March 11, 2002

Mr. Jack Skolds
President and CNO
Exelon Nuclear
Exelon Generation Company, LLC
200 Exelon Way, KSA 3-E
Kennett Square, PA 19348

SUBJECT: OYSTER CREEK GENERATING STATION - NRC INTEGRATED INSPECTION REPORT 50-219/01-13

Dear Mr. Skolds:

On February 9, 2002, the NRC completed an integrated inspection at your Oyster Creek reactor facility. The enclosed report documents the inspection findings which were discussed on March 1, 2002, with Mr. Ron DeGregorio 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, the inspectors identified two issues of very low safety significance (Green). These findings were determined to be violations of NRC requirements. However, because of the very low safety significance and because the issues have been entered into your corrective action program, the NRC is treating these issues as Non-cited violations, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny these non-cited violation, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, 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, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Oyster Creek facility.

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.

In accordance with 10 CFR 2.790 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 and from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm.html (the Public Electronic Reading Room).

Sincerely,

/RA/

John F. Rogge, Chief
Projects Branch No. 7
Division of Reactor Projects

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

Enclosure: Inspection Report 50-219/01-13
Attachment: Supplemental Information

cc w/encl: Amergen Energy Company - Correspondence Control Deck
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U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Report No.	50-219/01-13
Docket No.	50-219
License No.	DPR-16
Licensee:	AmerGen Energy Company, LLC (AmerGen)
Facility:	Oyster Creek Generating Station
Location:	Forked River, New Jersey
Dates:	December 31, 2001- February 9, 2002
Inspectors:	Laura A. Dudes, Senior Resident Inspector Steve Dennis, Resident Inspector Jeffrey Herrera, Reactor Engineer, January 16-18, 2002
Approved By:	John F. Rogge, Chief Projects Branch 7 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000219-01-13, on 12/31/01-02/09/02, AmerGen, Oyster Creek Generating Station, Equipment Alignment, Event Follow Up.

The inspection was conducted by resident and regional inspectors. This inspection identified two Green findings which were also noncited violations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609 "Significance Determination Process" (SDP). Findings for which the SDP does not apply are indicated by "No Color" or by the severity level of the applicable violation. 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/index.html.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- GREEN. The inspectors identified a Non-Cited Violation for failure to assure that design control measures were in place regarding deviation from original design replacement parts on the Control Rod Drive system (10 CFR 50 Appendix B, Criterion III). The inspectors identified two hydraulic control units that had water accumulator belly band clamps which were not of the original design and had not been evaluated by engineering for use on the system. However, the failure to evaluate the adequacy of the replacement part was considered to have very low safety significance (Green) using the Significance Determination Process (SDP) phase 1 assessment since the band clamps in question were replaced within 24 hours of initial notification of the issue and a subsequent engineering evaluation determined the replacement part to be equivalent. This violation is being treated as a Non-Cited Violation (NCV) consistent with section VI.A.1 of the NRC Enforcement Policy. **(NCV 50-219/01-13-01)**.(Section 1R04)

- GREEN. The inspectors identified a Non-Cited Violation for failure to correct a significant condition adverse to quality identified in 1999, 2000, and again in 2001 (10 CFR 50 Appendix B, Criterion XVI). This condition, associated with degraded control circuit components within 480 volt breakers, is more than minor since multiple failures of a safety related breaker could have a credible impact on safety. The issue affects mitigating systems including containment spray, core spray and control rod drive pumps. The finding was evaluated using an NRC SDP phase 2 assessment and determined to have very low safety significance (Green). This violation is being treated as a Non-Cited Violation (NCV) consistent with section VI.A.1 of the NRC Enforcement Policy. The licensee entered this issue into the CAP (02002-0157). **(NCV 50-219/01-13-02)** (Section 4OA3)

B. Licensee Identified Violations

No findings of significance were identified.

Report Details

Summary of Plant Status:

Oyster Creek began the inspection period at full power and remained there for the duration of the inspection period.

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

1R04 Equipment Alignment

.1 125 Volt DC Partial Equipment Materiel Condition and Alignment Verification

a. Inspection Scope

The inspector performed a partial walkdown of the 125 volt DC power distribution system. Procedure 340.1 "125VDC Distribution System A&B," Attachment 340.1-2, "In-service Electrical Lineup," was used to verify proper breaker positions. Additionally, the inspector reviewed the quarterly and weekly surveillance procedures to verify that the required technical specification (TS) voltage and materiel condition verifications were being conducted.

b. Findings

No findings of significance were identified.

