October 18, 2002

Mr. John L. Skolds, President
and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION
USNRC INTEGRATED INSPECTION REPORT 50-461/02-08

Dear Mr. Skolds:

On September 30, 2002, the U.S. Nuclear Regulatory Commission (USNRC) completed a safety inspection at your Clinton Power Station. The enclosed report documents the inspection findings which were discussed on September 30, 2002, with Mr. M. Pacilio and other members of your staff.

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

Based on the results of the inspection, inspectors identified two issues that were evaluated under the risk significance determination process as having a very low safety significance (Green). The first involved a failure to procedurally control and document work on the Division I emergency diesel generator and the second involved the lack of a procedure to verify satisfactory performance of the seismically qualified makeup flow path to the spent fuel pool. These findings were also determined to involve violations of USNRC requirements.

However, because of their very low safety significance and because they were entered into your corrective action program, the USNRC is treating these issues as Non-Cited Violations in accordance with Section VI.A.1 of the USNRC's Enforcement Policy. If you deny these Non-Cited Violations, you should provide a response with a basis for your denial, within 30 days of the date of this inspection report, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; and the USNRC Resident Inspector at the Clinton Power Station.

In response to the terrorist attacks on September 11, 2001 the USNRC issued an Order and several threat advisories to commercial power reactors to strengthen licensees' capabilities and readiness to respond to a potential attack. The NRC established a deadline of September 1, 2002 for licensees to complete modifications and process upgrades required by the Order. In order to confirm compliance with this Order, the USNRC issued Temporary

Instruction 2515/148 and over the next year, the USNRC will inspect each licensee in accordance with this Temporary Instruction. The USNRC continues to monitor overall security controls and may issue additional temporary instructions or require additional inspections should conditions warrant.

In accordance with 10 CFR 2.790 of the USNRC's "Rules of Practice," a copy of this letter, and its enclosure will be available electronically for public inspection in the USNRC Public Document Room or from the Publicly Available Records (PARS) component of USNRC's document system (ADAMS). ADAMS is accessible from the USNRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Ann Marie Stone, Chief
Branch 3
Division of Reactor Projects

Docket No. 50-461
License No. NPF-62

Enclosure: Inspection Report No. 50-461/02-08

cc w/encl: Site Vice President - Clinton Power Station
Clinton Power Station Plant Manager
Regulatory Assurance Manager - Clinton
Chief Operating Officer
Senior Vice President - Nuclear Services
Senior Vice President - Mid-West Regional Operating Group
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-461
License No:	NPF-62
Report No:	50-461/02-08
Licensee:	AmerGen Energy Company, LLC
Facility:	Clinton Power Station
Location:	Route 54 West Clinton, IL 61727
Dates:	July 1 through September 30, 2002
Inspectors:	P. L. Louden, Senior Resident Inspector C. E. Brown, Resident Inspector M. W. Mitchell, Radiation Specialist T. J. Ploski, Senior Emergency Preparedness Inspector D. E. Zemel, Illinois Department of Nuclear Safety
Approved by:	Ann Marie Stone, Chief Branch 3 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000461-02-08, AmerGen Energy Company LLC, on 07/01-09/30/2002, Clinton Power Station; Post Maintenance Testing, and Safety System Design and Performance Capability

This report covers a 3-month period of baseline resident inspection and announced baseline inspections on radiation protection and security. The inspection was conducted by Region III inspectors and the resident inspectors. Two Non-Cited Violations (NCVs) which were also determined to be findings of very low risk significance 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 USNRC management review. The USNRC'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. **Inspection Findings**

Cornerstone: Mitigating Systems

Green. The inspectors identified a finding of very low safety significance while observing maintenance on the Division I Emergency Diesel Generator (EDG). Specifically, the inspectors identified that one of the insulated bearing bracket bolts on the generator was not properly tightened. The performance issue associated with this finding involved workers performing work steps not specified in the work procedure. Compounding the issue was that once these additional work steps were performed, they were not documented in the work procedure.

The finding was more than minor because, if left uncorrected, the EDG could have become inoperable which could impact the Mitigating Systems cornerstone. The finding was of very low safety significance because the condition was found and corrected before the EDG was made operable. This finding was a violation of Technical Specification 5.4.1; however, because the licensee placed the violation into its corrective action program, this was determined to be a NCV. (Section 1R19)

Cornerstone: Barrier Integrity

Green. The inspectors determined that the licensee failed to establish written operational test procedures to verify the functionality of the seismically qualified makeup flow path from the shutdown service water system to the spent fuel pool.

The finding was more than minor because, if left uncorrected, silting in the line and pipe wall thinning could result in increased degradation and a more significant safety concern and potentially impacting the Barrier Integrity cornerstone. The finding was of very low safety significance because the as-found conditions, while degraded from original installation, met design requirements. This finding was a violation of 10 CFR 50, Appendix B, Criterion XI "Test Control;" however, because the licensee placed the

violation into its corrective action program, this was determined to be a NCV. (Section 1R21)

B. **Licensee Identified Violations**

No findings of significance were identified.

Report Details

Summary of Plant Status

The plant was at approximately 94 percent rated thermal power (maintaining 100 percent electrical output) for most of the inspection period. The plant automatically shut down on July 4, 2002 due to a defective main power transformer sudden pressure relay. The unit was returned online on July 5.

1. REACTOR SAFETY

Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity

1R01 Adverse Weather (71111.01)

a. Inspection Scope

The inspectors conducted an independent walkdown of areas outside the auxiliary and turbine building to ascertain any structural damage caused by adverse weather. The following activity was conducted as part of this inspection effort:

- Reviewed licensee preparations and completed a site walkdown for damage from a severe thunderstorm on July 22, 2002.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04)

a. Inspection Scope

The inspectors performed partial division walkdowns of a risk-significant mitigating system and radiological control system equipment during times when the divisions were of increased importance due to the redundant division or complementing equipment being unavailable. The inspectors used piping and instrument diagrams (P&IDs), system operating procedures and checklists during the performance of the walkdowns. The inspectors also used the information in the corresponding sections of the Updated Safety Analysis Report (USAR) to determine the functional requirements of the systems.

