

February 1, 2007

Mr. Christopher M. Crane  
President and Chief Nuclear Officer  
Exelon Nuclear  
Exelon Generation Company, LLC  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION NRC INTEGRATED INSPECTION  
REPORT 05000461/2006008; 05000461/2006009

Dear Mr. Crane:

On December 31, 2006, the U.S. Nuclear Regulatory Commission (NRC) completed an integrated inspection at your Clinton Power Station. The enclosed report documents the inspection results, which were discussed on January 10, 2007, with B. Hanson and other members of your staff.

This inspection examined activities conducted under your license as they relate to safety and to 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 upon the results of this inspection, no findings of significance were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure, and your response (if any) 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), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

**/RA/**

Mark A. Ring, Chief  
Branch 1  
Division of Reactor Projects

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

Enclosure: Inspection Report No. 05000461/2006008; 05000461/2006009  
w/Attachment: Supplemental Information

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C. Crane

cc w/encl: Site Vice President - Clinton Power Station  
Plant Manager - Clinton Power Station  
Regulatory Assurance Manager - Clinton Power Station  
Chief Operating Officer  
Senior Vice President - Nuclear Services  
Vice President - Operations Support  
Vice President - Licensing and Regulatory Affairs  
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-461

License No: NPF-62

Report No: 05000461/2006008; 05000461/2006009

Licensee: AmerGen Energy Company, LLC

Facility: Clinton Power Station

Location: Clinton, IL

Dates: October 1 through December 31, 2006

Inspectors: B. C. Dickson, Senior Resident Inspector  
D. Tharp, Resident Inspector  
W. Slawinski, Senior Radiation Specialist  
N. Valos, Senior Operations Engineer  
S. Mischke, Resident Engineer, IEMA

Approved by: M. Ring, Chief  
Branch 1  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000461/2006008 and 05000461/2006009; 10/01/2006 - 12/31/2006; Clinton Power Station.

This report covers a 3-month period of baseline resident inspection and announced baseline inspections on radiation protection and operator licensing. The inspection was conducted by Region III inspectors and the resident inspectors. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the Significance Determination Process 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. **Inspector-Identified and Self Revealing Findings**

No findings of significance were identified.

B. **Licensee-Identified Violations**

No findings of significance were identified.

## REPORT DETAILS

### Summary of Plant Status

The plant entered the inspection period operating at approximately 97 percent rated thermal power. On October 1, 2006, operators lowered power to 80 percent to support installation of a combined-intermediate valve servo strainer modification. Operators returned the reactor to 97 percent power on the same day. On December 1, 2006, operators lowered the reactor to 55 percent power in response to degraded electrical grid conditions following an ice storm. On December 6, 2006, operators reduced reactor power to 45 percent in response to continuing degraded electrical grid conditions. On December 7, 2006, plant operators restored power to 96 percent and remained there through the close of the inspection period.

#### 1. **REACTOR SAFETY**

##### **Cornerstone: Initiating Events, Mitigating Systems, and Barrier Integrity**

#### 1R01 Adverse Weather (71111.01)

##### a. Inspection Scope

The inspectors verified that the licensee had completed its seasonal preparations for cold weather in a timely manner before the cold weather actually presented a challenge. The inspectors reviewed the licensee's cold weather preparation checklist and verified that it adequately covered risk-significant equipment and ensured that the equipment was in a condition to meet the requirements of Technical Specifications (TSs), the Operations Requirements Manual (ORM), and the Updated Safety Analysis Report (USAR) with respect to protection from low temperatures. The inspectors verified that minor issues identified during the inspection were entered into the licensee's corrective action system by reviewing the associated condition reports (CRs). Based on their importance for availability of mitigating systems, the inspectors conducted more detailed system reviews and walkdowns for the following systems:

- Shutdown service water,
- Instrument air,
- Essential switchgear cooling, and
- Circulating water.

This review completed one inspection sample. A list of documents reviewed is included at the end of this report.

##### b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Complete Semi-Annual Walkdown

a. Inspection Scope

The inspectors conducted a complete system alignment inspection of the reactor core isolation cooling system. This system was selected based on its high risk significance and mitigating systems function, and because the high pressure core spray system was unavailable for planned maintenance. The inspectors reviewed plant procedures, drawings, and the USAR to identify proper system alignment and visually inspected system valves, instrumentation, and electrical supplies to verify proper alignment, component accessibility, availability, and current material condition. The inspectors also completed a review of corrective action documents, work orders (WOs), and operator workaround and challenges to ensure there were no current operability concerns with the system. Documents reviewed during this inspection are listed in the Attachment. These activities completed one inspection sample.

b. Findings

No findings of significance were identified.

.2 Partial Walkdowns

a. Inspection Scope

The inspectors performed partial walkdowns of accessible portions of divisions of risk-significant mitigating systems equipment during times when the divisions were of increased importance due to the redundant divisions or other related equipment being unavailable. The inspectors utilized the valve and electric breaker checklists listed at the end of this report to verify that the components were properly positioned and that support systems were lined up as needed. The inspectors also examined the material condition of the components and observed operating parameters of equipment to verify that there were no obvious deficiencies. The inspectors reviewed outstanding WOs and CRs associated with the divisions to verify that those documents did not reveal issues that could affect division function. The inspectors used the information in the appropriate sections of the USAR to determine the functional requirements of the systems. The documents listed at the end of this report were also used by the inspectors to evaluate this area. The inspectors performed two samples by verifying the alignment of the following divisions:

- Division 2 residual heat removal and
- 125V-dc distribution system

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Annual Fire Drill

a. Inspection Scope

The inspectors conducted multiple evaluations of the licensee's fire brigade drill. The evaluations included an assessment of the fire brigade's members, the fire brigade's leaders, the use of turnout gear and fire fighting equipment, and the effectiveness of the fire team operation. During the inspection period, the inspectors observed the following fire drill scenarios:

- Fire Drill Scenario No. 2006-20, 737' Control Building Chemistry Lab Fire, Announced Drill- Crew B (11/14/2006);
- Fire Drill Scenario No. 2006-23, 737' Control Building Chemistry Lab Fire, Unannounced Drill- Crew D (12/13/2006); and
- Fire Drill Scenario No. 2006-24, 762' Radwaste Breaker Testing Area Unannounced Drill- Crew F (12/20/2006).

