

July 29, 2003

Mr. Jack Skolds
Chairman and CEO of AmerGen
AmerGen Energy Company, LLC
4300 Winfield Road
5th Floor
Warrenville, IL 60555

SUBJECT: OYSTER CREEK GENERATING STATION- NRC INTEGRATED INSPECTION
REPORT 05000219/2003003

Dear Mr. Skolds:

On June 28, 2003, 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 July 17, 2003 with Mr. Ernest Harkness 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.

This report documents three NRC-identified findings and one self-revealing finding of very low safety significance (Green), all of which were determined to involve violations of NRC requirements. However, because of the very low safety significance and because they were entered into your corrective action program, the NRC is treating these findings as non-cited violations (NCVs) consistent with Section VI.A of the NRC Enforcement Policy. Additionally, a licensee-identified violation was determined to be of very low safety significance and is listed in Section 40A7 of this report. If you contest any NCV in this report, 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 20555-001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-001; and the NRC Resident Inspector at Oyster Creek.

Since the terrorist attacks on September 11, 2001, NRC has issued five Orders and several threat advisories to licensees of commercial power reactors to strengthen licensee capabilities, improve security force readiness, and enhance controls over access authorization. In addition to applicable baseline inspections, the NRC issued Temporary Instruction 2515/148, "Inspection of Nuclear Reactor Safeguards Interim Compensatory Measures," and its subsequent revision, to audit and inspect licensee implementation of the interim compensatory measures required by order. Phase 1 of TI 2515/148 was completed at all commercial power nuclear power plants during calendar year 2002 and the remaining inspection activities for Oyster Creek are

Mr. Jack Skolds

2

scheduled for completion in calendar year 2003. The NRC will continue to monitor overall safeguards and security controls at Oyster Creek.

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 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).

We appreciate your cooperation. Please contact me at 610 337-5225 if you have any questions regarding this letter.

Sincerely,

/RA/

Neil Perry, Chief
Reactor Projects Branch 7
Division of Reactor Projects

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

Enclosure: Inspection Report 05000219/2003003
w/Attachment: Supplemental Information

Mr. Jack Skolds

3

cc w/encl: AmerGen Energy Company - Correspondence Control Deck
Chairman and CEO, AmerGen Energy Company
Vice President - Oyster Creek
Licensing and Regulatory Affairs - Vice President, Exelon Corporation
Director-Licensing
Regulatory Assurance Manager
J. Hufnagel, Kenneth Square Licensing Manager
R. Shadis, New England Coalition Staff
BNE Manager, State of New Jersey
N. Cohen, Coordinator - Unplug Salem Campaign
E. Gbur, Coordinator - Jersey Shore Nuclear Watch
E. Zobian, Coordinator - Jersey Shore Anti Nuclear Alliance
L. Canton, Regional Director, FEMA Region II

Mr. Jack Skolds

4

Distribution w/encl: (VIA E-MAIL)

Region I Docket Room (with concurrences)

R. Summers, DRP - NRC Senior Resident Inspector

H. Miller, RA

J. Wiggins, ORA

D. Vito, ORA

N. Perry, DRP

R. Barkley, DRP

J. Jolicoeur, OEDO

R. Laufer, NRR

J. Andersen, NRR

P. Tam, Acting PM, NRR

T. Colburn, Backup PM, NRR

DOCUMENT NAME: G:\BRANCH7\Oyster Creek\OC0303.wpd

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

OFFICE	RI/DRP		RI/DRP				
NAME	RSummers/ RJS		NPerry/ NSP				
DATE	07/29 /03		07/29/03				

OFFICIAL RECORD COPY

U. S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket No.: 50-219

License No.: DPR-16

Report No.: 05000219/2003003

Licensee: AmerGen Energy Company, LLC (AmerGen)

Facility: Oyster Creek Generating Station

Location: Forked River, New Jersey

Dates: March 30, 2003 - June 28, 2003

Inspectors: Robert Summers, Senior Resident inspector
Steve Dennis, Resident Inspector
Steve Shaffer, Reactor Inspector
Tim O'Hara, Reactor Inspector
John McFadden, Health Physicist
Gregory Smith, Senior Physical Security Inspector
John Wray, Health Physicist
Steve Pindale, Senior Reactor Inspector
George Morris, Reactor Inspector
Dave Silk, Senior Emergency Preparedness Specialist

Approved By: Neil Perry, Chief
Reactor Projects Branch 7
Division of Reactor Projects

TABLE OF CONTENTS

SUMMARY OF FINDINGS	iii
REACTOR SAFETY	1
1R01 Adverse Weather Protection	1
1R04 Equipment Alignment	2
1R05 Fire Protection	4
1R06 Flood Protection Measures	4
1R11 Licensed Operator Requalification	5
1R12 Maintenance Rule Implementation	6
1R13 Maintenance Risk Assessment and Emergent Work Evaluation	6
1R14 Personnel Performance During Non-routine Plant Evolutions	8
1R15 Operability Evaluations	10
1R16 Operator Work-Arounds	12
1R19 Post-Maintenance Testing	13
1R20 Refueling and Outage Activities	14
1R22 Surveillance Testing	14
1R23 Temporary Plant Modifications	15
RADIATION SAFETY	15
2OS1 Access Control to Radiologically Significant Areas	15
2OS2 ALARA Planning and Controls	19
2OS3 Radiation Monitoring Instrumentation	19
SAFEGUARDS	20
3PP2 Access Control	20
3PP3 Response to Contingency Events	20
3PP4 Security Plan Changes	21
OTHER ACTIVITIES	22
4OA1 Performance Indicator (PI) Verification	22
4OA2 Identification and Resolution of Problems	24
4OA3 Event Followup	25
4OA4 Cross Cutting Aspects of Findings	29
4OA5 Other Activities	30
4OA6 Meetings, including exit	32
4OA7 Licensee-Identified Violation	32
ATTACHMENT: SUPPLEMENTAL INFORMATION	
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-6

SUMMARY OF FINDINGS

IR 05000219/2003003; 03/30/03 - 06/28/03; Oyster Creek Generating Station; Equipment Alignment, Operability Evaluations, Access Control to Radiologically Significant Areas, and Event Followup.

The report covered a 13-week period of inspection by resident inspectors and region-based reactor inspectors, and included announced inspections by a regional health physics inspector, a senior physical security inspector, and a senior emergency preparedness specialist. Four Green non-cited violations (NCVs), one Green finding, and two unresolved items were identified. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after NRC management review. 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: Mitigating Systems

- Green. The inspectors identified a non-cited violation of Technical Specification (TS) 6.8.1 for failure to adequately maintain the Service Water System procedure on April 17, 2003. Specifically, the main control room copy of the procedure was not the latest revision, and therefore, did not reference valves added to the system during a modification which occurred in November 2002. The finding adversely impacted the ability to determine the appropriate Service Water System standby status.

The finding is greater than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone, in that, the Service Water System procedure was not maintained with the latest revision. However, the finding was determined to have very low safety significance because the affected valves were found to be in the correct position. This performance finding also was considered to involve the cross-cutting aspect of human performance since updating the control room procedures was not appropriately completed. (Section 1R04)

- Green. The inspectors identified a non-cited violation for failure to promptly identify and correct a condition adverse to quality in accordance with 10 CFR 50 App. B. Criterion XVI. Specifically, on May 13, 2003, inadequate corrective actions and evaluations led to the inoperability of Emergency Diesel Generator #1.

The finding is greater than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone, in that, a condition adverse to quality was not promptly identified and corrected leading to the inoperability of

EDG #1. However, the finding was determined to have very low safety because EDG #1 was not inoperable or out of service for greater than its technical specification allowable outage time. This performance finding also was considered to involve the cross-cutting aspect of problem identification and resolution since a thorough evaluation of the adverse condition was not completed. (Section 1R15)

Cornerstone: Physical Protection

- Green. A self-revealing finding was identified. A non-cited violation of the Order Modifying License dated February 25, 2002 and the prescribed "Interim Compensatory Measures for High Threat Environment (ICM)," relative to failure to maintain the Vehicle Barrier System as required by the ICM. Specifically, inattentiveness by security force personnel, who were assigned to a function that was prescribed by a specific ICM set forth by the Order Modifying License, resulted in a condition in which the Vehicle Barrier System (VBS) was not effectively maintained in accordance with the conditions of the Order Modifying License.

The finding is greater than minor because the condition could be reasonably viewed as a precursor to a significant event, in that vehicle access through the VBS (a protective measure against a vehicle bomb attack) was not effectively controlled and maintained in accordance with the ICM. Though the finding represents a vulnerability in access control and safeguards systems or plans, there was no malevolent act or actual intrusion. There have not been greater than two similar findings within the last four quarters. The performance failure was isolated in nature, and not considered predictable or repeatable. Accordingly, this finding is considered as having very low safety significance. This performance finding also was considered to involve the cross-cutting aspect of human performance since the finding, in part, was caused by two guards being inattentive to assigned duties. (Section 40A3)

Cornerstone: Occupational Radiation Safety

- Green. The inspectors identified a non-cited violation of TS 6.8.1(a) involving failure to implement a radiological controls procedure (RP-AA-210) for relocation of personnel whole-body dosimetry when working in radiation dose rate gradients. Specifically, on October 22, 2002, the primary/secondary dosimeters of four radiation workers, working in the reactor refueling cavity, were not relocated even though they worked in radiation dose-rate gradients requiring such relocation. This matter is considered inspector- identified in that, although the issue was documented in the licensee's dose assessment program, the issue had not been entered into the licensee's corrective action process and had not been identified as a Performance Indicator occurrence.

This finding is greater than minor because it affected an attribute and the objective of the Occupation Radiation Safety Cornerstone in that control and monitoring of personnel occupational exposure was not properly implemented. This finding was determined to be of very low safety significance because the

finding did not constitute an ALARA finding, did not result in an overexposure, did not create a substantial potential for overexposure, and did not compromise the licensee's ability to assess dose to workers. This performance finding also was considered to involve the cross-cutting aspects of human performance and problem identification and resolution since the technicians failed to adhere to procedures and also failed to timely enter the adverse condition into the station corrective actions program. (Section 2S01)

B. Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. The violation and corrective action tracking number is listed in Section 4OA7.