.2 Control Rod Drive Partial Equipment Condition and Alignment Verification

a. Inspection Scope

The inspectors completed a partial walkdown of the Control Rod Drive (CRD) system on January 22, 2002. The walkdown included the CRD pumps, pressure and flow control station, and the Hydraulic Control Units (HCUs). The inspectors also reviewed system drawings, procedures, and corrective action program documentation to verify that there were no outstanding equipment issues affecting system operability.

b. Findings

The inspectors identified a finding of very low safety significance (GREEN) associated with the licensee's failure to maintain adequate design control measures associated with part replacement on the CRD System HCU Accumulators.

10 CFR 50 Appendix B, Criterion III, states, in part, that design control measures shall be established for the review for suitability of application of materials and parts. These measures shall include provisions to assure that quality standards are specified and deviations from such standards are controlled.

Contrary to the above, the licensee did not assure that deviations from the original design standard for the CRD system were reviewed for suitability. Specifically, the inspectors identified two HCUs that had water accumulator band clamps which were not of the original design (corrective action process (CAP) No.02002-0099) and had not been evaluated by engineering for use on the system. Further investigation by the

licensee found four other band clamps which were not of the original design. The inspectors reviewed the work order history for the HCUs and found no work performance documentation regarding replacement of the band clamps on the affected HCUs. Additionally, no engineering evaluation describing the use of the clamp as an equivalent replacement was found by the inspectors. This was verified during discussions with the CRD system engineer and engineering manager.

This issue is considered to be more than minor since the affected parts were found on a mitigation system, Control Rod Drive, and could have affected the reliability of the system if left uncorrected. However, the failure to evaluate the adequacy of the replacement part was considered to have very low safety significance using the Significance Determination Process (SDP) phase 1 assessment since all the band clamps in question were replaced within 24 hours of initial notification of the issue and a subsequent engineering evaluation determined the replacement part to be equivalent (AR A2025106, A2025430).

The above stated finding is a violation of 10 CFR 50 Appendix B, Criterion III, which requires, in part, that design control measures shall be established for the review for suitability of application of materials and parts. This violation is being treated as a Non-Cited Violation (NCV) consistent with section VI.A.1 of the NRC Enforcement Policy. The licensee entered this issue into the CAP (02002-0099). **(NCV 50-219/01-13-01)**

1R05 Fire Protection

.1 Fire Drill Observations

a. Inspection Scope

On January 25, 2002, the inspector observed an announced fire drill conducted on the midnight shift. The inspector reviewed the drill scenario with the Oyster Creek Fire Marshall prior to observing the drill. The inspector reviewed the pre-fire plan for the location of the drill and verified that appropriate fire fighting techniques were employed in preparing for and extinguishing the fire established in the drill scenario. The inspector also observed the post drill critique and reviewed Procedure 101.2, Attachment 101.2-2, “Fire Drill Report,” to verify that discrepancies identified by the Fire Marshall during the drill were appropriately translated into the critique document. In addition, the licensee initiated CAP document 2002-129 to address recommendations for improvement as a result of the drill critique.

b. Findings

No findings of significance were identified.

.2 Fire Area Tours

a. 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 Oyster Creek 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:

- FZATB-FA-3A, "4160 V Emergency Switchgear (1C&1D) Vaults
- OB-FZ-6A, "A" 480V Switchgear Room
- OB-FZ-6B, "B" 480V Switchgear Room
- OB-FZ-8A, "Recirc MG Set Room"
- OB-FZ-8C, "A&B Battery Room"

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors selected the following safety significant systems in 10 CFR 50.65 (a)(2) status to verify that: (1) failed structures, systems and components (SSCs) were properly characterized, (2) goals and performance criteria were appropriate, (3) corrective action plans were appropriate, and (4) performance was being effectively monitored:

- Station Blackout Combustion Turbine
- "C" Battery Room HVAC

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

.1 Emergency Service Water Pump 52B Testing and Replacement

a. Inspection Scope

The inspectors reviewed the online maintenance risk assessment associated with the testing and subsequent replacement of Emergency Service Water Pump 52B. The replacement was required due to degraded pump flow performance over the past three months (CAP No. 02001-1888, 02002-0201). The inspector reviewed Procedure 2000-ADM-3022.01, "Work Management and On-Line Risk Management & Assessment," to

verify the appropriate work restrictions were in place to ensure redundant components and the redundant train were operable during the maintenance activities. The inspectors also reviewed TSs to ensure that the appropriate limiting conditions for operation were entered.

b. Findings

No findings of significance were identified.