The inspectors reviewed the alignment of the following systems:

- Control room heating ventilation and air conditioning (HVAC) system (VC) B walkdown during VC A planned system outage on July 9, 2002.
- Residual heat removal (RHR) B and C during an RHR A and low pressure core spray (LPCS) system outage on August 7, 2002.
- Walkdown of LPCS system during RHR B outage on August 20, 2002.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

a. Inspection Scope

The inspectors reviewed portions of the licensee's Fire Protection Evaluation Report (FPER) and the USAR to verify consistency in the documented analysis with installed fire protection equipment at the station. To assess the control of transient combustibles and ignition sources, the material and operational condition of fire-protection systems and equipment, and the status of fire barriers, the inspectors conducted walk downs of the following risk significant areas:

- Fire Protection Zones T-1a, R-1a, R-1b, R-1c, and R1d (lower level turbine and radwaste building).
- Fire Protection Zone F-1p (755' and below fuel building).
- Fire Protection Zones A-2a, A-2b, A-2c, A-3a, A-3b, and F-1b (all emergency core cooling systems).
- Fire Protection Zones CB-1f,a-2m, A-3d, A-3e, A-3f, A-3g, A-4, and A-5 (762' control and auxiliaries building).
- Fire Protection Zones CB-1g, CB-3a, CB-3b, CB-3c, CB-3d, CB-3e, CB-3f, CB-3g, and CB-4 (781' control building, auxiliary panel area and Div 1 & 2 cable spreading rooms).
- Fire Protection Zone C-2 (containment - all levels).

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors verified that the licensee's flooding mitigation plans and equipment were consistent with design requirements and the risk analysis assumptions. The inspectors reviewed licensee documents and procedures associated with the protection of equipment for an internal flooding event to ensure appropriate flood mitigation controls were evaluated during the following activity:

- Residual heat removal (RHR) B heat exchanger inspection conducted during the week of September 23 through 27, 2002.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

a. Inspection Scope

The inspectors reviewed heat exchanger performance testing activities to verify identification of potential deficiencies which could mask degraded performance, to verify potential common-cause heat sink performance problems that have the potential to increase risk, and to verify the identification and resolution of heat-sink performance problems that could result in initiating events or that could affect multiple heat exchangers in mitigating systems and thereby increase risk. The following heat exchanger performance test was inspected:

- Division III EDG heat exchanger test on July 30, 2002.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

On August 28, 2002, the inspectors observed licensed operator requalification training to evaluate operator performance in mitigating the consequences of a simulated event. The scenario observed was ESG-LOR-08, "Loss of Instrument Air/Anticipated Transient Without SCRAM," Revision 17.

The inspectors evaluated crew performance in the areas of:

- clarity and formality of communications;
- procedure use and adherence;
- control board manipulations;
- supervisory command and control

Crew performance in these areas was compared to licensee management expectations and guidelines in the following documents:

- OP-AA-101-111, "Roles and Responsibilities of On-Shift Personnel," Revision 0,
- OP-AA-103-102, "Watchstanding Practices," Revision 0,
- OP-AA-101-111-1001, "Operations Philosophy Handbook," Revision 0,
- OP-AA-101-111-1002, "Operations Standards and Fundamentals," Revision 0
- OP-AA-104-101, "Communications," Revision 0

The inspectors verified that the training crew completed the critical tasks listed in the above simulator guide. The inspectors also attended the licensee's evaluation of the dynamic scenario to ascertain the quality and accuracy of the evaluation.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

a. Inspection Scope

The inspectors reviewed the effectiveness of the licensee's maintenance efforts in implementing the maintenance rule (MR) requirements, including a review of scoping, goal-setting, performance monitoring, short-term and long-term corrective actions, and current equipment performance problems. The system was selected based on its designation as risk significant under the MR, or its being in the increased monitoring (MR category (a)(1)) group. The system was:

- Reactor Core Isolation Cooling

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors observed the licensee's risk assessment processes and considerations used to plan and schedule maintenance activities on safety-related structures, systems, and components particularly to ensure that maintenance risk and emergent work contingencies had been identified and resolved. The inspectors assessed the effectiveness of risk management activities for the following work activities or work weeks:

- Main condenser vacuum swings and subsequent trouble shooting during week ending July 13, 2002;
- Division II EDG monthly surveillance testing with control room VC B unavailable at the same time;
- Licensee preparations and actions for main power transformer (MPT) C increasing hydran readings;
- Work weeks ending August 24 and August 31, 2002;
- Division I EDG and shutdown service water (SX) outage week September 9 through 13, 2002; and
- Residual heat removal (RHR) B and C outage work week September 23 through 27, 2002.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors observed personnel performance during planned and unplanned plant evolutions and selected licensee event reports focusing on those involving personnel response to non-routine conditions. The review was performed to ascertain that operators' responses were in accordance with the required procedures. In particular, the inspectors reviewed personnel performance during the following plant events:

- July 4, 2002, reactor scram due to a MPT B sudden pressure relay trip;
- Conductivity excursions during the initial stages of hydrogen-water chemistry initiation and testing which began on July 12, 2002;
- Activities associated with the planned main control room annunciator interconnect panel (P-850) outage on July 27, 2002; and
- Activities associated with radiography of the SX system to Division-II containment combustible gas control on July 3, 2002.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following operability determinations and evaluations affecting mitigating systems to determine whether operability was properly justified and the component or system remained available such that no unrecognized increase in risk had occurred.

- Engineering Operational Problem Response (EOPR) 2002-7, recommendations regarding operation of moisture separator re-heater high-load valves and electro-hydraulic control pumps;
- Engineering Operational Problem Response 2002-19, Guidelines to minimize the potential for any transient on main turbine 1st stage pressure;
- Operability evaluation on condition report (CR) 118473, 1E12-F068A failed work order (WO) 454283 post maintenance testing (PMT);
- Operability evaluation on CR 121637, VC damper OVC31YA failed to shut automatically when shifting from VC A to VC B; and
- Operability evaluation on CR 124374, Eddy current testing of the RHR B heat exchanger found tube wall pitting, and the supporting operability documentation (SOD).

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed and observed portions of the following post-maintenance testing (PMT) activities involving risk significant equipment to determine whether the activities were adequate to verify system operability and functional capability:

- Turbine Driven Reactor Feed Pumps A and B;
- Control room HVAC B;
- Control room annunciator interface panel (P-850);
- Standby Liquid Control (SLC) Pump B;
- Division I shutdown service water (SX) following pump oil cooler replacement; and
- Maintenance run and 24-hour surveillance test on Division I EDG after replacing the generator bearings.

b. Findings

The inspectors identified a Non-Cited Violation of procedural requirements caused by human performance in that the licensee failed to control and document work on a risk-significant, safety-related system. This problem resulted in the Division I EDG generator insulated-bearing-bracket support bolts being removed and replaced without procedural guidance or documentation. The finding was greater than minor as the planned PMT would not have discovered the improperly installed bolts; therefore, the finding was not associated with work in progress as defined in Section 5 of Appendix E of Inspection Manual Chapter (IMC) 0612. The finding was associated with the Mitigating Systems Cornerstone for equipment performance, procedure quality, and human performance. The finding was determined to be of very low risk significance (Green).