The above list of fire drills represented the required annual sample for fire team observations.

b. Findings

No findings of significance were identified.

.2 Quarterly Walkdown

a. Inspection Scope

The inspectors conducted fire protection walkdowns which were focused on availability, accessibility, and the condition of fire fighting equipment, the control of transient combustibles and ignition sources, and on the condition and operating status of installed fire barriers. The inspectors selected fire areas for inspection based on their overall contribution to internal fire risk, as documented in the individual plant examination of external events with later additional insights, and their potential to impact equipment which could cause a plant transient, to verify that fire hoses and extinguishers were in their designated locations and available for immediate use, that fire detectors and sprinklers were not obstructed, that transient material loading was within the analyzed limits, and that fire doors, dampers, and penetration seals appeared to be in satisfactory condition. The inspectors verified that minor issues identified during the inspection were entered into the licensee's corrective action program.

The inspectors reviewed portions of the licensee's fire protection evaluation report and the USAR to verify consistency in the documented analysis with installed fire protection equipment at the station.

The inspectors completed five samples by inspection of the following areas:

- Fire Zone CB-5a, Elevation 781'-0" Division 3 switchgear room and Fire Zone CB-1f, Elevation 762'-0," General access area;
- Fire Zone A-1a and Fire Area A-6, Elevation 707' Auxiliary building general access;
- Fire Zones CB-3a, 3c, 3d, and 3g, Elevation 781'-0" Auxiliary electrical equipment room, non-safety battery room (West), non-safety battery room (East), and Division 4 battery room;
- Fire Zones A-2n and A-2o and Fire Area A-4, Division 1 switchgear room, containment gas boundary area, and Division 1 battery room; and
- Fire Zone FP-2a, Reactor core isolation cooling system pump room.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

The inspectors verified that flooding mitigation plans and equipment were consistent with the design requirements and risk analysis assumptions. The inspectors completed a walkdown of the reactor core isolation cooling room and reviewed the USAR for internal flooding events, licensee procedures, and selected issue reports to complete one inspection sample. A list of the documents reviewed is included at the end of this report. This activity represents one inspection sample.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Quarterly Resident Inspector Review

a. Inspection Scope

The inspectors reviewed licensed-operator requalification training of multiple crews to evaluate operator performance in mitigating the consequences of a simulated event, particularly in the area of human performance. The inspectors observed licensed-operator performance in the licensee's simulator during the Clinton Power Station full participation annual emergency preparedness drill on December 6, 2006. Additionally, the inspectors reviewed video taped recordings of Clinton operating crew D during their annual requalification simulator test. A second sample was completed by observing operators in the licensee's simulator during requalification training. The inspectors evaluated operator performance attributes which included

communication clarity and formality, timely performance of appropriate operator actions, appropriate alarm response, proper procedure use and adherence, and senior reactor operator oversight and command and control.

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

- ESG-LOR-54, "Reactor Core Isolation Cooling Leak and Emergency Operating Procedure 1," Revision 2;
- ESG-LOR-88, "Feedpump Trip, Loss of Coolant Accident;"
- ESG-LOR-08, "Loss of Instrument Air/Anticipated Transient Without Scram," Revision 20;
- OP-AA-101-111, "Roles and Responsibilities of On-Shift Personnel," Revision 0;
- OP-AA-103-102, "Watchstanding Practices," Revision 2;
- OP-AA-104-101, "Communications," Revision 1; and
- OP-AA-106-101, "Significant Event Reporting," Revision 2.

The inspectors also assessed the performance of the training staff evaluations involved in the requalification process. For any weaknesses identified, the inspectors observed that the licensee evaluators also noted the issues and discussed them in the critique at the end of the session. The inspectors verified all issues were captured in the training program and licensee corrective action process.

These activities completed two inspection samples.

b. Findings

No findings of significance were identified.

.2 Annual Operating Test Results

a. Inspection Scope

The inspectors reviewed the overall pass/fail results of the operating and simulator tests (required to be given annually per 10 CFR 55.59(a)(2)) administered by the licensee from October 16 through November 17, 2006. The overall results were compared with the significance determination process in accordance with NRC Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process."

b. Findings

No findings of significance were identified.

1R12 Maintenance Effectiveness (71111.12)

a. Inspection Scope

The inspectors reviewed the effectiveness of the licensee's maintenance efforts in implementing 10 CFR 50.65 (the maintenance rule (MR)) requirements, including a review of scoping, goal-setting, performance monitoring, short and long-term corrective actions, and current equipment performance problems. These systems were selected based on their designation as risk-significant under the maintenance rule, or being in the increased monitoring (MR category (a) (1)) group. In addition, the inspectors interviewed the system engineers and maintenance rule coordinator. The inspectors also reviewed CRs and associated documents for appropriate identification of problems, entry into the corrective action system, and appropriateness of planned or completed actions. The documents reviewed are listed at the end of the report. The inspectors completed three samples by reviewing the following:

- High pressure core spray system;
- Reactor core isolation cooling system; and
- Control room ventilation train B fan catastrophic failure.

b. Findings

No findings of significance were identified.

1R13 Maintenance Risk Assessment and Emergent Work Control (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 completed seven samples by assessing the effectiveness of risk management activities for the following work activities or work weeks:

- Work week 640, Division 1 diesel generator system outage window;
- Work week 641, reserve auxiliary transformer system outage window concurrent with service water pump maintenance;
- Work week 643, high pressure core spray system outage window;
- Division 1 residual heat removal system outage window, reactor core isolation cooling system outage, and standby liquid control pump quarterly surveillance testing;
- Emergent outage of the emergency reserve auxiliary transformer due to high temperature on a disconnect switch;

- Division 3 shutdown service water flow balance testing; and
- Work week 636, reactor core isolation cooling quick start surveillance in coincidence with Division 4 card select decoder calibration.