- TS 6.13.1 requires that, in the case where individuals are permitted to enter into a high radiation area while provided with a radiation monitoring device which continuously integrates the radiation dose in the area and alarms when a preset integrated dose is received, entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them. Contrary to this, on January 28, 2003, individuals were permitted to enter a high radiation area, the torus down comer piping area, without the dose rate levels in the area being established and without the individuals being made knowledgeable of them. This event was identified in the licensee's corrective action program as CAP No. O2003-0202. This finding is of very low safety significance because it did not result in an overexposure, did not create a substantial potential for overexposure, and did not compromise the licensee's ability to assess dose to workers.

REPORT DETAILS

Summary of Plant Status:

Oyster Creek began the integrated inspection period at full power. At 9:43 a.m., on May 20, 2003, a technical specification required manual shutdown was completed due to a fault on the cable between the #1 Emergency Diesel Generator and the "C" 4160V Vital Bus (see section 1R14). During the shutdown, the faulted cable was replaced, and at 1:15 a.m., on May 27, 2003, the plant began a power ascension. The plant returned to full power at 11:30 a.m., on May 28, 2003, and remained there for the duration of the inspection period with the exception of several occasions during which reactor power was decreased for a brief period of time for control rod and reactor recirculation flow adjustments, turbine valve testing, and main condenser cleaning evolutions.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors reviewed the licensee's seasonal readiness preparations to verify that safety-related equipment would remain functional when challenged by high summer temperature conditions. The inspectors reviewed the licensee's seasonal readiness procedure (OP-AA-108-109, Seasonal Readiness, Revision 1), seasonal check lists, and performed walk downs to verify that the safety-related equipment would remain functional during adverse weather conditions. The inspectors evaluated the condition of Emergency Service Water System and Emergency Diesel Generators prior to the onset adverse summer weather conditions.

The inspector also reviewed a sample of deficiencies associated with AmerGen's summer readiness action item list to verify that problems were entered into the corrective action program and appropriately addressed for resolution in a timely manner. The three most significant items were the reinstallation of the intake structure grass diverter bridge, the Reactor Recirculation Pump Motor Generator Set Ventilation Modification, Hydro-lazing of the Dilution Plant Pump Seal & Cooling Lines, and the Dilution Pump Pressure & Flow Switch Modification.

b. Findings

No findings of significance were identified.

Enclosure

1R04 Equipment Alignment

1. Full alignment - Emergency Service Water and Containment Spray Systems I and II

a. Inspection Scope

The inspectors conducted a detailed review of the alignment and conditions of the Emergency Service Water (ESW) and Containment Spray (CS) Systems 1 and 2 from March 24, 2003, through May 1, 2003. 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. Additionally, valve and electrical breaker positions in the field were verified to be properly aligned in accordance with electrical prints and piping diagrams. Control room indications and controls were also verified to be appropriate for the standby or operating status of the system and consistent with technical specification requirements and the Updated Final Safety Analysis Report (UFSAR). The inspectors reviewed and evaluated the potential impact on ESW and CS system operation from open work orders, design modifications, and corrective action process (CAP) reports. The inspectors also reviewed and discussed the ESW and CS System maintenance health report with the system engineer. The documents reviewed are listed below.

- ESW and CS System 1 and 2 Health Reports
- ARs A20114632, A20231368, A2059401, A2047082, A2011466
- ESW and CS System 1 and 2 Maintenance Rule Performance
- OCNCS Procedure 310, Rev. 79
- CAP Nos. O2003-0767, and 0780
- Configuration Management Procedure CC-AA-20, Rev 0
- ESW Flow Diagram - BR2005 SHT.4
- CS Flow Diagram - GE 148F740
- CS Logic Electrical Diagram - GE 237E901 SHT.1, 2

b. Findings

Introduction. A Green NCV was identified for failure to adequately maintain the Service Water System procedure as required by Technical Specification 6.8.1.

Description. On April 17, 2003, while conducting an equipment alignment on the Service Water System, the inspectors determined that the control room copy of procedure No. 322, Rev. 52, Service Water System was inadequate. The system valve lineup checkoff list did not list two valves, V-3-1121 and V-3-1124, which were installed during a system modification that occurred in November 2002. Although the procedure had been revised following the modification to reflect the addition of the valves, the control room copy of the procedure was never updated with the new revision. Further inspection determined that because an outdated procedure revision was in use, a complete system lineup had not been performed since the modification had occurred in November 2002. The inspector verified that the valves in question were in the required position.

Analysis. The finding adversely impacted the ability to determine the appropriate Service Water System standby status. It was determined to be greater than minor because it affected the procedure quality attribute of the Mitigating Systems Cornerstone, in that, the Service Water System procedure was not maintained with the latest revision. However, the finding was determined to have very low safety significance using Phase 1 of the NRC significance determination process described in NRC Inspection Manual Chapter (IMC) 0609, Appendix A, because the affected valves were found to be in the correct position.

Enforcement. TS 6.8.1, states, in part, that written procedures shall be established, implemented and maintained as recommended in Appendix A. of Regulatory Guide 1.33. Contrary to the above, on April 17, 2003, Service Water System Procedure 322 was not maintained with the latest revision in the Main Control Room and resulted in an inadequate verification of the system standby alignment. Because this failure to maintain the Service Water System procedure is of very low safety significance and has been entered into the corrective action program (CAP O2003-0700), this violation is being treated as an NCV consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000219/2003003001, Failure to Maintain the Service Water System Procedure.

2. Partial Alignments

a. Inspection Scope

Partial walkdown inspections were performed on the three systems listed below. A random sampling of valve positions in the field was verified to be properly aligned in accordance with the operating procedures for the systems listed below. Control room indications and controls were verified to be appropriate for the standby or operating status of the system and system maintenance action requests were reviewed to assure no degraded conditions existed to adversely affect operability.

- Control Rod Drive System, week of April 7, 2003
- Service Water System, week of April 14, 2003
- Standby Gas Treatment System, week of May 26, 2003

b. Findings

No findings of significance were identified.

1R05 Fire Protection

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 nine areas due to the potential to impact mitigating systems:

- RB-FZ-IF3, Northwest Corner Room
- TB-FZ-11F, Feedwater Pumps
- TB-FZ-11D, Turbine Building Basement
- TB-FA-3A & 3B, 1C & 1D 4160v Vital Switchgear Room
- OB-FZ-22A, Upper Cable Spreading Room
- DG-FA-15, Emergency Diesel Generator #1 Room
- DG-FA-17, Emergency Diesel Generator #2 Room
- DG-FA-16, Emergency Diesel Generator Fuel Oil Storage Area
- FW-FA-18, Fire Water Pump House

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures

1. Internal

a. Inspection Scope

The inspector reviewed the Oyster Creek Individual Plant Examination of External Events, Section 5.2, "External Floods," TS and the UFSAR, Section 2.4.2 concerning flood design considerations. The inspector reviewed the procedure for High Winds, 2000-ABN-3200.31 Rev. 21, Response to Abnormal Intake Level, 2000-ABN-3200.32, Rev. 19 and evaluated the northwest corner room, which contains the 1-7 sump, Core Spray Pumps A and C, and both Control Rod Drive Pumps.

b. Findings

No findings of significance were identified.

2. External

a. Inspection Scope

The inspector verified that operator actions to mitigate flooding described in section 10.7. of the Oyster Creek Internal Flooding Analysis, dated November 1991, and other external flood protection measures described in the Oyster Creek Probabilistic Risk Assessment were appropriately addressed in abnormal and emergency procedures. A walkdown of the below listed outside buildings was also performed.

- Emergency Diesel Generator building
- Intake Structure

- Redundant Fire Pump building
- Fire Diesel building

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

The inspectors reviewed two separate licensed operator requalification training samples during this period against criteria specified in licensee procedure 2611-PGD-2612, Oyster Creek Licensed Operator Requalification Training Program. As a result of a strike by licensed reactor operators and other plant staff that commenced on May 22, 2003 (See Section 4OA5), the licensee conducted special, "just-in-time" licensed operator training for newly formed crews consisting of all senior licensed operators for the pending reactor startup. This special training was designed for the new crews who were about to restart the unit from cold shutdown after having completed a forced outage to replace a failed 4160 Volt vital bus cable. The training observed included system lineup and startup of the reactor recirculation system, the condensate and feedwater system, and the warm up, roll up, and loading of the main turbine generator. The resident inspector observed the crew training conducted for the shift that actually performed these tasks during the planned reactor startup.

Also as a result of the strike, AmerGen requested and was granted relief from the licensed operator requalification requirements of 10 CFR 50.55 on June 30, 2003 that delayed implementation of the biennial examination and evaluation until no later than December 31, 2003. As a result, Region I sought additional commitments to continue regularly scheduled requalification training, albeit at a significantly reduced manner, which the licensee provided in a letter dated June 23, 2003. In lieu of the normal requalification training, senior licensed operators were given specifically designed simulator and classroom training to emphasize alarm response, a duty not normally assigned to senior licensed operators, but a role now assumed since the licensed operators were on strike. This training included Emergency Operating Procedures (EOP) usage for two simulated casualties involving an Anticipated Transient Without Scram (ATWS) and a loss of coolant outside the primary containment. The resident inspectors observed the initial requalification training for the senior licensed operators that commenced on June 24, 2003.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors reviewed the licensee'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), corrective action program reports (CAPs), engineering change requests (ECRs), (a)(1) corrective action plans, and routine preventive maintenance activities. The inspectors also discussed planned corrective actions for the second half of 2003 with the responsible system engineers and compared unavailability data with control room log entries to verify compliance with (a)(1) goals. AmerGen's trending data was also reviewed. The documents reviewed are listed in the Attachment. The SSCs reviewed during the inspection period were as follows:

- Emergency Lighting Units
- A and B Battery Room Ventilation
- Meteorological Monitoring

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the risk assessment for the following five maintenance-related activities against criteria specified in licensee procedure ER-AA-600-1042, Online Risk Management.

