated with the system and performed a walkdown to verify normal system alignment was maintained in accordance with procedural checklists. In addition, the inspectors reviewed and evaluated the potential impact on the 4160V system operation from open work orders, design modifications, engineering change requests and corrective action process (CAP) reports. The inspectors also reviewed and discussed system health reports with the system engineer. Documents reviewed included the following:

- 2000-ADM-3061.01 OC Surveillance Test Program
- 2000-ABN-3200.44 Loss of Bus 1A1
- 2000-ABN-3200.45 Loss of Bus 1A2
- 2000-ABN-3200.46 Loss of Bus 1A3
- 2000-ABN-3200.47 Loss of Bus 1B1
- 2000-ABN-3200.48 Loss of Bus 1B2
- 2000-ABN-3200.49 Loss of Bus 1A3
- 635.2.001 4160V Switchgear Bus Protective Relay Test
- CAP 02002-0714 4160V Fire Protection - CO2 issue
- CAP 02002-0291 1E1 4160V bus - alternate feed configuration issue
- CAP 02001-1718 1B2 4160V cable failure
- 337 4160V Electrical System
- 200-OPS-3024.10A 4160V Diagnostic and Restoration Actions
- Operations Workaround List

b. Findings

No findings of significance were identified.

1R05 Fire Protectiona. Inspection Scope

The inspectors conducted fire protection inspection activities consisting of plant walkdowns, discussions with fire protection personnel, and reviews of procedure 333, "Plant Fire Protection System," and the OC Fire Hazards Analysis Report to verify that the fire program was implemented in accordance with all conditions stated in the facility license. Plant walkdowns included observations of combustible material control, fire detection and suppression equipment availability, and compensatory measures. The inspectors conducted fire protection inspections in the following areas due to the potential to impact mitigating systems:

- RB-FZ-1A - Reactor Building 119' elev.
- RB-FZ-1E - Reactor Building 23' elev.
- OB-FZ-22A - New Cable Spread Room, 63'6 elev.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalificationa. Inspection Scope

The inspectors observed licensed operator requalification training on May 1, 2002. The training/testing exercise was reviewed against criteria listed in NRC Inspection Procedure 71111.11. The inspector reviewed the critical tasks associated with the simulated control room exercise, observed the operators performance during the exercise and observed the post exercise critique. The inspector also reviewed procedure 2611-PGD-2612, OC Licensed Operator Requalification Training Program.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementationa. Inspection Scope

The inspectors conducted maintenance rule implementation inspection activities to verify that: (1) failed structures, systems and components (SSCs) were properly characterized in the OC Maintenance Rule Performance Reports, (2) goals and performance criteria were appropriate, (3) corrective action plans were appropriate, and (4) performance was being effectively monitored in accordance with OC procedure 2000-ADM-1220.01, "Implementation of the Maintenance Rule." The inspectors selected the following safety significant systems in (a)(1) and (a)(2) status:

- "A" and "B" Control Room Heating, Ventilation and Air Conditioning System
- CRD Hydraulic System
- Spent Fuel Cooling System

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

#1 Fire Diesel Control Cable Failure

a. Inspection Scope

On April 15, 2002, the licensee determined that the #1 Fire Diesel engine control cable had failed during post maintenance testing. The inspector reviewed the risk assessment performed by the licensee in accordance with procedure ER-AA-600-1042, "On-Line Risk Management," and verified that compensatory actions associated with the #2 Fire Diesel and repair of the #1 Fire Diesel control cable were established. The inspectors also reviewed the OC extent of condition review (CAP 2002-0596) and verified cable repairs were evaluated in accordance with OC procedure 2000-ADM 7210.03, "Quality Verification Inspection Program."

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

The inspectors reviewed operability evaluations in order to determine that proper operability justifications were performed for the following items. In addition, where a component was determined to be inoperable, the inspectors verified the Technical Specification limiting condition for operation implications were properly addressed.