On September 13, 2002, during an equipment walk down of the Division I EDG before the EDG was started for the PMT following a system maintenance outage, the inspectors noted that one of the insulated bearing bracket bolts on the generator was not tight as evidenced by the lock washer not being crushed. The inspectors notified mechanical maintenance and operations shift management of the concern. In response to the inspector's concern, a maintenance mechanic received permission to check the bolt's torque. The bolt turned easily when a wrench was applied to it. The shift manager then stopped all PMT activities on the EDG and placed it out of service for investigation and repair of the loose bolt(s).

The licensee's investigation found that the insulated-bearing-bracket bolts had been removed on September 10, 2002, during the Division I EDG system outage window to replace the generator bearings. Upon reaching the point of removing the large circular bearing support structure (wagon wheel) containing the insulated bearing bracket, a mechanic asked if both the outer and inner bolts had to be removed. The bearing cover had already been removed and only the outer wagon-wheel bolts and the insulated bearing bracket bolts remained in place. Work order (WO) 00002986, Contingency Replacement of the Div 1 EDG Generator Bearings, Job Step 56 referred to a bearing inspection procedure in CPS 8507.01, "Division I/II Diesel Generator Maintenance,"

Revision 4e, which contained a precaution to not remove the insulated-bearing-bracket bolts. However, the mechanics were not aware of this precaution and a generator manufacturer's technical representative gave verbal instructions to remove all of the bolts. The mechanic removed the eight insulated-bearing-bracket bolts along with the wagon-wheel bolts. Neither the work order nor the procedure had any provision to remove the insulated-bearing-bracket bolts and the removal was not documented in the WO. The wagon wheel was removed and secured vertically to adjacent scaffolding. Electrical maintenance (EM) workers supporting the EDG outage were working 12-hour shifts from 7 o'clock to 7 o'clock while the mechanical maintenance (MM) workers were working from 3 o'clock to 3 o'clock. After the day shift, MM workers left and before the evening MM workers arrived, an EM worker at the job site noted that the insulated bearing bracket bolts had been removed. Concerned that the insulated bearing bracket might fall apart, the EM worker retrieved the bolts from the staging area and reinstalled six of the eight bolts by hand. The EM worker told the evening MM group leader that six bolts were installed and that the MMs needed to install the last two bolts "snug tight" after the wagon wheel was moved. The EM worker had assumed that the MM procedure covered the bolts and had installed the bolts without any procedural instructions and without documenting the action. The MM group leader assumed that the bolts were covered by an electrical work document and had the last two bolts installed, again without documenting the action. Both work groups had failed to ensure that their work on the insulated-bracket bolts was covered by the work documents and was documented so that the bolts would be properly torqued on reinstallation. The licensee's investigation determined that the other seven insulated bearing bracket bolts required 20 to 25 foot-pounds of torque to loosen; however, the bearing bracket now had the weight of the generator rotor on the bearing so the bolts may have been installed to a smaller torque value. The licensee contacted the vendor for a torque value for the bolts and subsequently torqued all eight bolts to 150 foot-pounds.

The inspectors determined that failure to properly control the removal and reinstallation of the Division I EDG generator insulated-bearing-bracket bolts was a performance deficiency warranting a significance evaluation. This condition was discovered by the inspectors after the EDG had been released for post maintenance testing. The inspectors determined that the planned PMT would not have discovered the loose bolts, a condition that could have lead to the failure of the Division I EDG. The inspectors concluded that the finding was greater than minor in accordance with IMC 0612, "Power Reactor Inspection Reports," Appendix B, "Issue Disposition Screening," issued on April 29, 2002. The finding involved the attribute of procedure quality and adherence, equipment performance, and human performance and could have affected the mitigating systems objective of ensuring the availability of systems that respond to initiating events to prevent undesirable consequences. The inspectors also determined that the finding could be evaluated using the SDP in accordance with IMC 0609, "Significance Determination Process," because the finding was associated with the availability of a train of a mitigating system as discussed above. For the Phase 1 screening, the inspectors answered "no" to all 5 questions under "Mitigation Systems" because the diesel generator was already considered inoperable. The inspectors concluded the issue was of very low safety significance (Green).

Technical Specification 5.4.1 requires, in part, that written procedures shall be established, implemented, and maintained covering maintenance on safety-related equipment. One of the procedures established to meet this requirement was CPS 8507.01, "Division I/II Diesel Generator Maintenance," Revision 4e. Contrary to this, on September 10, 2002, licensee personnel removed and improperly re-installed the generator insulated-bearing-bracket bolts on the Division 1 EDG. Procedure CPS 8507.01 did not contain a step which required or documented the removal and reinstallation of these bolts. This violation is being treated as a NCV, consistent with Section VI.A.1 of the USNRC Enforcement Policy (NCV 50-461/02-08-01). The licensee entered the issue into its corrective action program as CR 122869.

1R20 Refueling and Outage Activities (71111.20)

a. Inspection Scope

The inspectors evaluated licensee forced outage activities to ensure that appropriate consideration was given to risk in developing work schedules and adherence to operating license and Technical Specification requirements that ensure defense-in-depth. The inspectors observed licensee activities during the following forced outage:

- Forced outage following the automatic shutdown on July 4, 2002.

b. Findings

No findings of significance were identified.

1R21 Safety System Design and Performance Capability (71111.21)

a. Inspection Scope

On September 20, 2001, the NRC completed an inspection during which an issue involving the shutdown service water (SX) system was identified. Specifically, it was identified that the capability of the SX system to provide makeup flow to the spent fuel pool had not been demonstrated by calculation nor confirmed through surveillance testing such as periodic line flushing or flow testing. The makeup flow path includes a stagnant line section that could be susceptible to silt and biological growth accumulation. These issues were documented in Inspection Report 50-461/01-11(DRS) Section 1.b. Reactor Safety findings. The licensee documented this issue in condition report CR 73116 and initiated work orders 357520 and 357522 to perform radiographic examination of this line to identify potential blockage from silting or biological growth accumulation. During this current inspection period, the inspectors reviewed the results of those work orders and other CRs that documented related licensee investigation efforts and results.

b. Findings

The inspectors identified a violation of 10 CFR, Part 50, Appendix B, Criterion XI, “Test Control,” in that, the licensee failed to establish written operational test procedures to demonstrate the functional capability of the SX makeup to the spent fuel pool. The finding was greater than minor but considered to be of very low safety significance (Green) and was dispositioned as an NCV.

