January 17, 2002

Mr. Oliver D. Kingsley, President
and Chief Nuclear Officer
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: CLINTON POWER STATION
NRC INSPECTION REPORT 50-461/01-15

Dear Mr. Kingsley:

On December 31, 2001, the NRC completed a safety inspection at your Clinton Power Station. The enclosed report documents the inspection findings which were discussed on January 7, 2002, with Mr. 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.

There was one finding of very low safety significance (Green) identified in the report which was determined to involve a violation of NRC requirements. An additional violation of NRC requirements which was outside the scope of the significance determination process was also identified. However, because of their very low safety significance and because they have been entered into your corrective action program, the NRC is treating these issues as Non-Cited Violations, in accordance with Section VI.A.1 of the NRC's Enforcement Policy. If you deny any or all of these Non-Cited Violations, you should provide a response with the basis for your denial, within 30 days of the date of this inspection report, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region III; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspectors at the Clinton Power Station.

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Sincerely,

Original signed by
Christine A. Lipa

Christine A. Lipa, Chief
Branch 4
Division of Reactor Projects

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

Enclosure: Inspection Report No. 50-461/01-15

cc w/encl: J. Heffley, Vice President
W. Bohlke, Senior Vice President
Nuclear Services
J. Cotton, Senior Vice President -
Operations Support
M. Pacilio, Plant Manager
K. Ainger, Director - Licensing
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No:	50-461
License No:	NPF-62
Report No:	50-461/01-15(DRP)
Licensee:	AmerGen Energy Company, LLC
Facility:	Clinton Power Station
Location:	Route 54 West Clinton, IL 61727
Dates:	November 19 through December 31, 2001
Inspectors:	P. Louden, Senior Resident Inspector C. Brown, Resident Inspector S. Orth, Senior Radiation Specialist H. Peterson, Senior License Examiner D. Zemel, Illinois Department of Nuclear Safety
Approved by:	Christine A. Lipa, Chief Branch 4 Division of Reactor Projects

SUMMARY OF FINDINGS

IR 05000461-01-15, on 11/19-12/31/2001, AmerGen Energy Company LLC, Clinton Power Station; Licensed Operator Requalification, Occupational Radiation Safety.

This report covers a 6-week routine inspection, conducted by resident and regional specialist inspectors. One finding of very low safety significance was identified during this inspection. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process" (SDP). An additional violation of NRC requirements which was outside the scope of the significance determination process was also identified. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

1. **Cornerstone: Mitigating Systems**

Non-Cited Violation. The inspectors identified a finding wherein the licensee had failed to follow the Code of Federal Regulations (CFR) Title 10, Part 55.59(c)(5), Records, requirements by failing to systematically retain all of the original or authenticated copies of the original evaluation documents during the year 2000 annual NRC examination (10 CFR 55.59).

Although the records were not the original or authenticated copies of the original, the finding was of very low safety significance because records did exist in computerized clerically transcribed documents. However, the computer records had not been signed and there was no indication that they had been verified correct by the original authors. The unauthenticated documents did provide information that, for the most part, licensed operators had participated and were evaluated during the year 2000 NRC annual requalification examination. However, the inspectors determined that the finding was more than minor. Specifically, the inspectors identified at least one instance in which the transcribed information appeared to be incorrect or missing. The records failure had a credible impact on safety, in that, it negatively impacted on the intent of the licensed operator requalification examination process which is, in part, to maintain a high level of confidence that licensed operators continue to possess the requisite knowledge and abilities needed to safely perform licensed duties. In addition, inadequate record keeping adversely affects the NRC's ability to perform its regulatory function (Section 1R11.6).

2. **Cornerstone: Occupational Radiation Safety**

Green. The inspectors identified a finding and associated Non-Cited Violation concerning the failure to perform an adequate radiological survey, as required by 10 CFR Part 20.1501. The licensee had identified this issue; however, the licensee did

not thoroughly evaluate the cause(s) of the unanticipated radiological conditions and associated problems in the monitoring of radioactive waste activities, which has

resulted in previous, similar incidents.

The finding was of very low safety significance because the area radiation levels and the licensee's additional administrative barriers would have limited the potential for an individual inadvertently entering the area and receiving a radiation exposure in excess of regulatory limits (Section 2OS1.3).

B. Licensee Identified Violations

No findings of significance were identified.