- During the week of April 7, 2003, the inspectors reviewed the overall plant risk assessment performed by the licensee to assess its adequacy and for the work scheduled. The schedule for the week included scheduled preventive maintenance or surveillance tests on Emergency Diesel Generator #1, both Isolation Condensers, Reactor Building Closed Cooling Water System Pumps, and the Standby Gas treatment System.
- On April 11, 2003, "C" Recirculation Pump Motor Generator Set experienced speed oscillations during steady state operation. These oscillations continued to occur infrequently during the months of April and May. The inspectors verified that the licensee evaluated the risk associated with the potential loss of "C" Recirculation Pump. This included the licensee's decision to postpone the refurbishment project of the "D" Recirculation MG Set. The inspectors reviewed CAPs O2003-0772, 0776, and 0888 generated during the licensee's review of the potential risk from the emergent "C" Recirculation MG Set issue. The inspectors reviewed the licensee's troubleshooting action plans and Oyster Creek Generating Station Procedures, 301.2, "Reactor Recirculation System,"

2000-ABN-3200.02, "Recirculation Pump Trip," and 2000-ABN-3200.03, "Recirculation Flow Abnormality." Additionally, compliance with technical specifications was verified.

- During a routine plant tour on April 24, 2003, a plant operator noted that one of three condensate line break sensors on the "B" Isolation Condenser was reading significantly different than the other two. Further investigation by the licensee determined that the flow switch had failed (CAP O2003-0742). The "B" Isolation Condenser was declared inoperable and the switch was replaced and retested satisfactorily on April 25, 2003. The inspectors reviewed the risk assessment performed by the licensee due to the emergent work and also reviewed the documents associated with the repair and retest of the switch (WO#A2060640).
- On May 13, 2003, during the performance of the Emergency Diesel Generator (EDG) #1 bi-weekly surveillance test, the EDG started, came up to normal speed, but then immediately slowed and then stopped. The EDG was declared inoperable and a troubleshooting plan was implemented (Action Request #A2061761). The problem was found to be in the fuel oil system (See Section 1R15). The inspectors reviewed the risk assessment performed due to the emergent work, technical specification compliance and troubleshooting, repaired and retest activities (CAP O2003-0912).
- During the scheduled performance of the EDG #2 fast start test on June 17, 2003, the EDG output breaker failed to close. The failure occurred during the six-month preventive maintenance outage for the EDG and based upon licensee review of the failure, no additional plant risk occurred (CAP O2003-1242). The failure was determined to be a problem with a high resistance contact on the breaker test cable. Repairs were made and the EDG was retested satisfactorily. (Work Order #C2006016). The inspectors reviewed the risk assessment to ensure compliance with plant procedures, and also verified the impact on technical specifications and any potential effect of the failure on EDG #1.

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Non-routine Plant Evolutions

1. 4160V Vital Bus Cable Failure and Technical Specification Required Shutdown

a. Inspection Scope

At 12:30 a.m. on May 20, 2003, the 1C Vital Bus 4160 VAC breaker tripped and caused a lockout of the 1C Vital Bus. Troubleshooting revealed a fault on the normally energized 4160V cable which runs between the 1C Vital Bus and the #1 Emergency Diesel Generator output breaker. Due to cable failure and bus lockout, a technical

Enclosure

specification shutdown was required and was achieved via a controlled downpower and a manual scram at 9:43 a.m. on May 20, 2003. The inspectors responded to the site and observed, in the control room, operators' response to the transient and all portions of the plant shutdown until cold shutdown was achieved at 7:13 p.m. on May 20, 2003. The inspectors verified operator transient response activities and equipment manipulations were in accordance with plant operating procedure No. 203, Plant Shutdown, and abnormal procedures ABN-3200.01-Reactor Scram, ABN-3200.44, 45, 46-Loss of Buses 1A1, 1A2, 1A3.

The inspectors monitored operator actions to shut down and cool down the plant, and to recover the 480 volt buses normally energized by the 1C Vital Bus. The inspectors observed troubleshooting activities into the cable failure, during which the failed cable was revealed to be manufactured by Anaconda. This also revealed a failure in the licensee's as-built documentation because the cable was identified as being manufactured by Cablec. During the shutdown, the inspectors verified that the similar cable associated with the #2 EDG and the 1D 4160 VAC Vital Bus was not of the same material lot manufactured by Anaconda that has been identified as vulnerable to a moisture intrusion failure mechanism.

The inspectors interviewed Oyster Creek staff and engineers associated with the troubleshooting and repair activities. In addition, licensee documentation associated with the event was reviewed, including the event notification required by 10 CFR 50.72, the Cable Pull Calculation for Tech Evaluation, A2062352-E02, the draft apparent cause evaluation, CAP No. O2003-1000, and the 1C 4160 V Cable Failure presentation to Plant Operating Review Committee (PORC). Portions of the damaged cable were visually examined. The portion of the cable located in the buried section of the cable run near the EDG building showed physical evidence of the ground fault. The observed damage on the cable section nearest the switchgear end could have been caused by other reasons than the fault event, for example, a combination of a material defect in the manufacturing process (that placed Unishield conductor close to the surface of the jacket) and installation damage (that abraded the thin surface of the jacket). However the Unishield conductor was not visible. Oyster Creek (OC) sent both sections of cable to Cable Testing Labs for an independent evaluation.

Regarding the recovery/repair activities, the inspectors observed pulling of the new cable; observe the PORC meeting concerning event corrective actions as well as approval of plant restart; and observed the dielectric strength (Hi-Pot) testing of new cables for the #1 EDG. The inspectors reviewed the results of the megger and Hi-Pot testing of terminated cables. Both Megger and Hi-Pot tests had similar results with the west/phase yellow cable showing slightly weaker, but acceptable results. The inspectors also observed the post-maintenance testing results of the #1 EDG and 1C 4160 Volt bus restoration.

b. Findings

Introduction. An Unresolved Item was identified involving a potential failure to promptly identify and correct a condition adverse to quality in order to prevent the failure of the 1C

Enclosure

Vital bus. This issue remains unresolved until an inspection of the licensee's root cause analysis for the May 2003 cable failure can be completed to determine if corrective actions for a similar, November 2001 cable failure was untimely, as well as to better characterize the risk significance, if such a performance deficiency is determined.

Description. Oyster Creek has a long history of 5 kV cable failures. Most of those failures have been in cable manufactured by Anaconda. Following a cable failure in November 2001, Oyster Creek supplemented their existing corrective action program for cable failures. Prior to the November 2001 cable failure, the corrective actions consisted of periodic high dc voltage testing. After the 2001 failure, this testing program was supplemented with a replacement program based on probability of failure. The cables deemed most likely to fail were Anaconda cables in moist environments. The cables between the # 1 EDG and the "C" safety-related 4160 V bus (cables 86-25-1 and 86-25-2) were replaced in 1977 and again in 1985. After replacement, the Oyster Creek engineering documents incorrectly indicated the two, 86-25 cables were replaced with cable manufactured by Cablec and not Anaconda. After the November 2001 failure, engineers relied upon the as-built engineering database to determine the extent of corrective actions to be taken. The two, 86-25 cables were not physically verified at that time to be Cablec. As a result of the erroneous documentation of the as-built configuration and reliance solely on that documentation to determine the extent of condition in November 2001, Oyster Creek took no special corrective action for these two cables as would have been expected per the Anaconda corrective action plan stemming from the 2001 cable failure event.

The inspectors need to review the licensee's formal root cause evaluation of the 1C Vital Bus cable failure to determine if prior licensee corrective action were untimely or ineffective, and to characterize the risk if it is determined that a performance deficiency existed. The inspector indicated that this was an unresolved item:

URI 05000219/2003003-06, NRC to review the root cause analysis of the May 2003, 1C Vital Bus cable failure to determine if prior corrective action were ineffective or untimely.

2. Reactor Startup Activities

a. Inspection Scope

At noon on May 22, 2003, all licensee employees represented by the International Brotherhood of Electrical Workers, Local 1289, including licensed operators and maintenance staff commenced a strike at Oyster Creek. (See Section 4OA5 of this report for additional information regarding the inspection of the licensee response and handling of the strike.) The inspectors commenced enhanced coverage of site activities, including restoration of the vital bus that caused the plant shutdown on May 20, and subsequent reactor startup activities on May 27-28, 2003. The enhanced coverage and oversight initially consisted of onsite inspection for a duration of 24 hours/day, 7 days/week. The inspectors observed the bus recovery and reactor startup activities accomplished using only management and engineering staff with some supplemental craft from other Exelon nuclear sites. The inspectors noted that many of

these activities were being conducted for the first time with newly assigned staff designated in the licensee strike contingency plan.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations

a. Inspection Scope

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 where a component was determined to be inoperable. The inspectors verified that the TS limiting conditions for operation were properly addressed. The five selected samples are listed below:

- Service Water System Material Condition - On April 4, 2003, during a walkdown of the intake portion of the Service Water System, the inspectors noted that the supports for the discharge piping elbows, on both pumps, appeared to be degraded. The inspectors informed operations and engineering who in turn performed an operability evaluation of the pipe supports (CAP No. O2003-566). The evaluation found the supports to be operable but degraded with directed actions to further evaluate the extent of condition (Action Request A2059150).
- Drywell Sump Leak High/Power Failure Alarm - On April 20, 2003, the main control room alarm for Drywell Sump Leak High/Power Failure was received three times over a 30 minute period. No indications of an actual drywell leak or containment issues were apparent and the alarm cleared. The issue was documented in CAP No. O2003-0696, 697. Initially, the drywell integrator was considered operable due to a previously known issue (CAP No. O2003-0221), however, further continuous troubleshooting by the licensee (Action Plan 2003-27) found high resistance across one of the system relay contacts and the integrator was then declared inoperable. The licensee repaired and retested the component satisfactorily.
- Intermediate Range Monitor (IRM) 13 - On May 23, 2003, IRM 13 spiked three times causing half-scrams each time which was documented in CAP No. O2003-1020. The spikes did not represent an increase in neutron flux. Troubleshooting was performed under Action Request A2062642 during which a one inch cut was discovered in the insulation of a high voltage wire for IRM 13 and was described in CAP No. O2003-1028. The operability evaluation concluded that the system was operable and was described in Action Request, A2062642.