The Clinton USAR, Section 9.1.3.3 states that redundant loops of SX (which are both seismic category 1) can be used as an emergency source of makeup water in case of failure of the normal makeup system to the spent fuel pool. Section 9.2.1.2.2, states that the SX assures that makeup will be available for the spent fuel storage system. Further, Section 9.1.3.3 states that the makeup flow rate from the SX system was 100 gallons per minute (gpm) The makeup flow lines to spent fuel pool were nominal 2.5 inch diameter lines (lines 1SX12AA and 1SX12AB). Water in these lines would normally be raw lake water and would be considered stagnant. Industry experience has revealed that lines exposed to such conditions could be susceptible to silting or biological growth. Silting and biological growth could build up in stagnant lines and reduce the flow capability of the lines. The licensee did not have a procedure that required periodic verification of the SX flow to the spent fuel pool was acceptable. There was no documentation to indicate that the capability of the lines had been demonstrated by either testing or calculation.

On August 24, 2001, the licensee initiated CR 73116 to document the finding and to provide impetus for finding other similar plant configurations. Work orders 357520 and 357522 were initiated for radiographic and ultrasonic examination of the makeup flow 2.5 inch lines. On October 26, 2001, the licensee initiated CR 80546 to document the results from radiography and ultrasonic testing conducted under the work orders. Line 1SX12AA was listed as having approximately 50 percent blockage and a minimum wall thickness of 0.149 inches. Line 1SX12AB was listed as having approximately 30 percent blockage and a minimum wall thickness of 0.164 inches. The CR documents Engineering Evaluation 333768 which concluded the pipe walls were thinner than manufacturing tolerances but that the minimum acceptable pipe wall thickness was 0.080 inches in the existing configurations. The evaluation also stated that greater than 100 gpm makeup flow could be achieved with the as-found blockage conditions. The CR also documented that the SX to spent fuel pool lines were added to the procedure that controlled inspecting and flushing lines. Trending inspections were scheduled on an annual cycle.

On September 16, 2002, Condition Report 123025 stated that ultrasonic testing for trending of 1SX12AA and 12SX12AB pipe condition showed that the wall thickness of these pipe sections continued to degrade. The most significant degradations showed wall thickness decreasing from 0.186 inches to 0.139 inches with another section decreasing from 0.169 inches to 0.130 inches over a time period of less than 1 year. Work requests 64940 and 64941 were initiated to plan and schedule replacement of the piping.

The inspectors determined that the failure to demonstrate satisfactory performance of SX flow to spent fuel pool was a performance deficiency warranting a significance evaluation in accordance with IMC 0612, “Power Reactor Inspection Reports, “

Appendix B, “Issue Disposition Screening.” The inspectors determined that the finding was more than minor because, if left uncorrected, it could have resulted in a more than minor degradation of makeup capability and could affect the ability to maintain a barrier, specifically, the spent fuel cooling pool level, therefore, potentially impacting the Barrier Integrity Cornerstone. The inspectors determined that the finding could be evaluated using the SDP in accordance with IMC 0609, “Significant Determination Process.” For the Phase 1 screening, since the as-found conditions were sufficient to meet design requirements, the inspectors answered “no” to the three questions under the Containment Barriers column. Thus the finding was screened as Green (very low safety significance).

Criterion XI, “Test Control,” of 10 CFR Part 50, Appendix B, requires that a test program be established to assure that all testing required to demonstrate that systems and components will perform satisfactorily in service is identified and performed in accordance with written test procedures. The test program shall include, as appropriate, operational tests during normal plant operation. Contrary to above, as of August 24, 2001, the licensee had failed to have procedures to demonstrate the satisfactory performance of the SX to spent fuel pool function. Since the licensee entered the finding into its corrective action program, this violation is being treated as an NCV consistent with Section VI.A.1 of the NRC Enforcement Policy (NCV 50-461/02-08-02). This action closes URI 50-461/01-11-01, SX Spent Fuel Pool Makeup Line Flow Function Not Confirmed.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed portions of the following surveillance tests to determine whether risk significant systems and equipment were capable of performing their intended safety functions. The inspectors also assessed the operational readiness of the systems.

- MPT sudden pressure relay testing;
- Control room HVAC A operability testing;
- Reactor core isolation cooling quarterly testing;
- Division II EDG monthly testing;
- Residual Heat Removal A operability test; and
- Low pressure core spray operability test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed the following temporary modifications to determine whether the safety functions of important safety systems were affected and if the licensee followed their established procedure for temporary modifications CC-AA-112 "Temporary Configuration Changes," Revision 5.

- Licensee actions on reactor water cleanup (RT) A piping brace and the repair of a pinhole leak on service water (WS) to closed cooling water; and
- Engineering Change 338332 "Temporarily Disable Turbine Control Valve #4"

b. Findings

No findings of significance were identified.

Cornerstone: Emergency Preparedness

1EP2 Alert and Notification System (ANS) Testing (71114.02)

a. Inspection Scope

The inspectors discussed with Emergency Preparedness (EP) staff the design, operation, and periodic testing of the ANS for the Clinton Power Station's plume pathway Emergency Planning Zone to determine whether the system was adequately maintained and tested between 2001 and mid-2002 in accordance with relevant documents. The inspectors also reviewed records associated with non-scheduled maintenance activities to verify that corrective actions were taken following test failures and other reported equipment malfunctions.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation Testing (71114.03)

a. Inspection Scope

The inspectors reviewed and discussed with Clinton Station and corporate EP staffs the procedure that included the primary and back-up methods for initiating an activation of the on-call ERO and provisions for maintaining the ERO's call-out roster. The inspectors also reviewed the Station's provisions, which were revised in Spring 2002, for conducting monthly, off-hours ERO augmentation drills and reviewed records of these drills to determine whether the licensee maintained and tested its ability to activate its ERO in accordance with its emergency plan commitments. The inspectors also reviewed Condition Reports (CR) associated with several augmentation drills to determine whether the licensee initiated adequate corrective actions on concerns identified during these activities.

The inspectors also reviewed the current roster of the Station's ERO to verify that the appropriate number of personnel were assigned to each key and support position. The

inspectors reviewed a random sample of ERO members' training records to determine whether those personnel, who were listed on the current revision of the call out roster, had completed all annual EP training requirements. The inspectors also reviewed records of shift staffing from mid-May through late June 2002 to verify that the licensee met its on-shift emergency organization staffing commitments as stated in Revision 1 of the Clinton Station's Annex to the Exelon Radiological Emergency Plan (Exelon Plan).

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

The inspectors reviewed Revisions 11 and 12 of the Exelon Plan and Revisions 0 and 1 of the Clinton Station's Annex to the Exelon Plan. These reviews included the current revisions of letters or agreement with offsite support organizations that were referenced either in the Exelon Plan or the Clinton Station's Annex to that plan.

The inspectors also reviewed and discussed a sample of the licensee's assessments, performed per the requirements of 10 CFR 50.54(q), of certain changes contained in the one or more of the aforementioned plan revisions to determine whether these changes decreased the effectiveness of the licensee's emergency response pre-planning. For example, the inspectors reviewed and discussed records on changes to several emergency action levels and the relocation of the Operations Support Center. An EP inspector and resident inspectors also toured the former and current location of this onsite emergency response facility. The inspectors also reviewed and discussed several CRs associated with changes to the Clinton Station's Annex to the Exelon Plan.

b. Findings

No findings of significance were identified.