Report Details

Summary of Plant Status

The plant was operated at essentially 100 percent power for most of the inspection period. The licensee manually shut down the reactor on December 15 to effect repairs on the reactor recirculation system "A" flow control valve. The plant was restarted on December 16 and remained online for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather (71111.01)

a. Inspection Scope

The inspectors reviewed design features, procedure implementation, and conducted independent walkdowns of equipment used to protect mitigating systems from adverse winter weather conditions.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignments (71111.04S)

a. Inspection Scope

The inspectors reviewed piping and instrument diagrams, system procedures, training manuals, previously identified equipment deficiencies, condition reports, and vendor information as part of a full system walkdown of the feedwater system which is a high risk-importance system at the station.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

.1 Facility Operating History

a. Inspection Scope

The inspectors reviewed the plant's operating history from January 2000 through October 2001, to assess whether the Licensed Operator Requalification Training (LORT) program had addressed operator performance deficiencies noted at the plant.

b. Findings

No findings of significance were identified.

.2 Licensee Requalification Examinations

a. Inspection Scope

The inspectors performed a biennial inspection of the licensee's LORT program. The inspectors reviewed the annual requalification operating and written examination material to evaluate general quality, construction, and difficulty level. The operating portion of the examination was inspected during November 14 through 15, 2001. The operating examination material consisted of dynamic simulator scenarios and job performance measures (JPMs). The biennial written examination was administered on November 16, 2001. The biennial written examination material included a total of 35 open reference multiple choice questions. The inspectors reviewed the methodology for developing the examinations, including the LORT program 2-year sample plan, probabilistic risk assessment insights, previously identified operator performance deficiencies, and plant modifications. The inspectors assessed the level of examination material duplication during the current year annual examinations and with last year's annual examinations. The inspectors also interviewed members of the licensee's management and training staff and discussed various aspects of the examination development.

b. Findings

No findings of significance were identified.

.3 Licensee Administration of Requalification Examinations

a. Inspection Scope

The inspectors observed the administration of the requalification operating test to assess the licensee's effectiveness in conducting the test and to assess the facility evaluators' ability to determine adequate performance using objective, measurable performance standards. The inspectors evaluated the performance of one operating shift crew during two dynamic simulator scenarios and five JPMs in parallel with the facility evaluators. The inspectors observed the training staff personnel administering the operating test, including pre-examination briefings, observations of operator performance, individual and crew evaluations after dynamic scenarios, techniques for JPM cuing, and the final evaluation briefing for licensed operators. The inspectors noted the performance of the simulator to support the examinations. The inspectors also reviewed the licensee's overall examination security program.

b. Findings

No findings of significance were identified.

.4 Licensee Training Feedback System

a. Inspection Scope

The inspectors assessed the methods and effectiveness of the licensee's processes for revising and maintaining its LORT program up to date, including the use of feedback from plant events and industry experience information. The inspectors interviewed licensee personnel (operators, instructors, training management, and operations management) and reviewed the applicable licensee procedures. In addition, the inspectors reviewed the licensee's quality assurance and quality control oversight activities, including the licensee's training and operations department self-assessment reports, to evaluate the licensee's ability to assess the effectiveness of its LORT program and to implement appropriate corrective actions.

b. Findings

No findings of significance were identified.

.5 Licensee Remedial Training Program

a. Inspection Scope

The inspectors assessed the adequacy and effectiveness of the remedial training conducted since the previous annual requalification examinations and the training planned for the current examination cycle to ensure that they addressed weaknesses in licensed operator or crew performance identified during training and plant operations. The inspectors reviewed remedial training procedures and individual remedial training plans, and interviewed licensee personnel (operators, instructors, and training management). In addition, the inspectors reviewed the licensee's current examination cycle remediation packages for unsatisfactory operator performance on the written examination and operating test to ensure that remediation and subsequent re-evaluations were completed before returning individuals to licensed duties.

b. Findings

No findings of significance were identified.