- Emergency Service Water (ESW)- On June 6, 2003, licensee inspection of ESW pump 1-2 piping elbow determined that wall thinning had occurred (CAP No. O2003-1178). The engineering evaluation found the piping to be operable based upon seismic loading considerations and calculations (C-1302-532-E310-052) which assumed a very conservative corrosion rate.
- Emergency Diesel Generator #1 - On May 10, 2003, CAP No. O2003-0897 was written to document that the normally full, fuel oil filter return sight-glass was empty. The operability evaluation stated the EDG was operable and was based upon evaluation of a similar problem identified by the inspectors on February 28, 2003, when the same sightglass was found only half full (CAP No. O2003-0377). On May 12, 2003, EDG #1 failed its surveillance test and was declared inoperable. Licensee troubleshooting confirmed that EDG #1 start failure was due to a lack of fuel supply to the engine. This issue is discussed further in the findings section below.

b. Findings

Introduction. A Green NCV was identified for failure to promptly identify and correct a condition adverse to quality in order to prevent the inoperability of Emergency Diesel Generator #1, in accordance with 10 CFR 50 App. B. Criterion XVI.

Description. On May 10, 2003, CAP No. O2003-0897 was written by the licensee to document that the normally full, fuel oil filter return sight-glass on EDG #1 was empty. Previously, on September 8, 1998, the same issue had occurred and was documented in CAP No.1998-1169. The evaluation for the most recent issue relied upon the evaluation in 1998 to determine operability. It stated that, in 1998, EDG #1 was operable due to a successful start and surveillance test run. Additionally, the inspectors identified, on February 28, 2003, that the same sight-glass was only half full (CAP No. O2003-0377). Once again, the licensee relied upon a 1998 evaluation to determine operability. On May 13, 2003, EDG #1 failed its surveillance test and was declared inoperable. Licensee troubleshooting confirmed that EDG #1 start failure was due to a lack of fuel supply to the engine. The licensee initiated a prompt investigation team that determined a new evaluation should have been performed when the sight-glass was most recently found empty, to ensure continued operability of the EDG. Licensee troubleshooting determined that inoperable check valves in the fuel oil system led to the start failure (CAP No. O2003-0912).

Analysis. The deficiencies associated with this finding were inadequate corrective actions and evaluations leading to the inoperability of EDG #1. The finding is greater than minor because it affected the equipment performance attribute of the Mitigating Systems Cornerstone, in that, a condition adverse to quality was not promptly identified and corrected leading to the inoperability of EDG #1. However, the finding was determined to have very low safety significance using Phase 1 of the NRC significance determination process described in NRC Inspection Manual Chapter (IMC) 0609, Appendix A, because EDG #1 was not inoperable or out of service for greater than its technical specification allowable outage time.

Enclosure

Enforcement. 10 CFR 50 Appendix B Criterion XVI in part states that measures shall be established to assure that conditions adverse to quality, such as deficiencies, are promptly identified and corrected. Contrary to the above, on May 13, 2003, EDG #1 was found to be inoperable, during surveillance testing, due to a failure to promptly identify and correct a condition adverse to quality. Because this finding on EDG #1 is of very low safety significance and has been entered into the corrective action program (CAP No. O2003-0912), this violation is being treated as a non-cited violation (NCV), consistent with section VI.A of the NRC Enforcement Policy: NCV 05000219/2003003002, Failure to promptly identify and correct a condition adverse to quality on EDG #1.

1R16 Operator Work-Arounds

a. Inspection Scope

The inspectors reviewed the operator work-around database and associated corrective action items 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." Currently, Oyster Creek has one open operator work-around affecting the performance of the Control Rod Drive (CRD) pumps, during a loss of power sequence. The work-around results in the need to manually rack out and rack in the power supply breaker to the CRD pump in order to restore CRD during loss of power sequences. This work-around is scheduled to be repaired during a planned system outage in the fall of 2003. The inspector reviewed the actions associated with this work-around to ensure that appropriate procedural controls were established for operator use in the interim, prior to implementing the planned modification to the breaker controls.

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 below-listed six maintenance activities because of their function as mitigating systems or their potential role in increasing plant transient frequency. The inspectors reviewed the post-maintenance test documents to verify that they were in accordance with the licensee's procedures and that the equipment was restored to an operable state.

- "B" Standby Liquid Control Pump - surveillance procedure 612.4.001, "Standby Liquid Control Pump and Valve Operability Test" was performed on April 3, 2003 after replacement of discharge flow indicator FI-DO-14.

- Emergency Diesel Generator (EDG) #1 - surveillance procedure 636.4.003, "EDG #1 Load Test" was performed on April 9, 2003 following completion of the biannual maintenance inspection and a dead bus relay replacement.
- Containment Spray (CS)/Emergency Service Water (ESW) System II - surveillance procedure 607.4.017, "CS/ESW Operability and Quarterly Inservice Test" was performed on April 18, 2003 following planned maintenance on the CS heat exchangers.
- "C" Recirculation MG Set - work orders C2005842.03 & .04 were completed on May 23, 2003 following replacement of the Bailey Controller for the scoop tube positioner and the pump was placed back in automatic.
- Emergency Diesel Generator (EDG) #1 - surveillance procedure 636.4.003, "EDG #1 Load Test" was performed on May 13, 2003 following maintenance repairs on the fuel oil system.
- Emergency Diesel Generator (EDG) #2 - surveillance procedure 636.4.013, "EDG #2 Load Test" was performed on June 19, 2003 following completion of the biannual maintenance inspection.

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

Maintenance Outage to Replace 4160V Cable and Subsequent Plant Startup

a. Inspection Scope

The inspectors observed outage maintenance activities (See Section 1R14 for discussion of cable repair activities) during the plant shutdown and verified those activities were performed in accordance with plant procedures. In addition, during the outage, the inspectors reviewed the daily outage risk assessments and verified the equipment alignments used to support the assessments. The inspectors also monitored the availability of the decay heat removal system due to limited electrical power for shutdown cooling to pumps. During the plant startup, which began on May 27, 2003, the inspectors observed and verified adherence to procedure No. 201-Plant Startup, and the Core Maneuvering Plan dated May 24, 2003. The inspectors continued to observe control room startup activities until full power was achieved on May 28, 2003.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspector observed pre-test briefings and portions of 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 and the OC Updated Final Safety Analysis Report. The inspector also reviewed the results of past test performance of the selected STs to verify that degraded or non-conforming conditions were identified and corrected, if needed. The following six STs were observed:

- Average Power Range Monitor System II, surveillance procedure 620.3.023 completed on April 4, 2003.
- Isolation Condenser Isolation Test and Calibration - surveillance procedure 609.3.002, revision 51 completed on April 7, 2003.
- Reactor Building to Torus Vacuum Breaker Surveillance, surveillance procedure 604.4.003 completed on April 8, 2003.
- Emergency Diesel Generator Weekly Battery Surveillance, surveillance procedure 632.2.005 performed on April 9, 2003.
- Fire Diesel Weekly Battery Verification, surveillance procedure 645.2.002 completed on April 9, 2003.
- Core Spray System 1 Instrument Channel Calibration, Test and System Operability, surveillance procedure 610.3.105, revision 49 completed on May 30, 2003.

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

On April 28, 2003, the inspectors reviewed a temporary modification described in Engineering Change Request (ECR) 03-00349. The temporary modification bypassed the inlet hydrogen analyzer trip and alarm functions. Due to a faulty relay socket, these functions had been tripping Augmented Off Gas (AOG) when a trip was not required. The inspectors reviewed the ECR and safety evaluation OC-2003-E-0004.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas

a. Inspection Scope

The inspector reviewed radiological work activities and practices, and procedural implementation during observations and tours of the facilities and inspected procedures, records, and other program documents to evaluate the effectiveness of Exelon/Oyster Creek's access controls to radiologically significant areas.

On April 29 and 30, and May 1, 2003, the inspector reviewed and discussed, with several radiological engineers, radiological exposure control and monitoring issues, and data from several 1R19 outage work activities and from events identified in the corrective-action program.

The inspector conducted tours in various parts of the facility to verify the adequacy of the radiological controls which were being implemented. On April 29, 2003, the inspector toured the protected area outside the Radiologically Controlled Area (RCA) and observed RCA entries and exits. The inspector observed activities at the main RCA-access-control point and at satellite RCA-access-control points to verify compliance with requirements for RCA entry and exit wearing of record dosimetry, and issuance and use of alarming electronic radiation dosimeters. On April 30, 2003, the inspector observed the lifting and decontamination efforts for a loaded spent fuel cask as it was brought to the surface of the equipment pool on elevation 119' of the reactor building. The inspector observed the radiological briefing for the work crew which was conducted prior to this evolution. Also, on this date, the inspector visited the health-physics-radiological-instrument calibration trailer and discussed the operation and calibration process for the whole body counter. On May 1, 2003, the inspector toured various elevations in the reactor building. During these observations and tours, the inspector reviewed for regulatory compliance, the posting, labeling, barricading, and level of radiological access control for locked high radiation areas (LHRAs), high radiation areas (HRAs), radiation and contamination areas, and radioactive material areas. The inspector observed work activities for compliance with the radiation work permit (RWP) requirements.

The inspector performed a selective examination of RWPs, procedures, and other program documents (as listed in the List of Documents Reviewed Section) to evaluate the adequacy of radiological controls.

The review in this area was against criteria contained in 10 CFR 19.12, 10 CFR 20 (Subparts D, F, G, H, I, and J), Technical Specifications, and procedures.

b. Findings

Enclosure

Introduction. A Green NCV was identified involving failure to implement a procedure for relocation of personnel whole-body dosimetry when working in radiation dose rate gradients. This matter is considered inspector-identified in that, although the issue was documented in the licensee's dose assessment program, the issue had not been entered into the licensee's corrective action process and had not been identified as a Performance Indicator occurrence.