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 risk increase had occurred. The inspectors completed three samples of operability determinations and evaluations by reviewing the following:

- Operability evaluation 540581, Division 1 diesel generator load imbalance;
- Operability evaluation 552556, unsealed penetration under 1E22S004; and
- Operability basis for action requests 566543, 566537 and 566532 which documented minor air leak from threaded diesel generator starting air fitting.

b. Findings

No findings of significance were identified.

1R19 Post Maintenance Testing (71111.19)

a. Inspection Scope

The inspectors reviewed the post maintenance testing activities associated with maintenance or modification of important mitigating, barrier integrity, and support systems that were identified as risk significant in the licensee's risk analysis. The inspectors reviewed these activities to verify that the post maintenance testing was performed adequately, demonstrated that the maintenance was successful, and that operability was restored. During this inspection activity, the inspectors interviewed maintenance and engineering department personnel and reviewed the completed post maintenance testing documentation. The inspectors used the appropriate sections of the TS and USAR, as well as the documents listed at the end of this report, to evaluate this area.

Testing subsequent to the following activities was observed and evaluated to complete six inspection samples:

- High pressure core spray valve operability following the system outage window using CPS 9051.02 per WO 970815;
- Leak check and exercise of high pressure core spray water leg pump discharge check valve rework per WO 917475;
- Leak check following replacement of shutdown service water relief valves 1SX156A/B per WOs 819238 and 819239;
- High pressure core spray system during system outage window per WO 970814;
- Reserve auxiliary transformer (RAT) static VAR compensator outage to repair disconnect switch 1AP106E, RAT static VAR compensator TCR disconnect SW TCR-89 per WO 893840 and CPS procedure 3505.03; and
- Repair of shutdown service water pump room fan per CPS 3405.01, Section 8.2.4, per WO 904027.

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors witnessed selected surveillance testing and/or reviewed test data to verify that the equipment tested using the surveillance procedures met the TSs, the ORM, the USAR, and licensee procedural requirements, and demonstrated that the equipment was capable of performing its intended safety functions. The activities were selected based on their importance in verifying mitigating systems capability and barrier integrity. The inspectors used the documents listed at the end of this report to verify that the testing met the frequency requirements; that the tests were conducted in accordance with the procedures, including establishing the proper plant conditions and prerequisites; that the test acceptance criteria were met; and that the results of the tests were properly reviewed and recorded. In addition, the inspectors interviewed operations, maintenance and engineering department personnel regarding the tests and test results.

The inspectors evaluated the following inservice testing surveillance tests to complete two inspection samples:

- CPS 9051.01, "High pressure core spray pump, water leg pump, and valve operability", and
- CPS 9054.02, "Reactor core isolation cooling valve operability."

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed the emergency response activities associated with emergency preparedness drills. Specifically, the inspectors verified that the emergency classification and simulated notifications were properly completed, and that the licensee adequately critiqued the training. Additionally, the inspectors observed licensee activities during the drill in the simulated control room and the Technical Support Center. The inspectors observed the following two emergency drills to complete two inspection samples:

- Clinton 2006 Annual full scale performance indicator (PI) drill, which simulated a control rod drop accident with an anticipated transient without scram and an unisolable steam leak on the reactor core isolation cooling system, December 6, 2006; and
- Clinton 2006 Site assembly and accountability drill, December 20, 2006.

b. Findings

No findings of significance were identified.

**2. RADIATION SAFETY**

**Cornerstone: Public Radiation Safety**

2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems  
(71122.01)

.1 Inspection Planning

a. Inspection Scope

The inspectors reviewed the current revision to the licensee's Offsite Dose Calculation Manual (ODCM) and the licensee's Annual Radioactive Effluent Release Reports for calendar years 2004 and 2005, along with selected radioactive effluent release data for 2006 through November 2006. The inspectors determined if evaluations were completed for modifications to the ODCM since the previous NRC inspection of the effluent control program in November 2004 and that effluent radiation monitor alarm setpoints were changed as warranted. The inspectors also reviewed, as applicable, audits, self-assessments and licensee event reports that involved unanticipated offsite releases of radioactive effluents. The effluent reports, effluent data, and licensee evaluations were reviewed to determine whether the radioactive effluent control program was implemented as required by the Radiological Effluent Technical

Specifications (RETS) and the ODCM, to determine if public dose limits from effluents were met, and to determine if any anomalies in effluent release data were adequately understood by the licensee and were assessed and reported.

The inspectors evaluated the licensee's analysis of any effluent pathways resulting from a spill, leak or abnormal/unexpected liquid discharge(s) since the plant begun operations in the mid-1980s. The inspectors determined if the licensee maintained adequate records on sampling locations, sampling methods and the radiological analysis results for any spills or leaks of liquids as required by 10 CFR 20.1501. The inspectors also determined whether the licensee had identified those systems and the associated equipment that were potentially vulnerable to leaks of contaminated fluids and whether the licensee had developed adequate mechanisms to identify spills/leaks should they occur.

The inspectors reviewed the ODCM to identify the gaseous and liquid effluent radiation monitoring systems and associated effluent flow paths including in-line flow measurement devices, and reviewed the description of radioactive waste systems and effluent pathways provided in the USAR in preparation for the onsite inspection.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.2 Walkdown of Effluent Control Systems, Review of System/Program Modifications, and Instrument Calibrations

a. Inspection Scope

The inspectors walked down the point of discharge liquid and gaseous system effluent radiation monitors and associated flow indicating devices to observe current system configuration with respect to the descriptions in the USAR. The inspectors discussed radwaste system operation and equipment material condition with radwaste and radiation protection staffs, and reviewed material condition surveillance activities and records for those areas in the radwaste building that were normally controlled as locked high radiation areas.

The inspectors reviewed the technical justification for any changes made by the licensee to the ODCM, as well as changes to the liquid or gaseous radioactive waste system design or operation since the last NRC inspection, to determine whether these changes affected the licensee's ability to maintain effluents as low as reasonably achievable and whether changes made to monitoring instrumentation resulted in non-representative monitoring of effluents. Annual radioactive effluent release reports for the 2 years preceding the inspection were evaluated for any significant changes (factor of 5) in either the quantities or kinds of radioactive effluents and for any significant changes in offsite dose which could be indicative of problems with the effluent control program. No significant adverse changes were identified.