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies (71114.05)

a. Inspection Scope

The inspectors reviewed the 2001 audit of the Clinton Station's EP program to ensure that this independent assessment complied with the requirements of 10 CFR 50.54(t). The inspectors also reviewed self-assessments and a sample of CRs associated with the 2001 biennial exercise and various EP drills, which were conducted since Summer 2001, in order to verify that the licensee had fulfilled its drill commitments and to evaluate the licensee's efforts to identify, track, and correct concerns identified during these activities.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed portions of a licensee drill on September 18, 2002, to evaluate drill conduct in the operational support center and the technical support center. The inspectors also assessed whether or not the licensee appropriately accounted for USNRC Performance Indicator opportunities in the areas of Event Classification and Notification. The inspectors also assessed whether or not the licensee's critique process captured identified performance deficiencies.

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control

.1 Plant Walkdowns, Radiological Boundary Verifications, and Radiation Work Permit Reviews (71121.01)

a. Inspection Scope

The inspectors conducted walkdowns of the radiologically restricted area to verify the adequacy of radiological boundaries and postings. Specifically, the inspectors walked down several high and locked high radiation area boundaries in the Reactor and Turbine Buildings. Additionally, the inspectors walked down the Turbine Rotor Storage facility located in the owner controlled area to verify posting and proper security of this radiologically restricted area.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

.1 Offsite Dose Calculation Manual (ODCM) (71122.01)

a. Inspection Scope

The inspectors reviewed the 2001 Annual Radiological Environmental Operating Report to verify that the radiological effluent program was implemented as described in the USAR and the Offsite Dose Calculation Manual (ODCM). The inspectors reviewed the report for significant changes to the ODCM and to the design and operation of the radioactive waste processing system. The inspectors also reviewed the ODCM for revisions and any radiation monitor set point calculation changes following modification.

b. Findings

No findings of significance were identified.

.2 Gaseous and Liquid Release Systems Walkdowns (71122.01)

a. Inspection Scope

The inspectors performed walkdowns of selected components of the liquid and gaseous effluent monitoring and control systems, including point of discharge effluent radiation monitors to verify that the current system configuration was as described in the USAR and was consistent with the ODCM, and to observe equipment material condition. The inspectors also discussed the gaseous waste processing system including operations and components with the cognizant system engineer. The inspectors observed routine processing sample collection to verify the use of appropriate procedures and equipment alignment.

b. Findings

No findings of significance were identified.

.3 Gaseous and Liquid Releases (71122.01)

a. Inspection Scope

The inspectors reviewed liquid and gaseous radioactive waste (radwaste) release records to verify that appropriate treatment equipment was used and that the radwaste effluents were processed and released in accordance with the ODCM. As there were no liquid batch releases performed in the last 10 years, the inspectors reviewed air effluent release calculations to verify that the licensee's release procedures and practices, including dose projections to members of the public and use of station specific scaling factors, were technically sound and conformed to ODCM methodology and Technical Specification requirements. The inspectors also reviewed selected gaseous effluent release data including results of chemistry sample analyses, to independently verify that the data was properly used to complete calculations of offsite dose. Additionally, the inspectors reviewed sample collection data to verify that compensatory samples were taken and properly analyzed as required by the ODCM when any monitor was out of service.

b. Findings

No findings of significance were identified.

.4 Liquid and Gaseous Effluent Monitor Calibration

a. Inspection Scope

The inspectors reviewed records of instrument calibrations performed since the last inspection for selected point of discharge effluent radiation monitors, to determine if they had been calibrated consistent with industry standards and in accordance with station procedures and the ODCM. Specifically, the inspectors reviewed the calibration records for:

- Accident Range Stack Monitor (AXM);
- Stack Wide Range Gas Monitor;
- HVAC System Exhaust Process Radiation Monitor (PRM);
- Pretreatment Off Gas PRM;
- SGTS Exhaust PRM;
- Post Treatment Off Gas System PRM;
- Liquid Process Radiation Monitor.

The inspectors also reviewed current alarm set point values for these monitors, to assess compliance with ODCM requirements. Additionally, the inspectors examined the licensee's calendar year 2000 through 2001 data for tracking the reliability and maintenance of selected point of discharge effluent radiation monitors, to assess the adequacy of the licensee's efforts to identify repetitive problems and improve the overall operating condition of the effluent radiation monitoring systems.

b. Findings

No findings of significance were identified.

.5 Dose Calculations (71122.01)

a. Inspection Scope

The inspectors reviewed the year 2002 monthly and quarterly dose calculations to ensure that the licensee had properly calculated the offsite dose to the public from radiological effluent releases, and to determine if any annual TS or ODCM (i.e., Appendix I to 10 CFR Part 50 values) limits were exceeded.

b. Findings

No findings of significance were identified.

.6 Air Cleaning Systems (71122.01)

a. Inspection Scope

The inspectors reviewed air cleaning system surveillance test results from 2000 to year-to-date 2002 to ensure that test results were within the licensee's acceptance criteria and that identified anomalies were appropriately dispositioned. The inspectors reviewed surveillance test results and methodology for the station stack flow to verify that the flow rates were consistent with USAR values.

b. Findings

No findings of significance were identified.

.7 Counting Room Instrument Calibrations and Quality Control (71122.01)

a. Inspection Scope

The inspectors reviewed the quality control records for radiochemistry instrumentation used to identify and quantify radioisotopes in effluents, to verify that the instrumentation was calibrated and maintained as required by site procedures. This review included calibrations of gamma spectroscopy systems.

b. Findings

No findings of significance were identified.

.8 Interlaboratory Comparison Program (71122.01)

a. Inspection Scope

The inspectors reviewed the results of the Third quarter 2001 Interlaboratory Comparison Program in order to assess the quality of radioactive effluent sample analyses performed by the licensee. The inspectors reviewed the licensee's quality control evaluation of the Interlaboratory comparison program and associated corrective actions for any deficiencies identified to verify appropriate follow-up.

b. Findings

No findings of significance were identified.

.9 Identification and Resolution of Problems (71122.01)

a. Inspection Scope

The inspectors reviewed audits and self-assessments conducted during 2002 to evaluate the effectiveness of the licensee's self-assessment process in the identification, characterization, and prioritization of problems. Selected condition reports written during 2001 and year-to-date 2002, that addressed radioactive treatment and monitoring program deficiencies were also reviewed to verify that the licensee had effectively implemented the corrective action program. The documents reviewed during this inspection are listed at the end of this report.

b. Findings

No findings of significance were identified.