Description. On October 22, 2002, four workers working under radiation work permit (RWP) OC-1-02-00402-00, "Reactor Building/Elevation 119 Refuel Floor/ Reactor Reassembly," entered and worked in the reactor refueling cavity. Radiation surveys made before the workers entered the area indicated that the average dose equivalent rate at chest level for the workers was 375 millirem/hour and the average dose equivalent rate at knee level for the workers were 925 millirem/hour. Because of these dose rate gradients and an ambient general area dose rate exceeding 100 millirem/hr, the workers' primary and secondary dosimetry was to have been repositioned, prior to the entry, to an area above the knee to measure the highest expected dose equivalent to the whole body of the workers. This had not been done prior to the workers' entry. Subsequent to the worker's exit, radiation protection personnel identified that the workers' dosimetry had not been relocated as required by applicable radiation protection procedures (Procedure RP-AA-210, "Dosimetry Issue, Usage, and Control, Rev. 3."). A radiological engineer subsequently performed a dose assessment to calculate highest expected dose equivalent to the workers. The radiological engineer identified that the dose to the leg above the knee (highest expected whole body dose location) had not exceeded any regulatory dose limits for dose to the whole body, but each of the four workers had received a dose to the leg above the knee due to the dose gradients, that exceeded the radiation work permit specified dose alarm set point of 300 millirem for the secondary dosimetry which had been worn on the chest. One worker received a dose equivalent of 269 millirem above the secondary dosimetry dose alarm set point (300 millirem) for a total dose of 569 millirem. These dose assessments were documented on October 22, 2002 in a Dosimetry Investigation Report (DIR). The calculations in this report indicated that the average dose rate at the leg above the knee was 2.47 times greater than the average dose rate at chest level and that the average dose rate in the general work area was 375 millirem per hour indicating the licensee had not implemented its radiation protection procedure as required by TS 6.8.1. (a).

The inspector's review of the above dosimetry investigation report and discussion with radiation protection personnel, identified that the failure to reposition dosimetry in accordance with procedures had not been entered into the licensee's corrective action system as of May 1, 2003. Further, since one worker had sustained an unplanned exposure of 100 millirem above the dosimetry alarm set point of 300 millirem, the issue constituted a performance indicator occurrence.

Analysis. This event constituted a performance deficiency in that a radiation protection procedure requirement was not met for proper monitoring of occupational exposure (RP-AA-210), which could reasonably have been prevented. Traditional enforcement does not apply because the issue did not have any actual safety consequences or potential for impacting the NRC's regulatory function and was not the result of any willful

Enclosure

violation of NRC requirements or licensee procedures. The finding was greater than minor because the finding affected an attribute and the objective of the Occupation Radiation Safety Cornerstone for control and monitoring of personnel occupational exposure in that a dose control and monitoring requirement were not implemented. No unplanned significant exposure occurred because the workers' alarming dosimetry worn on the chest was functional and would have alarmed upon exceeding its alarm set point (300 millirem). Further, the licensee's review indicated no other workers had entered the area under similar circumstances and workers subsequently entering had their dosimetry repositioned. Consequently, this finding was determined, using the Occupational Radiation Safety Significance Determination Process (SDP) to be of very low safety significance because the finding did not constitute an As Low As Reasonably Achievable (ALARA) finding, did not result in an overexposure, did not create a substantial potential for an overexposure, and did not compromise the licensee's ability to assess dose to workers.

Enforcement. Oyster Creek Technical Specification 6.8.1(a), "Procedures and Programs," requires that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix "A" of Regulatory Guide (RG) 1.33. Appendix A of RG 1.33 includes radiation protection procedures for personnel monitoring. AmerGen procedure RP-AA-210 (Revision 3), "Dosimetry Issue, Usage, and Control," states that repositioning of primary, whole-body dosimetry shall be performed whenever dose-rate gradients in the work area make it likely that the total dose equivalent for a portion of the whole body will exceed the chest dose equivalent by more than 50%, and the dose rates in the general work area exceed 100 millirem per hour. The procedure states that, if relocation is required, the routine primary/secondary dosimeters are to be placed at the body location with the highest expected dose equivalent.

Contrary to the above, on October 22, 2002, four radiation workers were permitted to enter and perform their work activities in the refueling cavity, where the average work-area-dose-rate gradient caused the total dose equivalent for the leg above the knee to exceed the chest dose equivalent by more than 50% and where the average dose rate in the general work area exceeded 100 millirem per hour. However, the primary and secondary whole-body dosimetry were not relocated from the chest level to the leg above the knee which was the body location with the highest expected dose equivalent.

Because this NRC-identified violation was of very low safety significance and AmerGen entered this issue into its corrective action program (CAP No. O2003-0796) (May 1, 2003), and because immediate corrective actions were taken, this violation is being treated as a Non-Cited Violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000219/2003003-03, Failure to implement procedure for relocation of primary whole-body dosimetry.

Notwithstanding the above, the inspector's review of the radiological survey for the worker's entry, dated October 21, 2002, identified that there was no readily available data for alpha analysis either for surface smears or of the air sample for the reactor cavity entry. Further, the survey did not identify if radiological surveys had been

Enclosure

conducted for discrete radioactive particles or radioactive pieces that could result in potential extremity doses to the lower legs. The inspector noted that such data would ordinarily be necessary to determine the radiological controls for work in the surveyed area to control and assess workers' internal or external dose. In addition, the inspector noted that the dose gradient used for dose assessment purposes for the workers were 2.47 (knee to chest). However, the survey data indicated a maximum ratio of 4.5 (knee to chest). During a telephone conversation on May 13, 2003, site radiation protection management representatives stated that the retrieval of such information was being conducted and that the retrieved data would be evaluated in regard to worker dose control and assessment. They also stated that some data for alpha counting of smears had become available which would indicate that internal dose due to alpha emitters was not a concern. The inspector indicated that the adequacy of the radiological surveys and dose assessment for occupational exposure control and assessment for the reactor cavity entry was an unresolved item: URI 05000219/2003003004, adequacy of the radiological surveys and dose assessment for occupational exposure control for a reactor cavity entry on October 22, 2002.

2OS2 ALARA Planning and Controls

a. Inspection Scope

The inspector reviewed the effectiveness of the licensee's program to maintain occupational radiation exposure as low as is reasonably achievable (ALARA).

On April 28, 2003, the inspector discussed the collective radiation exposure received by the workforce for the year of 2002 (265 person-rem), the person-rem received during the 2002 1R19 refueling outage (209 person-rem), the collective person-rem for the 2002 operating period (56 person-rem), and the projected person-rem estimate for 2003 (42 person-rem).

On April 30 and May 1, 2003, the inspector reviewed selected ALARA planning packages for work evolutions completed during the 1R19 refueling outage. The inspector examined the status and adequacy of work-in-progress and post-job ALARA reviews.

The inspector performed a selective examination of procedures, records, and documents (as listed in the List of Documents Reviewed Section) for regulatory compliance and for adequacy of control of radiation exposure.

The review was against criteria contained in 10 CFR 20.1101 (Radiation protection programs), 10 CFR 20.1701 (Use of process or other engineering controls), and procedures.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation

a. Inspection Scope

The inspector reviewed the program for health physics instrumentation to determine the accuracy and operability of the instrumentation.

During the plant tours described in Section 2OS1, the inspector reviewed field instrumentation utilized by health physics technicians and plant workers to measure radioactivity and radiation levels, including portable field survey instruments, hand-held contamination frisking instruments, whole-body friskers, and portal monitors. The inspector conducted a selective review of the instruments observed in the toured areas, specifically for verification of a current calibration of appropriate source checks and of proper function. The inspector also reviewed selected calibration records for electronic personal dosimeters.

The inspector performed a selective examination of procedures, records, and documents (as listed in the List of Documents Reviewed Section) for regulatory compliance and adequacy in this area.

The review was against criteria contained in 10 CFR 20.1501, 10 CFR 20 Subpart H, Technical Specifications, and procedures.

b. Findings

No findings of significance were identified.

3. **SAFEGUARDS**

Cornerstone: Physical Protection

3PP2 Access Control

a. Inspection Scope

The following activities were conducted during the inspection period to verify that the licensee had effective site access controls, and equipment in place designed to detect and prevent the introduction of contraband (firearms, explosives, incendiary devices) into the protected area as measured against 10 CFR 73.55(d) and the Physical Security Plan and Procedures:

Site access control activities were observed, including personnel and package processing through the search equipment during peak ingress periods on June 24 and June 25, 2003. On June 26, 2003, observation of vehicle search activities was also conducted. On June 23, 2003, testing of all access control equipment including metal

detectors, explosive material detectors, and X-ray examination equipment at the access point was observed.

b. Findings

No findings of significance were identified.

3PP3 Response to Contingency Events

The Office of Homeland Security (OHS) developed a Homeland Security Advisory System (HSAS) to disseminate information regarding the risk of terrorist attacks. The HSAS implements five color-coded threat conditions with a description of corresponding actions at each level. NRC Regulatory Issue Summary (RIS) 2002-12a dated August 19, 2002, "NRC Threat Advisory and Protective Measures System," discusses the HSAS and provides additional information on protective measures to licensees.

a. Inspection Scope

On September 10, 2002, the NRC issued a Safeguards Advisory to reactor licensees to implement the protective measures described in RIS 2002-12a in response to the Federal government declaration of threat level "orange." Subsequently, on September 24, 2002, the OHS downgraded the national security threat condition to "yellow" and a corresponding reduction in the risk of a terrorist threat.

The inspector interviewed licensee personnel and security staff, observed the conduct of security operations, and assessed licensee implementation of the threat level "orange" protective measures. Inspection results were communicated to the region and headquarters security staff for further evaluation.

The following activities were conducted to determine the effectiveness of Oyster Creek's response to contingency events as measured against the requirements of 10 CFR 73.55 and the Oyster Creek Safeguards Contingency Plan:

On June 25, 2003, a review of documentation associated with the licensee's force-on-force exercise program was conducted. The review included documentation and critiques for exercises conducted since the third quarter of 2002.

On June 25, 2003, performance testing of the Oyster Creek intrusion detection and alarm assessment systems was conducted. This testing was accomplished by one inspector who toured the entire perimeter, selected, and subsequently, performance tested areas of potential vulnerability in the intrusion detection system. Concurrently, a second inspector observed the alarm assessment capabilities from the Secondary Alarm Station. During the walk-down of the intrusion detection system, twelve specific locations were selected for testing.

b. Findings

No findings of significance were identified.

3PP4 Security Plan Changes

a. Inspection Scope

An in-office review was conducted of changes to the licensee's Security Plan identified as Revision 41 and 42. These documents were submitted to the NRC on May 4, 2001 and December 6, 2001, respectively, in accordance with the provisions of 10 CFR 50.54(p). The review was conducted to confirm that the changes were made in accordance with 10 CFR 50.54(p) and did not decrease the effectiveness of the above listed plans. The NRC recognizes that some requirements contained in these program plans may have been superseded by the February 2002 Interim Compensatory Measures Order.

b. Findings

No findings of significance were identified.