The inspectors reviewed records of the most recent instrument calibrations (channel calibrations) for each point-of-discharge gaseous effluent radiation monitor and for the plant service water effluent monitor to determine if these monitors had been calibrated consistent with industry standards and in accordance with station procedures, TSs and the ODCM. Specifically, the inspectors reviewed calibration records for the following effluent radiation monitors:

- Plant service water effluent process monitor (PR036) and flow rate device (PR052);
- Common station heating, ventilation, and air conditioning (HVAC) process radiation monitors (PR001 and PR002) and flow rate device (PR051-151-6);
- Heating, ventilation, and air conditioning accident range monitor (PR012);
- Standby gas treatment system process radiation monitors (PR003 and PR004) and flow rate device (PR051-151-1); and
- Standby gas treatment system (SGTS) accident range monitor (PR008).

The inspectors reviewed effluent radiation monitor setpoint bases and alarm setpoint values for the point of discharge gaseous effluent radiation monitors to assess their technical adequacy and for compliance with ODCM criteria. Additionally, the inspectors selectively reviewed gaseous effluent monitor operational trend data and discussed with system engineering staff the historical performance of the process/effluent radiation monitoring system to assess the overall health of the system.

The inspectors reviewed chemistry department quality control data for those instrumentation systems used to quantify effluent releases for indications of potential degraded instrument performance. Specifically, the inspectors reviewed the most recent efficiency calibration records and lower limit of detection determinations and selected other quality control data for Chemistry Department gamma spectroscopy systems and for the liquid scintillation counter.

These reviews represented three inspection samples.

b. Findings

No findings of significance were identified.

.3 Effluent Release Packages, Dose Calculations, and Laboratory Analytical Instrumentation Quality Control

a. Inspection Scope

As the licensee has reported that zero radioactive liquid effluents were released since 1993 as documented in the licensee's annual effluent reports (and thus no public dose contributions from station liquid effluents), the inspectors did not review any radioactive liquid effluent release permits. In lieu of these reviews, the inspectors discussed with

the radwaste staff the controls (physical and administrative) used by the licensee to ensure that radioactive liquid effluents would not be inadvertently released from the station.

The inspectors selectively reviewed radioactive gaseous effluent release permits and associated gaseous effluent sampling data for selected periods in 2005 through November 2006, including results of chemistry sample analyses, the application of vendor laboratory analysis results for difficult to detect nuclides, along with the licensee's effluent release procedures and practices. Also, the inspectors reviewed the methods for calculating the projected doses to members of the public from gaseous effluent releases. These reviews were performed to determine whether the licensee adequately applied the analysis results in its dose calculations consistent with ODCM methodology and to determine if appropriate treatment equipment was used and that gaseous effluents were released in accordance with the RETS/ODCM to meet procedural requirements.

The inspectors accompanied a chemistry technician to observe the routine weekly change-out of the particulate and iodine samplers and the collection of a tritium sample from the common HVAC sampling system effluent monitor. The inspectors accompanied the technician to determine if sampling practices, sampler restoration and analytical techniques were sound and consistent with procedure, and also to determine if the sampling system was configured so as to provide representative sampling.

The inspectors reviewed the licensee's practices for compensatory sampling during periods of effluent monitor inoperability to assess compliance with ODCM requirements. The inspectors selectively reviewed both monthly and quarterly dose calculations and projections to ensure that the licensee properly calculated the offsite dose from gaseous effluent releases and to determine if any RETS/ODCM (i.e., Appendix I to 10 CFR Part 50) design objectives (limits) were exceeded. The inspectors reviewed the plants source term data to determine if all applicable radionuclides that are discharged were included in the dose calculations, as applicable.

The inspectors reviewed the licensee's 10 CFR 50.75(g) file which documented the overflow of an outdoor tank that occurred in 1992. The inspectors reviewed the licensee's evaluation of the spill/leak incident, the licensee's remedial actions including the associated projected dose to the public, as applicable. The inspectors reviewed a 2006 investigation report developed for the Clinton Station which evaluated the hydrogeologic characteristics of the site including the groundwater flow patterns. Additionally, the inspectors reviewed the licensee's recently implemented groundwater monitoring program for detecting potential leaks and spills. These reviews were performed to determine if the licensee had a program for early detection of spills/leaks, understood the sites groundwater flow pathways, and had the capability to assess the radiological impact of a spill/leak should it occur.

The inspectors reviewed the results of the quarterly radiochemistry inter-laboratory cross-check comparisons for the two-calendar quarters preceding the inspection to validate the licensee's analyses capabilities. The inspectors reviewed the licensee's evaluation of any disparate inter-laboratory comparisons and the associated corrective

actions for any deficiencies identified, as applicable. In addition, the inspectors reviewed quarterly inter-laboratory comparison data for the licensee's vendor laboratory for 2005 and the first half-of 2006 to assess the analytical capabilities of the vendor laboratory for those difficult-to-detect nuclides specified in the ODCM.

These reviews represented five inspection samples.

b. Findings

No findings of significance were identified.

.4 Ventilation Filter Testing

a. Inspection Scope

The inspectors reviewed the most recent results for both divisions of the SGTS ventilation system filter testing to determine whether the test methods, frequency, and test results met TS requirements. Specifically, the inspectors reviewed the results of in-place high efficiency particulate air (HEPA) and charcoal absorber penetration/leak tests, laboratory tests of charcoal absorber methyl iodide penetration and in-place tests of pressure differential across the combined HEPA filters/charcoal absorbers for the SGTS. Additionally, the inspectors reviewed the results of air-aerosol mixing uniformity tests for the SGTS trains which were previously performed as prerequisites to the ventilation filter testing program as provided in The American Society of Mechanical Engineers Standard N510-1980, "Testing of Nuclear Air Treatment Systems."

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed a Chemistry Department self-assessment, Nuclear Oversight Department audits, and Assignment Reports (ARs) generated between January 2005 and November 2006, which focused on the radioactive effluent treatment and monitoring program to determine if identified problems were entered into the corrective action program for resolution. The inspectors also verified that the licensee's problem identification and resolution program, together with its audit and self-assessment activities, were capable of identifying repetitive deficiencies or significant individual deficiencies in problem identification and resolution.