.2 480 Volt Breaker Undervoltage Trip Device Failures

a. Inspection Scope

On January 31, 2002, while performing circuitry checks on the static time delay and undervoltage coils for twenty four 480 volt breakers, two breakers were determined to be inoperable due to degraded undervoltage trip coils. A containment spray pump breaker and a shutdown cooling pump breaker were declared inoperable. (CAP 2002-0157) The inspector performed walkdowns of the redundant electrical circuitry and system component configurations to assure the equipment was operable throughout the maintenance activity. The inspector reviewed Procedure 2000-ADM-3022.01, "Work Management and On-Line Risk Management & Assessment," to verify the appropriate work restrictions were in place to ensure redundant components and the redundant train were operable during the maintenance activities. The inspectors also reviewed TSs to ensure that the appropriate limiting conditions for operation were entered.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

a. Inspection Scope

The inspectors observed operations personnel performance on February 1, 2002, after a failed reactor water cleanup room temperature indicator caused an entry condition into emergency operating procedure (EOP) EMG 3200.11, "Secondary Containment Control." The inspectors verified that the control room operators adhered to the EOP and observed control room actions associated with identification and resolution of the failed indicator.

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 TS limiting condition for operation implications were properly addressed.

- On January 22, 2002, during an equipment walkdown on the CRD System, the inspectors identified five CRD HCU Accumulator restraining band clamps that were loose and one that was broken. (AR A2020448). The inspectors reviewed the licensee's operability, seismic, and structural evaluations for the affected HCUs and concluded that the CRD System remained operable with the band clamps loose or broken.
- On January 31, 2002, two 480 volt breakers were declared inoperable due to degraded undervoltage (U/V) trip coils. A total of twenty four breakers were identified in the extent of condition review for the U/V trip coil. The licensee performed visual inspections and electrical testing on all other safety related breakers that have similar U/V trip coils. In addition, the results of these inspections were documented in conjunction with additional monitoring requirements in support of continued operability of the twenty four breakers. (CAP 2002-157, AR A2025384)

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 associated with the following maintenance activities because of their function as mitigating systems. The inspectors reviewed the post maintenance test (PMT) documents to verify that they were in accordance with the licensee's procedures and that the equipment was restored to an operable state.

- Standby Gas Treatment System Exhaust Fan 1-8, troubleshooting and parameter monitoring following fan trip on January 2, 2002 (AR A2022609). Performed Procedure 651.4.001, "Standby Gas Treatment System Test," as the PMT.
- Containment Spray and Shutdown Cooling 480 volt breaker repair and replacement activities. Work Order (WO) C2002264.
- Standby Liquid Control (SLC) Pump "A" gearbox and crankcase oil change (WO R080635201). Performed Procedure 612.4.001, "SLC Pump and Valve Operability 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 TSs. The inspector also reviewed the results of past performances of the ST to verify that degraded or non-conforming conditions were identified and corrected. The following STs were observed:

- Procedure 609.3.002, "Isolation Condenser Isolation Test"
- Procedure 609.3.008, Isolation Condenser 'B' Shell Water Level Instrument Calibration"
- Procedure 602.4.004, "Main Steam Isolation Valve 10% Closure Test"

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed the Oyster Creek performance indicator (PI) data against applicable criteria specified in NEI 99-02, to verify that all conditions that met the NEI criteria were recognized and identified as PI occurrences. The inspectors verified the accuracy of the reported data through reviews of monthly operating reports, shift operating logs, Licensee Event Reports (LERs) and additional records. The inspectors reviewed 12 months of reported data (January 2001 - December 2001) for the following PIs:

- Unplanned Scrams per 7,000 Critical Hours
- Unplanned Power Changes per 7,000 Critical Hours

b. Findings

No findings of significance were identified.