4. **OTHER ACTIVITIES**

4OA1 Performance Indicator (PI) Verification

1. Occupation Exposure Control Effectiveness

a. Inspection Scope

The inspector selectively examined records used by the licensee to identify occurrences involving high radiation areas, very high radiation areas, and unplanned personnel exposures for the time period from mid-October 2002 through the first calendar quarter of 2003. The reviewed records included corrective action program records and Oyster Creek's Monthly PI Data Elements records for this PI for the above-described period. This review was conducted against the applicable criteria specified in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, Revision 2 (effective date of 19 November 2001).

b. Findings

The inspector identified, as described in Section 2OS1, that on October 22, 2002, one worker received an unplanned dose in excess of 100 millirem during work in the reactor cavity and that the event had not been recognized as a Performance Indicator occurrence by the licensee. The event involved at least one failure of a radiation safety barrier resulting in an unintended occupational dose of greater than 100 millirem. The licensee stated that this event would be reported as a PI occurrence.

2. Emergency Diesel Generator Unavailability and Scrams with a Loss of Normal Heat Removal

a. Inspection Scope

The inspectors reviewed the Performance Indicator (PI) data from January 2002 through December 2002 for Emergency Diesel Generator Unavailability and for Scrams with a Loss of Normal Heat Removal to verify their accuracy. The inspectors also reviewed the licensee's process for identifying and documenting the PI data as described in OC procedures LS-AA-2040 Rev. 3, "Monthly PI Data Elements for Safety System Unavailability," and LS-AA-2020 Rev. 3, "Monthly PI Data Elements for Scrams with a Loss of Normal Heat Removal," and compared the data against criteria contained in NEI 99-02 Rev. 2 to verify it was properly dispositioned in the PI reports.

b. Findings

No findings of significance were identified.

3. Fitness-for-Duty, Personnel Screening, and Protected Area Security Equipment Performance Indicators

a. Inspection Scope

On June 24, 2003, a review was conducted of the licensee's programs for gathering, processing, evaluating, and submitting data for the Fitness-for-Duty, Personnel Screening, and Protected Area Security Equipment Performance Indicators (PIs) to verify these PIs had been properly reported as specified in Nuclear Energy Institute (NEI) 99-02, Regulatory Assessment Performance Indicator Guideline, Rev. 1 and Rev. 2. The review included the licensee's tracking and trending reports, personnel interviews and security event reports for the PI data collected from the 2nd quarter of 2002 through March 2003.

b. Findings

No findings of significance were identified.

4. Drill and Exercise Performance, Emergency Response Organization Participation, and Alert Notification System Reliability

a. Inspection Scope

The inspector reviewed the licensee's process for identifying the data that is utilized to determine the values for the three Emergency Preparedness (EP) performance indicators (PI) which are: 1) Drill and Exercise Performance, 2) Emergency Response Organization (ERO) Participation, and 3) Alert Notification System (ANS) Reliability. The review assessed data submitted to the NRC from the second quarter of 2002 (since the last EP PI verification inspection) up to and including the first quarter of 2003. Classification, notification, and protective action opportunities were reviewed from licensed operator simulator sessions and site ERO drills and exercises. Attendance records for drill and exercise participation were reviewed for completeness and

accuracy. Test results of the ANS testing were reviewed against licensee procedures. The inspector reviewed this data using the criteria of NEI 99-02, Revision 2, "Regulatory Assessment Performance Indicator Guideline."

b. Findings

No findings of significance were identified in this area.

4OA2 Identification and Resolution of Problems

1. Annual Sample Review

a. Inspection Scope

The inspection described in Section 2OS1, included a review of the following issues identified in the Corrective Action Program (CAP) for the appropriateness and adequacy of event categorization, immediate corrective action, and corrective action to prevent recurrence, and timeliness of corrective action: CAP Nos. O2002-1677, -1679, and -2035, and O2003-0095, -0333, -0409, -0558, -0634, -0727, and -0796.

The inspector also selected three issues identified in the Corrective Action Program (CAP) for detailed review (CAP Nos. O2003-0202, O2003-0393, and O2003-1112). The issues were associated with a failure to survey, a change to a work request for ALARA purposes and a survey of a shielded spent fuel transfer cask. The documented reports for the issues were reviewed to ensure that the full extent of the issues was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspector evaluated the reports against the requirements of the licensee's CAP as delineated in Procedure LS-OC-125, Corrective Action Process.

b. Findings

No findings of significance were identified

2. Cross Reference to PI&R Findings Documented Elsewhere

Section 1R15 describes an issue where the #1 EDG was found inoperable during routine testing due to a loss of fuel oil in the fuel racks. This condition was evident by an empty, normally full, fuel oil sight glass. This particular condition had been observed several days before the failed test but had been evaluated as acceptable based on prior engineering analysis. This event revealed that the basis for the engineering analysis was not appropriate since it assumed that check valves in the fuel supply lines were not leaking by. The current condition, empty sight glass, was evaluated as acceptable without verifying that the associated check valves were functioning properly to prevent the fuel racks from unloading.

Section 2OS1 describes an issue where a violation of radiation protection procedure requirements was not included in the corrective action program resulting in an inspector-identified finding. The licensee wrote a corrective action document for this matter (CAP No. O2003-0796).

4OA3 Event Followup

(Closed) LER 50-219/03-01-00, License Violation Due to Security Officer Inattentive to Duty

a. Inspection Scope

On April 17, 2003, inspectors reviewed the circumstances involving a self-revealing condition that occurred on April 15, 2003, at which time security force personnel were found to be inattentive while assigned to a function that was required by the Order Modifying License, dated February 25, 2002 (Order Modifying License), and the associated "Interim Compensatory Measures (ICM) for High Threat Environment." The inspectors reviewed applicable documentation, interviewed personnel, and examined affected equipment and areas. Additionally, the inspectors also reviewed the Licensee Event Report (LER 50-219/03-01-00), License Violation Due to Security Officer Inattentive to Duty dated May 12, 2003.

b. Findings

Introduction. A Green self-revealing NCV was identified for failure to maintain the Vehicle Barrier System as required by the Order Modifying License dated February 25, 2002 and the prescribed "Interim Compensatory Measures for High Threat Environment." Inattentiveness by security force personnel, who were assigned to a function that was prescribed by a specific interim compensatory measure required by the Order Modifying License, resulted in a condition in which the Vehicle Barrier System (a specifically identified Interim Compensatory Measure) was not effectively maintained as required by the Order Modifying License.

Description. On April 14, 2003, security force members ("A" and "B") assumed their post assignments in the Owner Controlled Area (OCA) for the 7:00 p.m. to 7:00 a.m. shift. Post assignments for this shift included Gate 30 (the Personnel/Vehicle Identification Check Point at the access road to the OCA), and the Gate 30A (the Vehicle Access Check Point to areas within the Vehicle Barrier System (VBS)).

The Interim Compensatory Measures conveyed by the Order Modifying License, requires security force personnel to perform vehicle searches at a check point positioned in a manner to prevent a specific sized vehicle bomb from entering within Vehicle Barrier System. Accordingly, AmerGen established the Gate 30A Check Point to meet this requirement.

On April 15, 2003 at about 4:50 a.m., the Oyster Creek Operations Director arrived at the Oyster Creek Nuclear Generating Station (OCNGS) in his vehicle and was

Enclosure

appropriately identified by the security officer at Gate 30 (OCA Access Gate). Upon driving further on the access road, the Operations Director arrived at Gate 30A (VBS Access Gate) within about a minute. He noticed that the gate barrier was raised in the open position (which he noted was unusual), and that the security officers did not immediately exit the guard house to verify his badge. The Operations Director sounded his horn three times, but was unable to get the attention of the security officers. Subsequently, he exited his vehicle, went to the guard house and observed through the window that the security officers appeared to be asleep. He observed that upon knocking at the door the officers became attentive. Subsequently, the security officers cleared the Operations Director and his vehicle through Gate 30A (VBS Check Point). Upon arrival at the Oyster Creek Access Control Point, the Operations Director contacted the Security Shift Supervisor (SSS) and reported his observations.

Subsequently, the SSS contacted the Manager-Nuclear Security, and the Operations Shift Manager. Security management personnel dispatched security supervisors to Gate 30A to check the condition of the security officers and assure that the gate was properly controlled. At that time, the security supervisors observed that the vehicle barrier gate at Gate 30A was failed in the open position and established appropriate compensatory measures. Additionally, the security organization conducted an immediate search of the OCA within the VBS and confirmed that there were no unauthorized vehicles present.

Security management personnel interviewed the security officers, took written statements, and confirmed that both individuals had been inattentive to duty as observed by the Operations Director. Subsequently, a prompt investigation of the circumstances was initiated.

Both security officers were relieved of their duties, fitness-for-duty tested, and placed on administrative leave pending outcome of the investigation effort. The results of fitness-for-duty testing indicated that neither individual was under the influence of alcohol nor other substance.

AmerGen initially reported this occurrence to the NRC at 5:46 a.m. that day (April 15, 2003) in accordance with 10 CFR 73.71. Later that day, AmerGen determined a more direct basis for reporting the condition and amended the report to reflect Section 2.E of the Oyster Creek Generating Station Operating License as the reporting basis. Section 2.E requires prompt reporting and notification of conditions involving non-compliance with the specifications of the Operating License followed by a 30-day written report. Operating License Condition 2.C. (4) states, "The licensee shall fully implement and maintain in effect all provisions of the Commission approved physical security, guard training and qualification, and safeguards contingency plans..." AmerGen determined failure to meet the requirements of the Order Modifying License dated February 25, 2002 (which modified the specifications of the security program as defined by these plans), constituted non-compliance with this Operating License Condition. LER 50-219/03-01-00, License Violation Due to Security Officer Inattentive to Duty, pertains.

AmerGen's investigation determined that on April 15, 2003, the security officers were observed to be attentive by a Security Supervisor at about 4:20 a.m. and had responded to a radio check conducted at 4:30 a.m. Accordingly, AmerGen concluded that their inattentive condition existed for no more than 20 minutes before being discovered by the Operations Director at 4:50 a.m.

AmerGen's investigation also determined that the work hours of the security officers were in conformance with Oyster Creek Generating Station's work hour limitations. Both individuals were on their first 12-hour shift following the previous day off. One of the individuals had the previous two days off. Specifically, when their inattentive condition was found, the individuals had worked about 10 hours into the shift since their last day off.