.6 Conformance with Operator License Conditions

a. Inspection Scope

The inspectors evaluated the facility and individual operator licensees' conformance with the requirements of 10 CFR Part 55. The inspectors reviewed the licensee's program for maintaining active operator licenses and to assess compliance with 10 CFR 55.53(e) and (f). The inspectors reviewed the procedural guidance and the process for tracking on-shift hours for licensed operators and which control room positions were granted credit for maintaining active operator licenses. The inspectors also reviewed eight licensed-operator medical records maintained by the facility for

ensuring the medical fitness of its licensed operators and to assess compliance with medical standards delineated in ANSI/ANS-3.4 and with 10 CFR 55.21 and 10 CFR 55.25. In addition, the inspectors reviewed the licensee's LORT program to assess compliance with the requalification program requirements as described by 10 CFR 55.59(c).

b. Findings

Non-Cited Violation. The inspectors determined that the licensee had failed to follow regulatory requirements for record keeping with respect to the year 2000 annual NRC licensed operator requalification examination evaluations. Specifically, these records were not the original or authenticated copies of the original documentation. The failure to follow NRC records keeping requirements was a violation; however, records keeping was outside the significance determination process (SDP), so it does not fit the color coding scheme.

Although the records were not the original or authenticated copies of the original, the finding was of very low safety significance because records did exist in the form of computerized, clerically transcribed documents. The computer records had not been signed and there was no indication that they had been verified correct by the original authors. However, the unauthenticated documents did provide information that licensed operators, for the most part, had participated and were evaluated during the year 2000 NRC annual requalification examination.

The inspectors determined that the fact that the licensee had systematically failed to retain the original or authenticated copies of the original evaluation documents during the year 2000 annual NRC examination was more than minor. Specifically, the inspectors identified at least one instance in which the transcribed information appeared to be incorrect or missing. Crew evaluation records indicated that a senior reactor operator (SRO) licensed individual had stood in an SRO position during the evaluation, but no corresponding individual evaluation was included in the transcribed information.

The records failure had a credible impact on safety, in that, it negatively impacted on the intent of the licensed operator requalification examination process which, in part, is to maintain a high level of confidence that licensed operators continue to possess the requisite knowledge and abilities needed to safely perform licensed duties. In addition, inadequate records keeping adversely affects the NRC's ability to perform its regulatory function. The inspectors determined that NRC Inspection Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination Process (SDP)," could not be used to evaluate this issue. As a result, the failure of the licensee to follow NRC requirements for records maintenance was outside the SDP and was dispositioned in accordance with the NRC Enforcement Policy.

Code of Federal Regulations (CFR) Title 10, Part 55.59(c)(5), "Records," requires, in part, that the licensee shall maintain records documenting the participation of each licensed operator and senior operator in the requalification program. The records must contain the results of evaluations and documentation of operating tests and of any

additional training administered in areas in which an operator or senior operator has exhibited deficiencies. The facility shall retain these records until the operator's or senior operator's license is renewed. The record may be the original or a reproduced copy or a microform provided that the copy or microform is authenticated by authorized personnel. Contrary to the above, on November 19, 2001, the inspectors identified that all of year 2000 annual NRC licensed operator requalification examination evaluations were not the original or authenticated copies of the original documentation.

Because this issue was of very low safety significance and because the licensee entered this issue into their corrective action program as CR 83262 and 83288, this Severity Level IV Violation is being treated as a Non-Cited Violation (NCV 50-461/01-15-01), consistent with Section VI.A.1 of the NRC Enforcement Policy.

.7 Written Examination and Operating Test Results

a. Inspection Scope

The inspectors reviewed the pass/fail results of individual written tests, operating tests, and simulator operating tests (required to be given per 10 CFR 55.59(a)(2)) administered by the licensee during calender year 2001.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule (10 CFR Part 50.65) 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. These systems were selected based on their designation as risk significant under the MR, or their being in the increased monitoring (MR category (a)(1)) group. The systems were:

- Battery chargers 1E & 1F
- Flooding Mitigation
- Reactor Recirculation (RR) System

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:

- Division III emergency diesel generator (EDG) 24-hour run and high pressure core spray (HPCS) quarterly surveillance concurrent with 1E and 1F 125 Vdc battery charger problems during work week 01-49.

- Division III EDG broken voltage regulator repairs and maintaining condensate polishing (CP) filter power supplies while swapping the 1E & 1F battery chargers with the swing battery charger during the week ending December 8, 2001.

- Emergency reserve auxiliary transformer (ERAT) failure and associated repair activities during the week ending December 22, 2001.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed 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:

- Operator performance during the execution of a temporary modification used to control the RR "A" flow control valve (FCV) and subsequent operator actions once it was determined that the temporary modification was not adequate and a decision was made to shut down the plant.