The inspectors reviewed various ARs related to the radioactive effluent treatment and monitoring program generated since 2005, interviewed staff, and reviewed associated licensee evaluations and corrective action documents to determine if the following

activities were being conducted in an effective and timely manner commensurate with their importance to safety and risk:

- Initial problem identification, characterization, and tracking;
- Disposition of operability/reportability issues;
- Evaluation of safety significance/risk and priority for resolution;
- Identification of repetitive problems;
- Identification of contributing causes;
- Identification and implementation of effective corrective actions;
- Resolution of Non-Cited Violations tracked in the corrective action system; and
- Implementation/consideration of risk significant operational experience feedback.

These reviews represented one inspection sample.

b. Findings

No findings of significance were identified.

**4 OTHER ACTIVITIES (OA)**

4OA1 Performance Indicator Verification (71151)

**Cornerstones: Barrier Integrity, Occupational Radiation Safety, Public Radiation Safety**

.1 Reactor Safety Strategic Area

a. Inspection Scope

The inspectors verified the Reactor Coolant System leak rate PI data reported by the licensee for October 1, 2005 through October 1, 2006. This was accomplished, in part, through a review of operations department log entries, 8 hour required surveillance test results, and discussions with licensee personnel.

b. Issues and Findings

No findings of significance were identified.

.2 Radiation Safety Strategic Area

a. Inspection Scope

The inspectors sampled the licensee's submittals for the PI listed below for the periods indicated. The inspectors used PI definitions and guidance contained in Revision 4 of Nuclear Energy Institute (NEI) Document 99-02, "Regulatory Assessment PI Guideline," to verify the accuracy of the PI data. The following PIs were reviewed:

- Radiological Effluent TS/ODCM Radiological Effluent Occurrence

The inspectors reviewed the licensee's AR database and selected individual reports generated since this indicator was last reviewed (July 2005), to identify any potential occurrences such as unmonitored, uncontrolled, or improperly calculated effluent releases that may have impacted offsite dose. The inspectors reviewed gaseous effluent summary data and the results of associated offsite dose calculations for selected periods in 2005 and for 2006 through November to determine if indicator results were accurately reported. The inspectors also reviewed the licensee's methods for quantifying gaseous and liquid effluents and determining effluent dose. Additionally, as described in Sections 2PS1.1 and 2PS1.3, the inspectors reviewed the licensee's historical 10 CFR 50.75(g) file and reviewed the licensee's analysis for any discharge pathways resulting from a spill, leak or unexpected liquid discharge since the plant started operating in the mid-1980s.

- Occupational Exposure Control Effectiveness

The inspectors reviewed licensee monthly occupational exposure control related data packages for October 2005 through November 2006. For the time period reviewed, no reportable occurrences were identified by the licensee. To assess the adequacy of the licensee's PI data collection and analyses, the inspectors discussed with radiation protection staff the scope and breadth of its data review and the results of those reviews. The inspectors independently reviewed electronic dosimetry dose rate and accumulated dose alarm reports, the dose assignments for any intakes that occurred and the licensee's AR database along with individual ARs generated during the period reviewed to determine if there were potentially unrecognized occurrences. The inspectors also reviewed the licensee's response to an electronic dosimetry "digi-reset" problem to determine whether the licensee had assessed the issue and completed applicable exposure evaluations.

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.

b. Findings

No findings of significance were identified.

.2 Semi-annual Review for Trends

a. Inspection Scope

The inspectors performed a semi-annual review of corrective action program (CAP) documents to identify trends that could indicate the existence of a more significant safety issue. In addition to the items discussed in Section 4OA2.1, the inspectors reviewed issue reports that were generated during the time period between

April 1, 2005 and June 30, 2005, as well as licensee CAP trending reports, maintenance rule assessment reports, focused area self assessments, and operator challenge lists to identify any adverse trends in equipment or human performance.

b. Findings

No findings of significance were identified.

.3 Cumulative Effects of Operator Workarounds (Annual Sample)

a. Inspection Scope

The inspectors completed a cumulative effects review of all operator workarounds to identify any potential effect on the functionality of mitigating systems by reviewing all documented operator workarounds, challenges, and compensatory actions to evaluate their effect on mitigating systems ability to function as required during emergencies and ensure that operators would be able to take necessary actions under emergency conditions. The inspectors also reviewed issue reports and WOs related to corrective actions to remove the workarounds or compensatory actions.

b. Findings

No findings of significance were identified.

.4 Review of Rework and Failed Post Maintenance Tests (Annual Sample)

a. Inspection Scope

The inspectors reviewed the licensee's common cause analysis 475168, "Rework and Failed Post Maintenance Testing During C1R10." The inspectors also reviewed a selection of some of the issue reports and work documents evaluated by the common cause evaluation and discussed the results of the common cause analysis and the corrective actions with the maintenance planning manager.

b. Evaluation

Based on an independent review of several of the issue reports considered in the common cause analysis, the inspectors agreed with the licensee's assessment of the cause being "Standards/Procedures/Admin Controls enforcement needs improvement." The inspectors questioned the corrective action of "provide training to all supervisors responsible for specialized supplemental outage workforce," because the investigating team did not identify a lack of knowledge as a cause. Through discussions with maintenance management, the inspectors determined that the reason for lack of enforcement of standards and procedures was really due to lack of knowledge of the requirements in the licensee's MA-AA-1010, "Oversight of Contractors" procedure. The objective given in the training that was developed as a corrective action was "to discuss personnel responsibilities regarding oversight of contractors as it relates to and in accordance with MA-AA-1010 Oversight of Contractors." The inspectors believed that the training materials met this objective, and by meeting this objective, the responsibility to enforce the standards was conveyed to the supervisors during the training session. The inspectors also questioned the timing of the effectiveness review for the corrective action. The licensee will not have the opportunity to determine the effectiveness of its corrective actions until after the next outage and, if ineffective, after dealing with rework and failed post maintenance tests. The inspectors discussed these items with station management. The inspectors also noted that the number of items of rework and post maintenance test failures reviewed for this common cause was very low. Only 19 items were identified in this category during the refueling outage, which represented a rework rate of 1.44 percent. The normal rework rate by month for the station between January and October 2006 was between 0 and 0.4 percent. These numbers represent a relatively small portion of the total tasks completed at the station and the inspectors did not have a concern with the level of rework or number of post maintenance test failures.

c. Findings

No findings of significance were identified.