AmerGen's investigation also determined that the remote control device used to raise and lower the movable gate barrier from the Gate 30A guard house was inoperable and was previously reported as such by other security officers who were assigned to that post in the period between 7:00 p.m. and 11:00 p.m. on April 14, 2003. During that period, these other security officers reported that gate barrier was failed in the raised position (open) and that they would take appropriate measures for the remainder of their post rotation. AmerGen's investigation indicated that security management personnel did not (at that time) initiate any immediate action to resolve the condition, inform other security officers of the situation, or identify specific compensatory measures to be implemented.

The inspectors' review disclosed that OCA patrols and supervisory personnel had been at the gate several times during the shift while the gate was in the open position, but had not recognized the condition as abnormal or contrary to AmerGen's expectations relative to HSAS Threat Condition Orange (High), the threat condition that existed since March 17, 2003.

Analysis. The matter constitutes a performance deficiency in that AmerGen failed to meet the requirements set forth by the specific Interim Compensatory Measures as required by the Order Modifying License resulting in a condition in which the VBS was not effectively maintained in accordance with the conditions of the Order Modifying License. Conformance with the ICM, as prescribed by Order Modifying License, was reasonable, and the inattentiveness of the security officers and the failure to resolve or otherwise compensate for the failed gate barrier at Gate 30A, was within AmerGen's ability to foresee and correct, and should have been prevented. Traditional enforcement does not apply because the issue did not have any actual safety consequence or potential for impacting the NRC's regulatory function, nor was it the result of any willful violation of NRC regulatory requirements or AmerGen procedures.

The finding is more than minor because the condition could be reasonably viewed as a precursor to a significant event. Specifically, vehicle access through the Vehicle Barrier System was not effectively controlled in accordance with the ICM for the duration that the security officers were inattentive to duty and the VBS Access Gate Barrier was in the open position.

Applying the criteria of NRC Manual Chapter 0609, Significance Determination Process, Appendix E, "Interim Physical Protection Significance Determination Process," the finding was determined to represent a vulnerability in access control, and may be viewed as a vulnerability of safeguards systems or plans. In either case, there was no malevolent act or actual intrusion, and there have not been greater than two similar findings within the last four quarters. In this case, AmerGen failed to adequately perform a limited portion of the protective strategy resulting in a performance failure that was isolated in nature and not considered predictable or repeatable. Accordingly, this finding is considered as having very low safety significance (Green).

Enforcement. The Order Modifying License dated February 25, 2002 and the prescribed "Interim Compensatory Measures for High Threat Environment," specified the following:

Section B.2.a. (2): "If necessary, establish a temporary vehicle barrier system within the owner controlled area at appropriate locations."

Contrary to these requirements, on April 15, 2003, security force members were determined to be inattentive to duty for the period between 4:30 a.m. and 4:50 a.m. (20 minutes). For the period of time that the security officers were inattentive, the vehicle barrier gate (Gate 30A) VBS Access Check Point was open. Due to the inattentive officers and the open vehicle barrier gate, AmerGen failed to maintain a temporary vehicle barrier system as required by the Interim Compensatory Measures, as set forth by the Order Modifying License.

Upon recognition of this condition, AmerGen took or initiated the following corrective measures:

The affected security officers were immediately relieved of their duties and fitness-for-duty tested. On April 18, 2003, Wackenhut (the security services contractor) terminated the employment of both individuals with the approval of AmerGen.

A search of the OCA was conducted at the time of the occurrence to determine if any unauthorized vehicles were present. No unauthorized vehicles were identified.

The security gate barrier at Gate 30A was immediately controlled by compensatory measures until restored to operable condition.

Security management personnel took action to reinforce expectations to all security force members relative to attentiveness on duty, and the need to maintain the Gate 30A gate barrier closed except to pass authorized vehicles.

Enclosure

Action was initiated to evaluate Fitness-for-Duty training relative to security officer fatigue and attentiveness.

Action was initiated to evaluate the training of security officers relative to operation of the Gate 30A gate mechanism, including the ability to affect local and manual control of the gate barrier mechanism.

Action was initiated to increase the frequency of post checks by security field supervisors.

Action was initiated to reinforce management's expectations of security supervisors on the performance of post checks, including verification that the Gate 30A barrier is closed, except as needed to pass authorized vehicle traffic.

Action was initiated to establish an outside security assessment review and evaluation to identify the root causes of recent security performance weaknesses and deficiencies, including this latest occurrence.

Because this failure to maintain the effectiveness of the Vehicle Barrier System, as required by the Order Modifying License, is of very low safety significance and has been entered into Oyster Creek's Corrective Action Program as CAP 02003-0638, this violation is considered an NCV consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000219/2003003-05, Inattentiveness by security force personnel resulting in the failure to maintain a specific Interim Compensatory Measure in accordance with the conditions of the Order Modifying License dated February 25, 2002. This LER is closed.

40A4 Cross Cutting Aspects of Findings (other than PI&R- see Section 40A2)

Section 1R04 describes that the licensee failed to properly update the control room procedures for the Service Water System to include the proper valve lineup. While modification work adding cross-tie valves to the Service Water System was completed and necessary revisions to the associated procedure were implemented, the revised procedure was never provided to the control room. This performance finding also was considered to involve the cross-cutting aspect of human performance since updating the control room procedures was not appropriately completed.

Section 2OS1 describes an issue where a violation of radiation protection procedure requirements occurred involving a failure to relocate personnel dosimetry. This performance finding was considered to involve the cross-cutting aspect of human performance since the technicians were aware of the radiological conditions requiring the relocation of the dosimetry.

Section 40A3 describes an event involving two physical security guards being inattentive. This performance finding was considered to involve the cross-cutting aspect of human performance since the finding, in part, was caused by two guards being inattentive to assigned duties.

4OA5 Other Activities

1. Licensee Strike Contingency Plans

a. Inspection Scope

The inspectors reviewed the licensee's strike contingency plans, in accordance with inspection procedure 92709 to determine if the plans adequately addressed the areas of reactor operation, emergency planning, facility security, fire protection, technical specifications, and other regulatory requirements in the event of a strike. The inspectors conducted interviews with site senior managers and first line supervisors to verify that qualified personnel would be available to meet the minimum requirements for safe operation of the plant. On May 22, at noon, a union strike began, and the inspectors immediately began observations of control room and plant activities on a 24-hour basis to assure that reactor operation, facility security, and other regulatory requirements were maintained consistent with technical specifications and other procedural requirements.

b. Findings

No findings of significance were identified.

2. Continued Implementation of Strike Plans

a. Inspection Scope

The resident inspectors with assistance from regional inspectors continued to observe plant and control room activities on a 24-hour basis through May 30, 2003. The inspectors transitioned to a 16 hour overlapping coverage schedule from that date until June 8, 2003, at which point they transitioned back to a 40-hour schedule with some additional weekend coverage. The inspectors reviewed licensee compliance with technical specifications, verified staffing levels met the minimum requirements for emergency planning, fire protection, radiation protection, and licensed operators, and ensured facility security was maintained and unaffected by union picket line activity. Additionally, the inspectors observed shift turnovers, maintenance activities, licensed operator requalification training, and surveillance testing activities. The inspectors are also verified that any backlog occurring in the corrective action program was being appropriately addressed by the licensee in accordance with plant procedures.

b. Findings

No findings of significance were identified.

3. Operation of an Independent Spent Fuel Storage Installation (ISFSI)

a. Inspection Scope

The inspector observed selected dry cask handling operations for Dry Shielded Canister (DSC) No. 6 conducted in accordance with procedure NF-OC-641, "Transfer and Loading of Transport Cask and Dry Shielded Canister." In particular, removal of the cask from the spent fuel pool and preparations for welding were observed. Helium leak testing results for DSC No. 5 were reviewed with respect to Certificate of Compliance 1004, Rev 4. Radiological work practices and exposure rates were discussed with technicians responsible for ongoing work. Personnel exposures were evaluated and RWP OC-1-03-00039 was examined.

The inspector discussed with cognizant licensee representatives, the procedural controls in place that ensure only designated fuel assemblies were properly loaded. A review of the spent fuel assembly move sheets and verification records required by procedure NF-OC-300-1002 was conducted. The inspector observed video tapes of the final fuel configuration in DSC Nos. 5 and 6, which clearly indicated fuel assembly serial numbers. A comparison of the video records and the procedure documentation for final fuel assembly locations was performed. Fuel characteristics, including enrichments, burn-up, post irradiation cooling time, heat generation, and known structural defects were reviewed and evaluated against Certificate of Compliance 1004, Rev. 4.

The inspector reviewed 10 CFR 72.48 safety evaluations generated since the last spent fuel transfer campaign in 2002, including SE-02-013 regarding drilling lifting holes in the shield plug deeper than designated in the license. Seven 72.48 screenings which evaluated minor procedure changes not requiring changes to the Certificate of Compliance 1004, Rev 4, were examined. The inspector also reviewed Corrective Action Program (CAP) reports CAP No. O2003-0430 regarding corrosion of shield plugs when received onsite and CAP No. O2003-0695 regarding contamination on inside of transfer cask during DSC No. 5 processing.

Training and qualifications of selected personnel involved with ISFSI work were reviewed to ensure adherence to the Oyster Creek training program and Certificate of Compliance 1004, Rev. 4. This review included operations personnel responsible for fuel transfers, maintenance personnel responsible for welding operations, and Non-Destructive Test inspectors responsible for Dye Penetrant tests and Helium Leak Testing.

b. Findings

No findings of significance were identified.

40A6 Meetings, including exit

Exit Meeting

On July 17, 2003, the resident inspectors presented the inspection results to Mr. Ernest Harness and other members of licensee management. The licensee acknowledged the findings presented. The inspectors asked the licensee whether any materials examined

Enclosure

during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violation

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meets the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600 for being dispositioned as an NCV.

- TS 6.13.1 requires that, in the case where individuals are permitted to enter into a high radiation area while provided with a radiation monitoring device which continuously integrates the radiation dose in the area and alarms when a preset integrated dose is received, entry into such areas with this monitoring device may be made after the dose rate levels in the area have been established and personnel have been made knowledgeable of them. Contrary to this, on January 28, 2003, individuals were permitted to enter a high radiation area, the torus down comer piping area, without the dose rate levels in the area being established and without the individuals being made knowledgeable of them. This event was identified in the licensee's corrective action program as CAP No. O2003-0202. This finding is of very low safety significance because it did not result in an overexposure, did not create a substantial potential for overexposure, and did not compromise the licensee's ability to assess dose to workers.