- During the inspection of the 1-1 Reactor Building Closed Cooling Water (RBCCW) Heat Exchanger on April 4, 2002 (WO R0805744), the licensee discovered a degraded baffle plate support beam inside the heat exchanger. The inspectors reviewed the operability determination prepared by OC engineering including the material nonconformance resolution form, associated structural stress calculations, planned extent of condition reviews, and operational procedural changes recommended to ensure continued operability of the RBCCW system. (CAP-2002-0534)
- On April 7, 2002, an adverse trend associated with the offgas radiation monitors was documented by operations personnel. The original operability discussion was documented in CAP-2002-0542, further information revealed degraded heat tracing.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspector reviewed and observed portions of the post-maintenance testing (PMT) associated with the following maintenance activities because of their function as mitigating systems and their potential role in increasing plant transient frequency. The inspectors reviewed the PMT documents to verify that they were in accordance with the licensee's procedures and that the equipment was restored to an operable state.

- "B" CRD Pump motor breaker maintenance (WO R200773101). Performed procedure 617.4.001, "CRD Pump Operability Test" as the PMT.
- "B" Control Room Ventilation damper inspections and 480V breaker maintenance (WOs R080718701, 02300769RC). Performed procedure 654.4.003, Control Room HVAC System "B" Test as the PMT.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspector observed pre-test briefings and portions of the surveillance test (ST) performance for procedural adherence, and verified that the resulting data associated with the test met the requirements of the plant technical specifications. The inspector also reviewed the results of past performances of the selected STs to verify that degraded or non-conforming conditions were identified and corrected. The following STs were observed:

- Procedure 619.4.025, "Reactor Protective System (RPS) Auto Scram Contactor Test."
- Procedure 602.4.004, "Main Steam Isolation Valve (MSIV) 10% Closure Test."

b. Findings

No findings of significance were identified.

Emergency Preparedness (EP)

EP6 Drill Evaluation

a. Inspection Scope

On May 1, 2002, the inspector observed a licensed operator training assessment that included an emergency activation level classification. The inspector verified that the appropriate emergency classification was identified and external notifications to responsible parties were made in a timely manner.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA5 Other

Independent Spent Fuel Storage Installation Operation

a. Inspection Scope

The inspectors observed selected activities related to transferring spent fuel from the spent fuel pool to the dry cask storage system (DCSS), preparing the DCSS for storage, and moving the dry shielded canister (DSC) to the Independent Spent Fuel Storage Installation (ISFSI). The inspectors reviewed revisions made to previously approved ISFSI procedures to ensure operational commitments contained in the Safety Analysis Report, Safety Evaluation Report, and the Certificate of Compliance (CoC) No. 1004, remained in the applicable procedures.

The inspectors observed the pre-job briefings associated with selected activities such as spent fuel assembly movements, DSC sealing activities, and control of heavy loads. The inspectors evaluated the quality of the briefings to ensure they included adequate discussions of planned activities including contingency plans and radiation safety issues. Procedures associated with the selection and verification of fuel assemblies were reviewed to verify that fuel stored in a DSC met the conditions for canister use specified in the CoC. The inspectors observed the movement of 20 of the 61 spent fuel assemblies transferred from the spent fuel pool storage racks to the DSC to determine if the fuel moves were performed consistent with the requirements of Procedure 205.10, "Fuel Assembly Removal/Insertion in Fuel Pool/Dry Shielded Canister."

Welding preparations for the DSC inner cover were observed to verify they were consistent with approved procedures. This included the monitoring of hydrogen levels and purging operations performed to ensure safe conditions existed prior to initial welding operations. The inspector observed welding operations performed on the DSC outer lid along with the performance of subsequent dye penetrant examinations. The inspector observed the final helium leak test and reviewed the results to ensure that CoC limitations for leakage were met.

The inspectors reviewed radiation work permits, the radiological hazards identified, and the controls implemented for the dry cask loading and transferring activities. The inspectors evaluated the effectiveness of health physics personnel in anticipating radiation conditions and providing appropriate guidance to the ISFSI work staff. Additionally, cask contamination levels were reviewed to ensure compliance with the CoC requirements.

The inspector observed the transfer of the DSC to the Horizontal Storage Module (HSM) and the insertion of the 61BT DSC into the HSM. These activities were observed to ensure they were performed in accordance with approved procedures. After the insertion of the DSC, the inspector observed the response of the local HSM temperature monitoring instrumentation, which had been installed to measure the air differential temperature between the inlet and outlet HSM vents. This review was performed to verify proper operation of the instrumentation and to ensure that the measured temperatures indicated heat removal capability consistent with the HSM design (i.e., measured temperatures were below expected temperatures for the calculated canister decay heat level).

b. Findings

No findings of significance were identified.