.4 (Closed) Temporary Instruction (TI) 2515-169, Mitigating System Performance Index (MSPI) Verification

a. Inspection Scope

The inspectors used TI 2515-169 to verify that the licensee correctly implemented the MSPI guidance contained in NEI 99-02 Revision 4, for reporting unavailability and unreliability of monitored systems. To accomplish this, the inspectors validated the unavailability and unreliability input data contained in Clinton's MSPI Basis Document and verified the accuracy of the reported MSPI results for the 2nd quarter of 2006.

The following documents the inspectors' overall conclusions regarding the licensee's implementation of the MSPI guidance:

1. For the sample selected, did the licensee accurately document the baseline planned unavailability hours for the MSPI system?

Through the independent review of computerized operator logs, maintenance rule information and computerized maintenance records, the inspectors validated that the licensee accurately documented the baseline unavailability for the MSPI systems.

2. For the sample selected, did the licensee accurately document the actual unavailability hours for the MSPI system?

Following a review of maintenance records and electronic operator logs, the inspectors validated that the licensee accurately documented actual unavailability hours for the reactor core isolation cooling system and the high pressure core spray system.

3. For the sample selected, did the licensee accurately document the actual unreliability information for each MSPI monitored component?

Through review of the licensee corrective active program information, computerized operator logs, and equipment out-of-service information, the inspectors determined that the licensee accurately documented the actual unreliability information for each MSPI monitored component.

4. Did the inspector identify significant errors in the reported data, which resulted in a change to the indicated index color?

The inspectors did not identify significant errors in the reported data that resulted in a change in the indicated index color.

5. Did the inspector identify significant discrepancies in the basis document which resulted in (1) a change to the system boundary; (2) an addition of a monitored component; or (3) a change in the reported index color?

The inspectors did not identify any discrepancies that resulted in a change to the system boundary, an addition of a monitored component, or a change in the reported index color.

b. Findings

No findings of significance were identified.

4OA6 Meetings

.1 Exit Meeting

The inspectors presented the inspection results to Mr. B. Hanson and other members of licensee management at the conclusion of the inspection on January 10, 2007. The inspectors asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

.2 Interim Exit Meetings

Interim exits were conducted for:

- Radiation Protection (RETS/ODCM) inspection with Mr. B. Hanson and other licensee staff on December 15, 2006.
- Licensed Operator Requalification 71111.11B with Mr. A. Bailey, Operations Training Manager and Mr. M. Baetz, Licensed Operator Requalification Training Lead Instructor, on December 11, 2006, via telephone.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee

B. Hansen, Site Vice President  
M. McDowell, Plant Manager  
J. Cunningham, Work Management Director  
G. Vickers, Radiation Protection Director  
R. Frantz, Regulatory Assurance Representative  
M. Hiter, Access Control Supervisor  
W. Iliff, Regulatory Assurance Director  
C. Vanderburgh, Nuclear Oversight Manager  
J. Domitrovich, Maintenance Director  
D. Schavey, Operations Director  
B. Campbell, Acting Chemistry Manager  
J. Lindsay, Training Manager  
C. Williamson, Security Manager  
R. Peak, Site Engineering Director  
T. Chalmers, Shift Operations Superintendent  
B. Campbell, Environmental Specialist, Chemistry  
M. Baetz, Licensed Operator Requalification Training Lead Instructor  
A. Baily, Operations Training Manager

### LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

#### Opened

None

#### Closed

Temporary Instruction 2515/169	TI	Mitigating Systems Performance Index Verification
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#### Discussed

None

## LIST OF DOCUMENTS REVIEWED

The following is a list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety but rather that selected sections of portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

### 1R01 Adverse Weather

WC-AA-107, Seasonal readiness; Revision 2  
CPS 1860.01, Cold weather operation; Revision 7  
CPS 1860.01C001, Operations department cold weather preparations checklist; Revision 6  
CPS 1860.01E001, Cold weather heat tracing system electrical lineup; Revision 0a  
AR 534108, Electrical line for heat trace at SX egress tank; September 21, 2006  
WO 959450, Electrical line for heat trace at SX egress tank  
AR 542266, Hose house 25 hydrant valve 0FP 134 would not drain; October 10, 2006  
WO 965585, Hose house 25 hydrant valve 0FP 134 would not drain  
AR 550950, Heat tracing for circulating water pump seal water lines needs to be repaired; October 30, 2006  
WO 971193, Heat tracing for circulating water pump seal water lines needs to be repaired  
AR 55772, Shutdown service water egress heat trace; November 9, 2006  
WO 976141, Shutdown service water egress heat trace  
AR 558858, Site not ready for Winter readiness by November 15, 2006; November 16, 2006  
WO 849086, 1TCYVD026: Main disconnect for SCR controller will not close  
System engineer Winter readiness review for the Circulating water system; July 31, 2006  
System engineer Winter readiness review for the Essential switchgear cooling system; June 29, 2006

### 1R04 Equipment Alignment

00552138, NRC Resident Question on CPS 3507.01 Configuration Control  
00562813, Procedural Conflict for RCIC Instrument Valve Position  
00567532, RCIC Valve 1E51-337

### 1R05 Fire Protection

USAR Appendix E, Fire protection evaluation report, Revision 11  
USAR Figure FP-2a, Fire zone boundaries auxiliary, fuel building and containment basement floor plan - EL 707'-6" & 712'-0"; Revision 10  
USAR Figure FP-2b, Fire protection features auxiliary, fuel building and containment basement floor plan - EL 707'-6" & 712'-0"; Revision 10  
USAR Figure FP-5a, Fire zone boundaries auxiliary, fuel building and containment plan - EL 778'-0" & 781'-0"; Revision 7  
USAR Figure FP-5b, Fire protection features auxiliary, fuel building and containment plan - EL 778'-0" & 781'-0"; Revision 7  
USAR Figure FP-13a, Fire zone boundaries control building floor plan - EL 781'-0"; Revision 8  
USAR Figure FP-13b, Fire protection features control building floor plan - EL 781'-0"; Revision 10