- General licensee actions and response to an emergent ERAT inoperability and deluge on December 18, 2001.

b. Findings

No findings of significance were identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the following operability determinations (ODs) 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.

- Operability evaluation for ECR 353113, “Fan differential pressure switch in main control room ventilation system.”
- CR 87635 - “Functionality of VC [control room ventilation] dampers relies upon procedure steps” and OD
- CR 86833 - “CPS [Clinton Power Station] 3001.01 section 15.2 requires OD for 1B21-F010A&B” and OD
- CR 87110 - “CCP [continuous containment purge] Exhaust Fan Tripped While Lifting Leads per Clearance”
- CR 87718 - “Testing of RCIC [reactor core isolation cooling] vacuum breakers not per ASME Code Requirements”

b. Findings

No findings of significance were identified.

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.

- Division III EDG 24-hr run surveillance test

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Control to Radiologically Significant Areas (71121.01)

.1 Plant Walkdowns

a. Inspection Scope

The inspectors reviewed the radiological conditions of work areas within radiation areas and high radiation areas (HRAs) in the auxiliary, containment, radwaste, and turbine buildings. The inspectors performed independent measurements of area radiation levels and reviewed associated licensee controls to determine if the controls (i.e., surveys, postings, and barricades) were adequate to meet the requirements of 10 CFR Part 20 and Technical Specifications.

b. Findings

No findings of significance were identified.

.2 High Dose Rate High Radiation Area and Very High Radiation Area Controls

a. Inspection Scope

The inspectors reviewed the licensee's controls for high dose rate HRAs and very high radiation areas. In particular, the inspectors reviewed the licensee's revised procedure for posting and controlling HRAs to verify the licensee's compliance with 10 CFR Part 20 and Technical Specifications. The inspectors also performed a walkdown to verify the adequacy of boundaries, controls, and postings. In addition, the inspectors reviewed the licensee's controls for highly irradiated material stored in the spent fuel storage pool to verify that the licensee had implemented adequate measures to prevent inadvertent personnel exposures from these materials.

b. Findings

No findings of significance were identified.

.3 Problem Identification and Resolution

a. Inspection Scope

The inspectors reviewed the licensee's condition reports (CRs) (June 2000 through November 2001) concerning problems in access controls, HRAs, radiation worker performance, and radiation protection technician performance. The inspectors also reviewed the licensee's common cause evaluations concerning radioactive source controls and radiation worker practices. The inspectors reviewed these documents to

assess the licensee's ability to identify repetitive problems, contributing causes, the extent of conditions, and to initiate corrective actions which will achieve lasting results.

b. Findings

A Green finding and associated Non-Cited Violation were identified concerning the failure to perform an adequate radiological survey, as required by 10 CFR 20.1501.

On October 8, 2001, a radiation protection technician was performing a routine, quarterly survey of areas within the licensee's radwaste building. Within the Unit 1 floor drain evaporator room (a posted radiation and contaminated area), the technician measured a general area dose rate of about 280 millirem per hour. The technician documented the measurement on a survey form but failed to upgrade the room's posting to an HRA. Later in the shift, a radiation protection shift supervisor noticed the higher radiation levels documented on the form and had another technician perform a complete survey of the area. That technician identified area radiation levels up to 900 millirem per hour in the room and posted the room as an HRA. The radiation protection staff documented the incident in a CR (No. 78199).

The inspectors reviewed the CR and observed that the licensee took adequate actions to evaluate the technician's performance error in not identifying the change in room status (i.e., upgrade to an HRA). However, the inspectors identified that the licensee had not thoroughly evaluated what had lead to the change in radiological conditions in the room, how long the conditions had existed, and why the licensee had not anticipated the change from operating conditions. Instead, the licensee limited its review to the technician performance error (failing to identify an HRA) and did not evaluate the underlying issues concerning the control of radioactive waste transfers and changing radiological conditions. In reviewing this incident, the inspectors noted other surveys during the previous 6 months that identified unanticipated changes in radiological conditions in the radwaste building. For example, an unexpected HRA was identified on November 29, 2001, in the 702 foot elevation of the radwaste building (pump alley), as identified on a licensee's survey record. In this case, the licensee was performing a survey to support the tagging of valves. The inspectors observed that these incidents were not entered into the licensee's corrective action program, and, similar to the October 8, 2001 survey, the licensee did not fully resolve the underlying issues that lead to the changing conditions. Based on this review and other CRs related to the control of radioactive waste transfers, the inspectors concluded that the licensee had not taken thorough actions to identify and correct the issues.