4OA3 Event Follow-up

a. Inspection Scope

On January 31, 2002, the 51C containment spray pump and the 'B' shutdown cooling pump were declared inoperable due to degraded U/V trip coils and static time delay (STD) devices. A risk assessment was performed and the impact of the failed breakers was determined to be below 1E-6, requiring only baseline inspection follow-up. The inspector reviewed the operability determination for the remaining breakers and verified the risk management during the repairs. Additionally, the inspector reviewed the preliminary root cause of the failure, both immediate and long term corrective actions for the current failures and the previous actions taken by the licensee to address this equipment degradation.

b. Findings

The inspectors identified a finding of very low safety significance (GREEN) associated with the licensee's failure to take corrective actions to preclude repetition of a significant condition adverse to quality associated with degraded components in safety related 480 volt electrical circuit breakers.

On January 31, 2002, the 51C containment spray pump and the 'B' shutdown cooling pump were declared inoperable due to failed undervoltage trip coils and static time delay devices. Historical data indicated that the failures associated with the U/V and STD devices had been a long standing issue at Oyster Creek. CAP documents 1999-1198 and 2000-2041 described the similar failures of U/V and STD devices in 480 volt electrical breakers. The root causes for those failures indicated aging equipment and a failure mechanism that initiates within the STD component and results in the eventual breakdown of the U/V coil resulting in a 'trip free' condition in the electrical breaker. This condition precludes the breaker from closing and renders the associated pump inoperable.

Initial corrective actions in 1999 included the replacement of the U/V coils and STDs during planned breaker maintenance. The replacement program was unsuccessful in arresting the increased number of failures in the 480 volt breakers. In 2000, corrective actions included the development of a modification to the circuitry to eliminate the use of these components in this application. However, the modification of the circuit was not available during two forced outages in 2001 and therefore was unsuccessful in precluding the additional failures of the safety related breakers. Several failures in 2001 and 2002 have occurred resulting in additional root cause and compensatory actions associated with the U/V and STD electrical devices.

The failure to correct a condition identified in 1999, 2000, and again in 2001, which resulted in additional failures in early 2002, is a violation of 10 CFR 50, Appendix B, Criterion XVI, in that Criterion XVI requires in part, that conditions adverse to quality be promptly identified and corrected. Further, Criterion XVI requires that in the case of significant conditions adverse to quality, the measures shall assure that the cause of the condition is determined and corrective action is taken to preclude repetition. The issue was more than minor since multiple failures of a safety related breakers could have a

credible impact on safety. The issue affected mitigating systems including containment spray, core spray and control rod drive pumps. The inspector reviewed the operator logs and verified the previous pump operability verification for the most recent pump failures to determine the overall risk impact on the plant with the control rod drive, containment spray and shutdown cooling pump breaker failures. The finding was evaluated using an NRC SDP phase 2 assessment and determined to have very low safety significance (Green). This violation is being treated as a Non-Cited Violation (NCV) consistent with section VI.A.1 of the NRC Enforcement Policy. The licensee entered this issue into the CAP (02002-0157). **(NCV 50-219/01-13-02)**

4OA6 Meetings, including Exit

Exit Meeting Summary

On March 1, 2002, the resident inspectors presented the inspection results to Mr. Ron DeGregorio 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.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

a. Key Points of Contact

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 Affairs
C. Wilson, Senior Manager, Operations

b. List of Items Opened, Closed, and Discussed

Opened and Closed

50-219/01-13-01	NCV	Violation of 10 CFR 50 Appendix B, Criterion III for the failure of design control measures to assure that deviations from the original design standards were controlled for parts replacement on the CRD system Hydraulic Control Accumulators. (Section 1R04)
50-219/01-13-02	NCV	Violation of 10 CFR Appendix B, Criterion XVI for the failure to take corrective actions to preclude repetition of a significant condition adverse to quality associated with safety related 480 volt electrical circuit breakers. (Section 4OA3)

c. List of Acronyms

ADAMS	Agencywide Documents Access and Management System
AmerGen	AmerGen Energy Company, LLC
CAP	Corrective Action Process
CRD	Control Rod Drive
CFR	Code of Federal Regulations
DBT	Design Basis Threat
EOP	Emergency Operating Procedure
HCU	Hydraulic Control Unit
HVAC	Heating, Ventilation and Air Conditioning
IMC	Inspection Manual Chapter
LER	Licensee Event Report
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PI	Performance Indicator
PMT	Post Maintenance Test
SDP	Significance Determination Process
SLC	Standby Liquid Control
SSC	Structures, Systems and Components
ST	Surveillance Test
STD	Static Time Delay
TS	Technical Specification
U/V	Undervoltage
WO	Work Order