3. SAFEGUARDS

Cornerstone: Physical Protection

3PP3 Response to Contingency Events (71130.03)

a. Inspection Scope

The Office of Homeland Security (OHS) developed a Homeland Security Advisory System (HSAS) to disseminate information regarding the risk of terrorist attacks. The HSAS implemented a five color-coded threat conditions with a description of corresponding actions at each level. NRC Regulatory Information 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.

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 inspectors 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.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA1 Performance Indicator (PI) Verification (71151)

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity, Emergency Preparedness, and Occupational Radiation Safety

.1 Initiating Events, Mitigating Systems and Barrier Integrity Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed Licensee Event Reports (LERs), licensee memoranda, plant logs, and USNRC inspection reports to verify the following performance indicators for 2nd quarter of 2002.

- Safety System Unavailability, Residual Heat Removal System;
- Safety System Unavailability, Emergency Diesel Generator; and
- Safety System Functional Failures.

The inspectors verified that the licensee accurately reported performance as defined by the applicable revision of Nuclear Energy Institute Document 99-02, "Regulatory Assessment Performance Indicator Guideline."

b. Findings

No findings of significance were identified.

.2 Emergency Preparedness Indicator

a. Inspection Scope

The inspectors verified that the licensee accurately reported the following indicators in accordance with relevant procedures and industry guidance endorsed by NRC: ANS, ERO Drill Participation, and Drill and Exercise Performance (DEP) for the EP cornerstone. Specifically, the inspectors reviewed the licensee's records associated with PI data reported to the NRC for the period July 2001 through March 2002. Records included assessments of DEP opportunities during pre-designated Control Room Simulator training sessions, the biennial exercise, and several drills, as well as the rosters of personnel who filled key ERO positions. The inspectors also reviewed records of periodic ANS tests.

b. Findings

No findings of significance were identified.

.3 Occupational Radiation Safety Performance Indicator Verification

a. Inspection Scope

The inspectors reviewed the licensee's assessment of its performance indicator (PI) for public radiation safety to determine if indicator related data was adequately assessed and reported. Since no reportable elements were identified by the licensee for the last 4 quarters, the inspectors compared the licensee's data with condition reports (CRs) to verify that there were no occurrences concerning the occupational radiation safety cornerstone.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems (71152)

.1 Routine Review of Identification and Resolution of Problems

a. Inspection Scope

As discussed in previous sections of this report, the inspectors routinely reviewed issues during baseline inspection activities and plant status reviews to verify that they were being entered into the licensee's corrective action system at an appropriate threshold, that adequate attention was being given to timely corrective actions, and that adverse trends were identified and addressed. Minor issues entered into the licensee's corrective action system as a result of inspectors' observations are generally denoted in the report. In addition, the inspectors reviewed the following issue:

- Reactor Water Cleanup (RT) system, particularly with vibration control issues.

b. Findings

No finding of significance were identified.

.2 Area and Process Radiation Monitor Systems

Introduction

During the conduct of the review into frequent radiation and process monitor alarms in the main control room, the inspectors noted that frequent entries into Offsite Dose Calculation Manual compensatory sampling actions had occurred. The nature of the process monitor problems ranged from instrument failure to anomalous electrical spikes which caused alarms to actuate. The inspectors selected this condition for further review because the nuisance alarms were unnecessary distractions for the control room operators.

a. Effectiveness of Corrective Actions

(1) Inspection Scope

The inspectors reviewed two recent common cause analyses (CCAs) completed to evaluate the process radiation monitor problem to determine if the condition reports addressed generic implications and that corrective actions were appropriately focused to correct the problems. The following documents were reviewed:

- CR 89825, Common Cause for Recent AR/PR ODCM Entries, January 10, 2002
- CR 121525, Perform AR/PR Common Cause Analysis for year 2002 Failures, September 4, 2002

(2) Issues

The inspectors determined that the two CCAs adequately addressed the specific condition analyzed but failed to provide a broader assessment of system performance and reliability problems.

Another deficiency noted by the inspectors was that the main control room was frequently entering off-normal procedure 4979.01 "Abnormal Release of Airborne Radioactivity," Revision 8, in response to the process radiation monitor alarm conditions. Through discussions with the cognizant system manager, chemistry and radiation protection, and operations representatives, the inspectors learned that the set-points for certain process monitors were very close to the background levels. Furthermore, in preparing for the discussion with the inspectors, the licensee representatives had determined that significant margin was available to adjust the set-points for some of the process radiation monitors that were frequently alarming. Subsequent to the meeting with the inspectors, the licensee adjusted the set-points for the main stack and standby gas treatment system process radiation monitors and the frequency of the false alarms reduced significantly.

The inspectors concluded that the issues surrounding the frequent process radiation monitoring alarms was an illustration of work groups not resolving issues in a timely manner to support the operations department, in this case, to eliminate nuisance alarms in the main control room.

4OA3 Event Follow-up (71153)

.1 (Closed) LER 50-461/02-003-00: Manufacturing Process Deficiency in Main Power Transformer Sudden Pressure Relay Causes False Actuation of Relay Resulting in Generator and Turbine Trip and Reactor Scram.

On July 4, 2002, the sudden pressure alarm for the "B" Main Power Transformer (MPT) actuated in the main control room (MCR) and the reactor automatically shut down from 95 percent reactor power. The sudden pressure relay trip also initiated the "B" MPT deluge system and the fire pumps automatically started as expected. The operators responded properly and entered the appropriate off-normal procedures. The plant responded normally to the reactor scram with no main steam isolation valve closures or safety-relief valve actuations. The licensee's investigation found that the sudden pressure relay had actuated without a true fault over-pressure condition in the

transformer. When tested after the reactor scram, the relay was found to trip six out of eight times at 1.50 psig vice an expected 3.0 to 3.25 psig indicating that the relay was overly sensitive. The relay had been tested before installation; however, a latent defect in the bi-metal of the control orifice – probably occurring during the manufacturing process – resulted in the relay becoming more sensitive when exposed to higher temperatures. The licensee initiated CR 114453 to track the investigation and resolution of the event. Corrective actions included replacing the defective relay, testing the sudden pressure relays on the "A" and "C" MPTs, and instigating a design change to change the MPT sudden pressure trip to a two-out-of-two logic vice the current one-out-of-one logic. No violations of NRC requirements were identified.

4OA4 Cross-Cutting Issues

A finding described in Section 1R19 of this report had as its primary cause, a human performance deficiency, in that, inadequate communication, procedure adherence, and failing to document work on the Division I EDG generator insulated-bearing-bracket bolts could have to led to the failure of the Division I EDG.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. M. Pacilio and other members of licensee management at the conclusion of the inspection on September 30, 2002. The inspectors asked the licensee whether any materials examined during the inspection should be considered. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Emergency preparedness program and performance indicators inspection with Mr. M. Pacilio on July 26, 2002.