ATTACHMENT: SUPPLEMENTAL INFORMATION

Enclosure

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel

- M. Fillipone, Electrical Systems Manager
- M. Godknecht, Maintenance Rule Coordinator
- E. Harkness, Vice President
- J. Magee, Director, Engineering
- M. Massaro, Plant Manager
- D. McMillan, Director, Training
- M. Newcomer, Assistant Engineering Director
- T. Powell, BOP System Manager
- D. Slear, Manager, Regulatory Assurance
- B. Stewart, Senior Licensing Engineer
- H. Trimble, Manager, Chemistry & Rad Protection
- C. Wilson, Director, Operations

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSEDOpened

- | | | |
|---------------------|-----|---|
| 05000219/2003003-04 | URI | NRC to review the adequacy of the radiological surveys and dose assessment for occupational exposure control for a reactor cavity entry on October 22, 2002. (Section 2OS1) |
| 05000219/2003003-06 | URI | NRC to review the root cause analysis of the May 2003, 1C Vital Bus cable failure. (Section 1R14) |

Opened and Closed

- | | | |
|---------------------|-----|--|
| 05000219/2003003-01 | NCV | Failure to Maintain the Service Water System Procedure. (Section 1R04) |
| 05000219/2003003-02 | NCV | Failure to promptly identify and correct a condition adverse to quality on EDG #1. (Section 1R15) |
| 05000219/2003003-03 | NCV | Failure to implement procedure for relocation of primary whole-body dosimetry. (Section 2OS1) |
| 05000219/2003003-05 | NCV | Inattentiveness by security force personnel resulting in the failure to maintain a specific Interim Compensatory Measure in accordance with the conditions of the Order Modifying License, dated February 25, 2002. (Section 4OA3) |

Closed

- | | | |
|--------------------|-----|---|
| 05000219/200301-00 | LER | License Violation Due to Security Officers Inattentive to Duty (Section 4OA3) |
|--------------------|-----|---|

LIST OF DOCUMENTS REVIEWED

Procedure 302.1, Rev 79, "Control Rod Drive System"
 Procedure 322, Rev 52, "Service Water System"
 Procedure 301.2, "Reactor Recirculation System"
 OP-AA-102-103, "Operator Work-Around Program"
 OP-AA-108-109, "Seasonal Readiness"
 ER-AA-310, "Implementation of the Maintenance Rule"
 LS-AA-105, "Operability Determinations"
 LS-OC-125, "Corrective Action Process"
 2000-ABN-3200.01, "Reactor Scram"
 2000-ABN-3200.02, "Recirculation Pump Trip"
 2000-ABN-3200.03, "Recirculation Flow Abnormality"
 2000-ABN-3200.31, "High Winds"
 2000-ABN-3200.32, "Response to Abnormal Intake Level"
 2000-ABN-3200.44, "Loss of Bus 1A1"
 2000-ABN-3200.45, "Loss of Bus 1A2"
 2000-ABN-3200.46, "Loss of Bus 1A3"
 RP-AA-210, Rev. 3, Dosimetry issue, usage, and control
 RP-AA-210-1001, Rev. 0, Dosimetry logs and forms
 RP-AA-220, Rev. 1, Bioassay program
 RP-AA-350, Revision 1, Personnel contamination monitoring, decontamination, and Reporting
 RP-AA-403, Rev. 1, Administration of the radiation work permit program
 RP-MA-403-1001, Rev. 1, Radiation work permit processing
 RP-AA-4001, Rev. 0, Control and use of scrubs
 RWP OC-1-03-00058, Rev. 00, Observation and inspection
 Dosimetry Investigation Reports (DIRs) Nos. 02-107 through 02-112
 Self-assessment of contamination control housekeeping plan effectiveness
 Self-assessment of 1R19 radiation worker practices
 Annual assessment of the radiation protection program (10 CFR 20.1101(c)) for 2002
 RP-AA-400, Rev. 2, ALARA program
 RP-AA-401, Rev. 2, Operational ALARA planning and controls
 Engineering Standard ES-018, Rev. 2, Cobalt reduction standard
 RWP OC-1-02-00407, Rev. 00, 1R19 refuel floor reactor reassembly
 ALARA Plan No. 2002-057E, Rev. 3, Refueling floor activities including reactor disassembly, defuel/refuel, in-vessel inspections and repairs, and reactor reassembly (RWPs OC-1-02-00404, -00406, and -00407)
 ALARA work-in-progress review for ALARA Plan No. 2002-057E/RWP OC-1-02-00407, 1R19 refuel floor reactor reassembly
 ALARA Plan No. 2002-016A, Rev. 0, Drywell miscellaneous valve maintenance (RWP OC-1-02-00504)
 ALARA Plan No. 2002-018A, Rev. 0, Drywell insulation removal and reinstallation (RWP OC-1-02-00506)
 ALARA Plan No. 2002-077A, Rev. 0, 1R19 Disassemble/open/inspect and repair as necessary drywell MSIV 1-7miscellaneous valve maintenance (RWP OC-1-02-00529)

ALARA Plan No. 2002-023A, Rev. 0, 1R19 Drywell CRD exchange and uncoupling (RWP OC-1-02-00511)

ALARA Plan No. 2002-031A, Rev. 0, 1R19 Drywell ISI/IGSCC/FAC inspections (RWP OC-1-02-00519)

Oyster Creek Generating Station 2003-2005 exposure reduction plan

Oyster Creek 2003 exposure improvement plans for Maintenance and NMD, Instrument and Controls, Engineering Department, Plant Operations, Radiation Protection, Security Department, Radwaste/Chemistry/Environmental, Fin Team, Work Support, and Venture Group

Oyster Creek 1R19 post outage review

Station ALARA committee meeting minutes for February 10, March 10, and April 14, 2003

RP-OC-1002, Rev. 0, Evaluation of plant radioisotopes and energies

Calibration check records for Siemens electronic personal dosimeter (EPD) Mark 2 dated March 28, 2003

Calculation RP-OC-1001-03-002, Rev. 0, Evaluation of plant radioisotopes and energies in accordance with Procedure RP-OC-1002, March 4, 2003

Order Modifying License, dated February 25, 2002, and the associated "Interim Compensatory Measures for High Threat Environment"

SY-AA-101-111, Rev. 2, "Exelon Nuclear- Threat Advisory and Protective Measures System"

Oyster Creek Nuclear Generating Station, "Prompt Investigation, Non-Compliance with Interim Compensatory Action, CAP 02003-638," dated April 16, 2003

Wackenhut Corporation, "Executive Summary (Security Event April 15, 2003)," dated April 16, 2003

Delta Gate History developed from video surveillance for the period between April 14 and April 15, 2003

"Post Order Guidelines, OCA Vehicle Search," Rev. 7A 01/15/02

"Oyster Creek Nuclear Generating Station: Status HSAS Threat Condition Orange"

Oyster Creek Nuclear Generating Station Site Protection Force, Incident Reports: Written Statements from Security Officers

NRC Regulatory Issue Summary 2002-12A, "Power Reactors, NRC Threat Advisory and Protective Measures System," dated August 19, 2002

NRC TI 2515/148, dated August 30, 2002, "Inspection Guidance and Requirements for Interim Compensatory Measures (ICMs) at Nuclear Power Plants"

SA-AA-102, "Exelon Nuclear Fitness for Duty Program"

Licensee Event Report (LER 50-219/03-01-00), License Violation Due to Security Officer Inattentive to Duty, dated May 12, 2003.

Action Requests (ARs): A2060963, A2043629, A2059481, A2061118

A(1) Evaluation Number 01-004, Dated 3/27/02

Corrective Action Reports (CAPs): 2001-0870, 1457, and 1913; 2002-0102, 0287, 0417, 0752, 1677, 1679, 1812, 1852, and 2035; 2003-0095, 0202, 0221, 0333, 0377, 0393, 0409, 0430, 0558, 0566, 0634, 0681, 0695, 0696, 0697, 0700, 0727, 0734, 0742, 0767, 0772, 0776, 0780, 0796, 0888, 0897, 0912, 1020, 1028, 1112, 1178, and 1242

System Health Report for System No.762 dated 2/14/03

EP-MA-125-1002, Collection and Evaluation of Data for Indicator R.EP.01, "Drill and Exercise Performance," June 21, 2001

EP-MA-125-1003, ERO Readiness - Performance Indicators Guidance, Rev 2

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
ALARA	As Low As Is Reasonably Achievable
ANS	Alert Notification System
AmerGen	AmerGen Energy Company, LLC
AR	Action Request
ATWS	Anticipated Transient Without Scram
CAP	Corrective Action Process
CAS	Central Alarm Station
CFR	Code of Federal Regulations
CRD	Control Rod Drive
CS	Core Spray
DIR	Dosimetry Investigation Report
DSC	Dry Shielded Canister
ECR	Engineering Change Request
EDG	Emergency Diesel Generator
EOP	Emergency Operating Procedures
EP	Emergency Preparedness
ERO	Emergency Response Organization
ESW	Emergency Service Water
HRA	High Radiation Area
HSAS	Homeland Security Advisory System
ICM	Interim Compensatory Measure
IRM	Intermediate Range Monitor
JO	Job Order
LER	Licensee Event Report
LHRA	Locked High Radiation Area
ICMs	Interim Compensatory Measures
IMC	Inspection Manual Chapter
MG	Motor Generator
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
OC	Oyster Creek
OCA	Owner Controlled Area
OCNGS	Oyster Creek Nuclear Generating Station
OHS	Office of Homeland Security
OS	Occupational Safety
PA	Protected Area
PI	Performance Indicator
PMT	Post Maintenance Test

A-6

PORC	Plant Operating Review Committee
RCA	Radiologically Controlled Area
RIS	Regulatory Issue Summary
RWP	Radiation Work Permit
SAS	Secondary Alarm Station
SDP	Significance Determination Process
SSC	Structure, System, Component
SSS	Security Shift Supervisor
ST	Surveillance Test
TS	Technical Specification
UFSAR	Updated Final Safety Analysis Report
VBS	Vehicle Barrier System