40A6 Meetings, including Exit

.1 Exit Meeting Summary

On May 15, 2002, the resident inspectors presented the inspection results to Mr. Ernie Harkness and other members of licensee management. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Annual Assessment Letter Public Meeting

On April 11, 2002, the NRC met with the AmerGen staff to present the conclusions associated with the NRC's Annual Assessment of Oyster Creek issued in a letter dated March 4, 2002. The meeting was open for public observation. NRC presentation was placed into ADAMS under ML020630501 and made available for public access.

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ATTACHMENT 1

SUPPLEMENTAL INFORMATION

a. Key Points of Contact

Licensee (in alphabetical order)

V. Aggarwal, Director, Engineering
R. DeGregorio, Vice President
E. Harkness, Plant Manager
R. Hillman, Manager, Chemistry & Radwaste
J. Magee, Director, Maintenance
M. Massaro, Director, Work Management
D. McMillan, Director, Training
M. Newcomer, Senior Manager, Design
D. Slear, Manager, Regulatory Assurance
C. Wilson, Senior Manager, Operations

b. List of Documents Reviewed (ISFSI) Project

Calculations and Engineering Analyses

6630-ADM-4010.02 Radiological Engineering Calculation Summary

Procedures

205.10	Fuel Assembly removal/insertion in fuel pool/dry shielded canister, Rev. 14
205.13	Dry fuel storage monitoring, Rev. 3
6630-ADM-4110.04	Radiological work process, Rev. 8
1000-ADM-3890.01	Lifting and Rigging, Rev. 0
2400-SMM-3891.04	Operation of the Reactor Building Overhead Crane, Rev. 7
NF-OC-624	Independent Spent Fuel Storage Activities During a Plant Emergency, Rev. 0
NF-OC-626	Fuel Loading/Unloading of a DSC, Rev. 0
NF-OC-629	Transport and Preparation of Transfer Cask and 61BT Dry Shielded Canister for Loading Fuel, Rev. 1
NF-OC-630	Transport and Loading of Transport Cask and DSC, Rev. 1
NF-OC-631	Transport of Loaded Transfer Cask and 61BT Dry Shielded Canister to Transfer Trailer, Rev. 2
NF-OC-632	Dry Shielded Canister (61BT) Vacuum Drying and Helium Fill, Rev. 2
NF-OC-633	Loaded Dry Shielded Canister Welding, Rev. 1
NF-OC-634	Transportation, Alignment and Insertion of the 61BT Dry Shielded Canister into the Horizontal Storage Module, Rev. 1
NF-OC-638	Fuel Bundle Selection Process for Loading NUHOMS 61 BT DSC, Rev. 0
RM-AA-101	Management of Records, Rev. 4

Corrective Action Program (CAP)02002-0528
02002-029402002-0306
02002-0226

02002-0544

Miscellaneous

- Final Safety Analysis Report (FSAR) for Standardized NUHOMS System, Model No. NUHOMS-61BT for Boiling Water Reactor Fuel, CoC 1004, Amendment No. 4
- NRC Safety Evaluation Report for FSAR for CoC 1004
- Radiation Work Permit No. OC-1-02-00023, Rev. 01, ISFSI Project (All Areas)

c. List of Acronyms

ADAMS	Agencywide Documents Access and Management System
AmerGen	AmerGen Energy Company, LLC
CAP	Corrective Action Process
CFR	Code of Federal Regulations
CoC	Certificate of Compliance
CRD	Control Rod Drive
DBT	Design Basis Threat
DCSS	Dry Cask Storage System
DSC	Dry Shielded Canister
FSAR	Final Safety Analysis Report
HSM	Horizontal Storage Module
HVAC	Heating, Ventilation and Air Conditioning
IAW	In Accordance With
ISFSI	Independent Spent Fuel Storage Installation
LORT	Licensed Operator Requalification Training
MSIV	Main Steam Isolation Valve
NRC	Nuclear Regulatory Commission
NUHOMS	Nuclear Horizontal Modular Storage
OC	Oyster Creek
PMT	Post-Maintenance Test
RBCCW	Reactor Building Closed Cooling Water
RPS	Reactor Protective System
SSCs	Structures, Systems & Components
ST	Surveillance Testing
TS	Technical Specification
WO	Work Order