- Radiation Protection inspection with Mr. J. Williams on September 13, 2002.

KEY POINTS OF CONTACT

Licensee

M. Pacilio, Site Vice President
K. Polson, Plant Manager
J. Cunningham, Work Management Director
A. Daniels, Chemistry Manager
R. Davis, Radiation Protection Director
C. Dieckmann, Shift Operations Superintendent
R. Frantz, Regulatory Assurance Representative
W. Iliff, Regulatory Assurance Director
J. Madden, Nuclear Oversight Manager
R. Schmidt, Maintenance Manager
R. Svaleson, Operations Director
F. Tsakeres, Training Manager
C. Williamson, Security Analyst
J. Williams, Site Engineering Director
E. Wrigley, Security Manager

LIST OF ITEMS OPENED AND CLOSED

Opened

50-461/02-08-01	NCV	Violation of procedural requirements caused by human performance in that the licensee failed to control and document work on a risk-significant, safety-related system.
50-461/02-08-02	NCV	The licensee failed to establish written operational test procedures to demonstrate the functional capability of the SX makeup to the spent fuel pool.

Closed

50-461/02-08-01	NCV	Violation of procedural requirements caused by human performance in that the licensee failed to control and document work on a risk-significant, safety-related system
50-461/02-08-02	NCV	The licensee failed to establish written operational test procedures to demonstrate the functional capability of the SX makeup to the spent fuel pool
50-461/01-11-01	URI	SX Spent Fuel Pool Makeup Line Flow Function Not Confirmed
50-461/02-03-00	LER	Manufacturing Process Deficiency in Main Power Transformer Sudden Pressure Relay Causes False Actuation of Relay Resulting in Generator and Turbine Trip and Reactor Scram (Section 4OA3)

LIST OF ACRONYMS USED

ADAMS	NRC's Document System
ANS	Alert and Notification System
AXM	Accident Range Stack Monitor
CR	Condition Report
DEP	Drill and Exercise Performance
DRS	Division of Reactor Safety
EDG	Emergency Diesel Generator
EOPR	Engineering Operational Problem Response
EP	Emergency Preparedness
ERO	Emergency Response Organization
FPER	Fire Protection Evaluation Report
HSAS	Homeland Security Advisory System
MCR	Main Control Room
MM	Mechanical Maintenance
MPT	Main Power Transformer
MR	Maintenance Rule
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
OHS	Office of Homeland Security
PARS	Public Availability Records
PI	Performance Indicator
P&ID	Piping and Instrument Diagrams
PMT	Post Maintenance Testing
RIS	Regulatory Information Summary
PRM	Process Radiation Monitor
SDP	Significant Determination Process
SLC	Standby Liquid Control
SRO	Senior Reactor Operator
SX	Shutdown Service Water
USAR	Updated Safety Analysis Report

LIST OF DOCUMENTS REVIEWED

1R04 Equipment Alignments

CPS 1041.01F001; CPS Post Trip Review Report, Revision 7

CPS 3313.01V002; Low Pressure Core Spray Instrument Valve Lineup, Revision 8

USAR Section 6.3.1.2 Summary Description of ECCS

USAR Section 12.3.3.3.1 Control Room Ventilation

P&IDM05-1102, “Control Room HVAC”

P&ID M05-1075, “Residual Heat Removal”

P&ID M05-1073, “Low Pressure Core Spray”

1R05 Fire Protection

Fire Protection Evaluation Report, Chapter 3

1R06 Flood Protection

CPS 4304.01, “Flooding,” Revision 4a

Clinton Updated Safety Analysis Report (USAR), Section 2.4.2, “Floods”

Design Calculation PMED 01ME077, “Calculations for Flooding - Safe Shutdown Analysis”

1R11 Licensed Operator Requalifications

ESG-LOR-08, Loss of Instrument Air/Anticipated Transient without SCRAM, Revision 17

OP-AA-101-111, “Roles and Responsibilities of On-Shift Personnel,” Revision 0

OP-AA-103-102, “Watchstanding Practices,” Revision 0

OP-AA-101-111-1001, “Operations Philosophy Handbook,” Revision 0

OP-AA-101-111-1002, “Operations Standards and Fundamentals,” Revision 0

OP-AA-104-101, “Communications,” Revision 0

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

CR 117257, CR 118085; MPT C increasing hydran readings

1R14 Non-routine Events

CPS 4001.01, Reactor Coolant Leakage, Revision 10

CPS 3002.01, Heatup and Pressurization, Revision 26

CPS 3004.01, Turbine Startup and Generator Synchronization, Revision 26

1R15 Operability Evaluations

EOPR 2002-7; Recommendations regarding operation of MSR HLVs and EH pumps

EOPR 2002-19; Guidelines to minimize the potential for any transient on main turbine 1st stage pressure

CR 124374, RHR "B" Heat Exchanger Tube Degradation

CR 118473, 1E12-F068A failed WO 454283

1R19 Post Maintenance Testing

CPS 8528.01, SSW Pumps A and B Motor Maintenance, Revision 4b

WO 00004716 03; Reconfigure The 'SX' Inlet/Outlet Piping IAW ECN; ECN 166017

WO 00004716 01; Reconfigure the 'SX' Inlet/Outlet piping IAW ECN; ECN 31302

CPS 1003.01F003; Engineering Change Notice; Revision 5b

CPS 3506.01, Diesel Generator and Support Systems (DG), Revision 29b

CPS 9080.18, DG 1A Overcrank Delay Timer Test, Differential Overcurrent Trip Test, and Bypass Operability, Revision 0

CPS 8570.01, Division I/II Diesel Generator Maintenance, Revision 7e

1R21 Safety System Design and Performance Capability

CR 00073116; No PM exist to flush SX to Spent Fuel Pool; dated August 24, 2001

CR 00074732; Dead Legs of SX piping to relief valves & misc makeup & FP; dated September 10, 2001

CR 00080546; RT & UT results identify SX pipe wall reduction & blockage; dated October 26, 2001

AR 00089903; CR 80546 desc contains discrepancies vs final results; January 10, 2002

CR 00123025; SX piping degradation (1SX12AA,AB 2.5"); dated September 16, 2002

Engineering Change/Evaluation 333768; Wall Thinning and Line Blockage Evaluation for SX Lines 1SX12AA and 1SX12AB; dated December 13, 2001