This finding, if left uncorrected, would become a more significant concern and could involve unplanned, unintended dose should individual workers inadvertently enter an improperly surveyed and posted HRA. Consequently, the inspectors evaluated the significance of the issue using the Occupational Radiation Safety Significance Determination Process (SDP). Since the licensee had additional administrative barriers in place (i.e., the use of electronic dosimeters and the restrictions on entering areas affected by radioactive waste transfers), the inspectors determined that the finding did not constitute a significant potential for an overexposure and was of very low safety significance (Green).

Code of Federal Regulations Title 10, Part 20.1501 requires, in part, that each licensee make or cause to be made surveys that may be necessary for the licensee to comply with the regulations in this part and are reasonable under the circumstances to evaluate the magnitude and extent of radiation levels. As defined in 10 CFR 20.1003, survey means an evaluation of the radiological conditions and potential hazards incident to the production, use, transfer, release, disposal, or presence of radioactive material or other sources. As described above, the licensee's failure to perform an adequate survey to evaluate the radiological conditions necessary to post an HRA (as required by 10 CFR 20.1902) was a violation of 10 CFR 20.1501. However because of the very low safety significance of the item and because the licensee has included the incomplete corrective actions for CR No. 78199 in its corrective action program as CR No. 89324, this 10 CFR Part 20 violation is being treated as a Non-Cited Violation (NCV 50-461/01-15-02).

Cornerstone: Public Radiation Safety

2PS3 Radiological Environmental Monitoring Program (71122.03)

.1 Review Of Environmental Monitoring Reports and Data

a. Inspection Scope

The inspectors reviewed the most current (1999 and 2000) Annual Radiological Environmental Operating Reports submitted by the licensee, along with environmental monitoring results for the first, second, and third quarters of calendar year 2001. The inspectors also reviewed Revision 19 to the Offsite Dose Calculation Manual (ODCM), sampling location commitments, monitoring and measurement frequencies, land use census results, inter-laboratory comparison program results, and data analysis. These reviews were conducted to verify that the radiological environmental monitoring program (REMP) was implemented as required by Technical Specifications and the ODCM and that any changes did not affect the licensee's ability to monitor the impacts of radioactive effluent releases on the environment.

b. Findings

No findings of significance were identified.

.2 Walkdowns Of Radiological Environmental Monitoring Stations and Meteorological Tower

a. Inspection Scope

The inspectors conducted a walkdown of 3-of-the-10 environmental air sampling stations (i.e., locations CL-1, CL-2, and CL-94) and 6-of-the-54 thermoluminescence dosimeter (TLD) monitoring stations (i.e., CL-1, CL-2, CL-48, CL-76, CL-77, and CL-94) to determine whether they were located as described in the ODCM and to assess the equipment material condition and operability. The inspectors also reviewed records and observed instrument readouts to verify that the meteorological instruments

were operable, calibrated, and maintained in accordance with the licensee's procedures and consistent with regulatory guidance. Meteorological data readouts and recording instruments in the control room and at the towers (primary and backup) were verified operable and compared to determine if there were any line loss problems.

b. Findings

No findings of significance were identified.

.3 Review of Radiological Environmental Monitoring Program Sample Collection and Analysis

a. Inspection Scope

The inspectors accompanied a technician to observe the collection and preparation of air filters (particulate) and cartridges (iodine) to verify that the sampling was representative and that the techniques were sound and in accordance with station procedure. The inspectors observed the technician complete air sampler field tests and confirmed that the tests were conducted in accordance with procedure. Selected air sampler and water compositor calibration and maintenance records for calendar years 2000 and 2001 were reviewed to verify that the equipment was being properly maintained. Additionally, the inspectors reviewed the most recent results of the vendor laboratory's inter-laboratory comparison program and quality assurance program to verify that the vendor was capable of making accurate radio-chemical measurements.

b. Findings

No findings of significance were identified.