OP-AA-201-003, Fire Drill Performance; Revision 6  
AR 521818, 1H13P842: Fire protection smoke detector string failed; August 20, 2006  
AR 555306, 1H13P841: Smoke detector 12-15; November 8, 2006  
AR 557994, Bisco seal AB-737-07-1005 not installed in 1PB665K; November 14, 2006  
AR 558477, Fire seal breached without any compensatory measures in place;  
November 15, 2006  
AR 564235, Smoke detector 84-05 did not alarm; December 1, 2006  
AR 568315, CPS extinguisher inspection frequency exceeds OSHA; December 12, 2006  
AR 569083, NRC identified issues during fire drill U2006-23, December 13, 2006  
AR 558170, NRC identified deficiencies during fire drill 2006-20, November 14, 2006  
CPS 1893.04M321, 737 Control: Rad-Chem Lab and Laundry Pre-fire Plan; Revision 2.  
00569083, NRC Identified Issues During Fire Drill U2006-23  
00576892, IEMA/NRC Questions on Seismic Qual of Emergency Lights  
00543564, NRC Questions During Field Walkdown  
00552212, NRC Identified Tape on Containment Wall  
00558170, NRC Identified Deficiencies During Fire Drill 2006-20  
00558196, NRC Identified Issues During Fire Drill 2006-20

#### 1R06 Flood Protection

CPS 4304.01, Flooding; Rev 4d  
CPS 3219.01, Containment, auxiliary building, and fuel building floor drain; Revision 7  
USAR Chapter 3, Appendix D, Section D3.6.4, Internal flooding; Revision 11  
USAR Section 3.4.1, Flood protection; Revision 11  
AR 464864, Reactor core isolation cooling room watertight door locking device not working;  
March 10, 2006

#### 1R12 Maintenance Effectiveness

AR 547528, Mechanical failure of 0VC03CB; October 22, 2006  
AR 547528, assignment 15, Root cause report on mechanical failure of 0VC03CB;  
December 6, 2006  
AR 547528, assignment 25, Cause determination evaluation for mechanical failure of  
0VC03CB; December 14, 2006  
AR 550410, 0VC03CB; Higher than expected vibration levels on fan housing;  
October 28, 2006  
AR 345033, Main control room ventilation A(1) determination; June 17, 2005

#### 1R15 Operability Evaluations

00546634, Recommended Improvements To LS-AA-105  
00555763, Documentation of NRC Question on VX OP Eval.  
00558517, NRC Question on OE 552556  
00567094, NRC Question - Leakage From Class 3 Threaded Connections

#### 1R19 Post Maintenance Testing

WO 819238, Replace shutdown service water relief valve 1SX156B  
WO 819239, Replace shutdown service water relief valve 1SX156A

AR 562943, 1SX156A replacement relief valve did not fit; November 29, 2006  
WO 917475-01, Inspect/rework check valve 1E22-F007  
WO 917475-02, Leak check and exercise 1E22-F007  
AR 562705, Testable lever found set wrong; November 28, 2006  
AR 483106, Pressure increase due to internal leak by of check valves; April 25, 2006  
AR 484402, Generate work request - WO for check valve 1E22-007 work - week 0648;  
April 28, 2006  
WO 0970815, Operations CPS 9051.02 High pressure core spray valve operability (stroke  
time)  
CPS 9051.02, High pressure core spray valve operability test; Revision 38d

#### EP6 Drill Evaluation

EP-AA-1000, Standardized radiological emergency plan; Revision 17  
EP-AA-113-F-22, Clinton assembly, accountability, and evacuation guidelines; Revision A  
EP-AA-1003, Radiological emergency plan annex for Clinton Station; Revision 9  
EP-AA-113, Personnel protective actions; Revision 7

#### OA2 Identification and Resolution of Problems

OP-AA-102-103, Operator work around; Revision 1  
Operations database, compensatory actions, main control room distraction report, out of  
specification rounds readings report, and workarounds and challenges report;  
November 30, 2006  
AR 509120, Operator challenge: Continuing reactor water cleanup system degradation;  
July 13, 2006  
AR 519471, Multiple B condensate polisher/filter valves leaking by; August 13, 2006  
AR 537050, Evaluate 1B21-workaround/challenge; September 27, 2006  
AR 561070, Procedure enhancement 104.P001 condensate polisher/filter; November 22, 2006  
AR 519322, Possible operator challenge in 9051.01; August 12, 2006  
AR 529791, Evaluate electro-hydraulic control problems as an operator challenge;  
September 12, 2006  
AR 530810, Clinton review of NRC RIS 2006-10, Operator manual actions;  
September 14, 2006  
AR 522546, 1HG02CA mixer run time will exceed 3 hours in August; August 22, 2006  
AR 543371, Potential trend in equipment failure cause identification; October 12, 2006  
CCA 543371, Potential trend in equipment failure cause determinations for level 1, 2 and 3  
issue reports; December 1, 2006.  
CCA 475168, Rework and failed post maintenance test during C1R10; May 3, 2006  
AR 456656, 1FW010C Air lines reversed; February 21, 2006  
AR 458704, Incorrect packing installed in 1B21SPDV4; February 26, 2006  
AR 453927, Weld repair area on reactor core isolation cooling weld 1B rejected;  
February 14, 2006  
AR 455673, 1E12F014B residual heat removal heat exchanger 1B shutdown service water  
inlet valve body to bonnet leak; February 19, 2006  
AR 453421, IV inspection identifies no gas tungsten arc welding weld wire used;  
February 13, 2006  
AR 459132, Oil leaking at piping tee for 1PS-TO018; February 27, 2006

AR 458197, Failed post maintenance testing, 1CB023 spraying water from welded connection; February 24, 2006  
AR 457608, 1MP01K failure of generator air test; February 23, 2006  
AR 450594, 1SX01FC inner shaft seals found leaking during restoration; February 6, 2006  
AR 467358, During the performance of CPS 9432.04 loop data was out of tolerance; March 16, 2006  
AR 453921, C1R10 lessons learned unnecessary exposure and rework; February 14, 2006