1R22 Surveillance Testing

CPS 3812.01, Turbine Online Tests, Revision 9b

CPS 9052.01, LPCS/RHR A Water leg Pump Operability, Revision 41e

CPS 9053.04, LPCS and RHR A Valve Stroking, Revision 43a

1R23 Temporary Plant Modifications

EC 338332; Temporarily Disable Turbine Control Valve #4

1EP2 Alert and Notification System (ANS) Testing

Warning System Annual Maintenance and Operational Report; June 14, 2001

Clinton Offsite Siren Test Plan; January 2002

1EP3 Emergency Response Organization (ERO) Augmentation Testing

EP-AA-112; ERO/Emergency Response Facility Activation and Operation; Revision 5

May 2002 Off-hours Augmentation Drill Report

June 2002 Off-hours Augmentation Drill Report

Clinton Power Station ERO Roster; July 2002

Random Sample of Clinton Station ERO Members' EP Training Records

On-shift ERO Staffing Validation Records from May 13, 2002 through June 25, 2002

Memorandum Additional Operations Responsibilities in a Declared Emergency; May 1, 2002

TQ-AA-113; ERO Training and Qualification; Revision 1

CR00110153; Confusion on Wording of Call-out Message

CR00110156; One Pager Did Not Activate During May 2002 Augmentation Drill

CR00114538; One Pager Replaced After June 2002 Augmentation Drill

1EP4 Emergency Action Level and Emergency Plan Changes

Exelon Radiological Emergency Plan; Revisions 11 and 12

Clinton Station Annex to the Exelon Plan; Revisions 0 and 1

Draft 50.54(q) Evaluation for Revision 13.6 of the Discontinued Emergency Plan for Clinton Station; June 2001

50.54(q) Evaluations for Revision 11 of the Exelon Emergency Plan and Revision 0 to the Clinton Station Annex to Exelon's Plan

50.54(q) Evaluation for Revision 1 of the Clinton Station Annex to the Exelon Plan, April 2002

Current Letters of Agreement with Offsite Support Organizations, as Referenced in Revision 12 of the Exelon Plan, or in Revisions 0 and 1 of the Clinton Station Annex to the Exelon Plan

CR00117006; Complete Demobilization of Supplies and Equipment in Former Operations Support Center

CR00117022; Complete Evaluation of Operations Support Center's Relocation

CR00114381; Update Letters of Agreement with Local Support Organizations

1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

NOA-C-01-04Q; Nuclear Oversight Continuous Assessment Report, October - December 2001

Nuclear Oversight Audit Template for 10 CFR 50.54(t) Review of the EP Program, Summer 2002

August 2001 Graded Exercise Report; September 2001

September 2001 Dose Assessment Drill Critique Report; October 2001

November 2001 Medical Drill Critique Report; January 2002

December 2001 Post Accident Sampling System Drill Critique Report; February 2002

June 2002 Semi-Annual Health Physics Drill Critique Report; June 2002

CR00073706; Autodialer's Modem Found in "off" Position During August 2001 Exercise

CR00073949; Premature Emergency Declaration Stopped by Controllers During August 2001 Exercise

CR00073951; Error in Posted Offsite Dose Projections During August 2001 Exercise

CR00073956; Untimely Assessment of Dose Projection Results During August 2001 Exercise

2PS1 Radiological Effluents

CR00077058, Unplanned Entry into ODCM-Com Failure, September 30, 2001

CR00083270, Unplanned Entry into ODCM-Chan 4 Inop, November 16, 2001

CR00083734, Unplanned Entry into ODCM-Remedial , November 23, 2001

CR00083738, Unplanned Entry into ODCM-HVAC Exhaust AXM, November 23, 2001

CR00087948, Unplanned Entry into ODCM-Post Treatment Monitor Inop, December 23, 2001

CR00087950, Unplanned Entry into ODCM-1RIX-PR041 Inop, December 23, 2001

CR00096777, Chemistry Failed Interlaboratory Radioanalytical, February 26, 2002

CR00097297, Unplanned Entry into ODCM-0RIX-PR012 Inop, February 28, 2002

CR00097666, 9437.61 Post Treatment Off Gas PRM CC Procedure Errors, March 4, 2002

CR00105581, Unplanned Entry into ODCM-Com Error, April 26, 2002

CR00108092, Unplanned Entry into ODCM, May 14, 2002

CR00112064, Unplanned Entry into ODCM, June 16, 2002

CR00113083, Low Flow Failure of 1RIX-PR041, June 24, 2002

CR00113804, Unplanned Entry into ODCM, June 30, 2002

CR0011931, Unplanned Entry into ODCM-1PR035 Failure, August 18, 2002

CR00120189, Flow Problems Cause Monitor to be Declared Inoperable, August 22, 2002

CPS 2104.01D001, HEPA Filter Bypass Leak Test Data, Sheet Revision 3

CPS 2104.01D002, Conversion to SCFM, Revision 0

CPS 2104.01C002, Air Cleaning Unit Visual Inspection Checklist, Revision 3

CPS 9437.40, HVAC System Exhaust PRM, Calibration, Revision 41b

CPS 9437.41, SGTS Exhaust PRM Calibration Test, Revision 39e

CPS 9437.61, Post-treatment Off Gas System PRM Calibration, Revision 40d

CPS 9437.62, Liquid Process Radiation Monitor, Revision 37h

CPS 9437.64, Accident Range Stack Monitor (AXM) Calibration, Revision 36b

CPS 9437.66, Pre-treatment Off Gas PRM Calibration, Revision 36e

CPS 9911.59, Monthly Gaseous/Liquid Dose Calculation, Revision 29a

Clinton Power Station 2001 Annual Radiological Environmental Operating Report

Clinton Power Station 2001 Annual Radioactive Effluent Release Report

4OA1 Performance Indicator (PI) Verification

Policy Statement 14 - NRC Performance Indicator Data Collection, Attachments 5, 6, and 7; Revision 2

LS-AA-2110; Monthly PI Data Elements for ERO Drill Participation; Revision 2

LS-AA-2120; Monthly PI Data Elements for Drill/Exercise Performance; Revision 2

LS-AA-2130; Monthly Data Elements for ANS Reliability; Revision 2

Key ERO Members' Drill and Exercise Participation Records from July 2001 through March 2002

Monthly Records of DEP Indicator Opportunities from July 2001 through March 2002

Monthly and Daily ANS Test Results from July 2001 through March 2002

CR00106036; March 2002 Drill Not Counted for PI Opportunities Upon Learning that One Participant Had Prior Scenario Knowledge

CR00106466; Decreasing Trend in ERO Indicator in April 2002

4OA2 Problem Identification and Resolution (PI&R)

CR 72782, Potential Adverse Trend In AR/PR Unplanned ODCM Entries, September 21, 2001

CR 89825, Common Cause for Recent AR/PR ODCM Entries, January 10, 2002

CR 121525, Perform AR/PR Common Cause Analysis for year 2002 Failures, September 4, 2002