## 2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems

Clinton Power Station ODCM; Revision 21  
Clinton Power Station 2004 and 2005 Annual Radioactive Effluent Release Reports; dated April 5, 2005 and April 25, 2006  
Vendor Air-Aerosol Mixing Uniformity Test Data for SGTS Filtered Ventilation System Trains A and B; dated July 17, 1986  
CPS 9911.59; Gaseous Radioactive Effluent Surveillance - Monthly; dated November 4, 2005, March 7, 2006, July 7, 2006 and October 7, 2006  
Channel Calibration of ORIX-PR001, Common HVAC Stack Radiation Monitor; dated January 27, 2006  
Channel Calibration of ORIX-PR002, Common HVAC Stack Radiation Monitor; dated April 6, 2006  
Channel Calibration of ORIX-PR012, Common HVAC Stack High Range Radiation Monitor; dated March 10, 2006  
Channel Calibration of ORIX-PR008, SGTS Stack High Range Radiation Monitor; dated April 6, 2006  
Channel Calibration of Service Water Effluent Radiation Monitor (1RIX-PR036); dated September 23, 2005  
Channel Calibration of ORIX-PR003, SGTS Stack Radiation Monitor; dated August 9, 2006  
Channel Calibration of SGTS Flow Monitor (OFT-VG001); dated October 6, 2006  
SGTS (OVG01SA) Charcoal Adsorber (Laboratory) Methyl Iodide Penetration Test; dated June 6, 2005  
SGTS (OVG01SB) Charcoal Adsorber (In-Place) Penetration and System Bypass Test; dated August 17, 2005  
SGTS (OVG08FB) Charcoal Adsorber (Laboratory) Methyl Iodide Penetration Test; dated August 18, 2005  
SGTS (OVG07FB) HEPA Filter (In-Place) Penetration and System Bypass Test; dated August 17, 2005  
SGTS (OVG07FA) HEPA Filter (In-Place) Penetration and System Bypass Test; dated June 7, 2005  
SGTS (OVG08FA) Charcoal Absorber (In-Place) Penetration and System Bypass Test; dated June 7, 2005  
Channel Calibration of Common HVAC Stack Flow Monitor (OFT-VR500); dated September 13, 2006  
Channel Calibration of ORIX-PR004, SGTS Stack Radiation Monitor; dated August 25, 2005  
CPS 6948.02; SGTS Stack Effluent - Iodine and Particulates; Revision 15e  
CPS 6954.01; HVAC Stack Effluent Noble Gas and Tritium; Revision 10a  
CPS 6954.02; HVAC Stack Effluent - Iodine and Particulates; Revision 15  
10 CFR 50.75(g) file for Reactor Core Isolation Cooling Tank Overflow, dated April 13, 1992

RP-1590-09; Radiological Survey Sheet - Behind Closed Doors Tour; dated various periods in 2005 through October 16, 2006  
Nuclear Oversight Audit Report (NOSA-CPS-06-04); Chemistry, Radwaste, Effluent and Environmental Monitoring Audit Report; dated April 19, 2006  
Nuclear Oversight Objective Evidence Audit Reports (NOSA-CPS-05-08 and NOSA-CPS-06-04); ODCM Implementation; Monitoring and Reporting; dated November 11, 2005 and April 14, 2006  
Nuclear Oversight Audit Report (NOSA-CPS-06-04); Regulatory Guide 4.15 Implementation; dated April 14, 2006  
AR 00486823; Tritium Discovered in Cycled Condensate Pit Sample; dated May 4, 2006  
AR 00455711; ODCM Lower Limits of Detection not Met; dated February 18, 2006  
AR 00439718; ODCM Required Sample could not be Obtained From 1RIXPR04; dated January 6, 2006  
AR 00381284; Management Question on Reported Monthly Tritium; dated October 3, 2005  
AR 00363993; Disagreement of Liquid Process Radiation Monitor Lower Limits of Detection; dated August 17, 2005  
AR 00330132; Delay in Obtaining ODCM Samples; dated April 29, 2005  
Self-Assessment No. 476079; Radioactive Effluent TSs; dated November 11, 2006  
Conestoga-Rovers and Associates Hydrogeologic Investigation Report for Clinton Power Station; dated September 2006  
Results of Environmental Cross Check Program for Teledyne Brown Engineering; Quarterly Results for 2005 - June 2006  
Results of Radiochemistry Cross Check Program for Clinton Power Station; 1st and 2nd Quarters of 2006  
Efficiency Calibrations and Lower Limits of Detection Determinations for High Purity Germanium Detectors B, C, and D; dated Various Periods in 2006  
HVAC and SGTS Stack Normal Range Monitor Setpoint Calculations (Calculation PR-11); dated April 29, 1994

#### 4OA1 Performance Indicator Verification

Summary of Monthly and Quarterly Dose Calculations from Gaseous Effluents for selected periods in 2005 through November 2006  
ED Dose/Rate Alarm Transaction Reports; October 2005 - November 2006  
Internal Dose Assessment Summary Data; 2006 thru November 2006  
RP-AA-203-1001; Personnel Exposure Investigations; Revision 2  
Clinton Station Position on ED Reset Management, dated September 11, 2006

#### 4OA2 Identification and Resolution of Problems

00555427, NRC Issue - Enhancement for QHPI Process

## LIST OF ACRONYMS USED

ADAMS	Agency wide Documents Access and Management System
AR	Assignment Report
ASME	American Society of Mechanical Engineers
CR	Condition Reports
HEPA	High Efficiency Particulate Air
HVAC	Heating, Ventilation and Air Conditioning
IMC	Inspection Manual Chapter
LLD	Lower Limit of Detection
MR	Maintenance Rule
MSPI	Mitigating System Performance Index
NCV	Non-Cited Violation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
ODCM	Offsite Dose Calculation Manual
ORM	Operations Requirements Manual
PARS	Publicly Available Records
PI	Performance Indicator
RCS	Reactor Coolant System
RETS	Radiological Effluent Technical Specifications
SDP	Significant Determination Process
SGTS	Standby Gas Treatment System
TS	Technical Specification
USAR	Updated Safety Analysis Report
WO	Work Order