.4 Unrestricted Release of Material From the Radiologically Controlled Area

a. Inspection Scope

The inspectors evaluated the licensee's controls, procedures, and practices for the unrestricted release of material from radiologically controlled areas. Specifically, the focus of the inspectors' review was to verify that: (1) radiation monitoring instrumentation used to perform surveys for unrestricted release of materials was appropriate; (2) instrument sensitivities were consistent with NRC guidance contained in Inspection and Enforcement Circular 81-07 and Health Physics Positions in NUREG/CR-5569 for both surface contaminated and volumetrically contaminated materials; (3) criteria for survey and release conformed to NRC requirements; (4) licensee procedures were technically sound and provided clear guidance for survey methods; and (5) radiation protection and chemistry staffs adequately implemented station procedures. In addition, the inspectors reviewed data to verify that the licensee identified its plant radionuclide mix and adequately assessed the impact of difficult to detect contaminants (such as those that decay by electron capture) relative to its unrestricted release program.

b. Findings

No findings of significance were identified.

.5 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the results of the licensee's most recent REMP self-assessment performed during calendar year 2001 and its CR database to determine whether identified problems were entered into the corrective action program and were adequately resolved. The inspectors also reviewed the licensee's most recent assessment of its vendor's laboratory to ensure that the vendor's analytical capabilities and practices were adequate to produce accurate radiological measurements.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

a. Inspection Scope

The inspectors reviewed the licensee's determination of its performance indicator (PI) for the public radiation safety cornerstone (RETS/ODCM [Radiological Effluent Technical Specifications/ Offsite Dose Calculation Manual] Radiological Effluent Occurrences) to verify that the licensee accurately determined the performance indicator and had identified all occurrences required by the indicator. Specifically, the inspectors reviewed condition reports (February 2001 through December 2001) and quarterly offsite dose calculations for radiological effluents (February 2001 through December 2001).

b. Findings

No findings of significance were identified.

40A2 Identification and Resolution of Problems (71152)

The inspectors identified a weakness in the licensee's resolution of a failure to identify and post an HRA, as required by 10 CFR Part 20. The issue is documented in Section 2OS1.3.

4OA3 Event Follow-up (71153)

a. Inspection Scope

The inspectors evaluated licensee events regarding plant status and mitigating actions in order to provide input to determine the need for an incident investigation team (IIT), augmented inspection team (AIT), or special inspection (SI). Specifically:

- The licensee's responses to the December 15 shut down and repair work on the RR "A" FCV.

- The operators' immediate actions and the overall licensee assessment of and response to the unplanned trip and deluge of the ERAT on December 22.

b. Findings

No findings of significance were identified.

4OA6 Meeting(s)

Exit Meetings

The inspectors presented the inspection results to Mr. M. J. Pacilio and other members of licensee management at the conclusion of the inspection on January 7, 2002. The licensee acknowledged the findings presented. No proprietary information was identified.

Senior Official at Exit:	J. M. Heffley, Site Vice President
Date:	November 19, 2001
Proprietary	No
Subject:	Results of an Inspection of the Licensee's Licensed Operator Requalification Program
Change to Inspection Findings:	No
Senior Official at Telephone Exit:	Kurtis Hansen, Licensed Operator Requalification Group Lead
Date:	December 19, 2001
Proprietary	No
Subject:	Results of Licensed Operator Requalification Testing for Calendar Year 2001 and Applicability of NRC Inspection Manual Chapter 0609, Appendix I, "Operator Requalification Human Performance Significance Determination process (SDP)"
Change to Inspection Findings:	Yes, reduced the number of NCV findings from two to one.

Senior Official at Exit:	J. Sears, Radiation Protection Manager
Date:	12/26/01
Proprietary:	None
Subject:	Occupational and Public Radiation Safety
Change to Inspection Findings:	None

KEY POINTS OF CONTACT

Licensee

K. Baker, Design Engineering Manager
R. Campbell, Radiation Protection
A. Daniels, Chemistry Manager
R. Davis, Radiological Engineering Manager
C. Dieckmann, Shift Operations Superintendent
R. Frantz, Regulatory Assurance Representative
J. Heffley, Site Vice President
W. Iliff, Director - Regulatory Assurance Director
J. Madden, Nuclear Oversight Manager
T. Miracle, Radiation Protection
M. Pacilio, Plant Manager
J. Randich, Work Management Director
J. Sears, Radiation Protection Director
T. Shortell, Operations Training Manager
R. Svaleson, Operations Director
F. Tsakeres, Training Manager
J. Williams, Site Engineering Director

LIST OF ITEMS OPENED and CLOSED

Opened and Closed

50-461/01-15-01	NCV	Failure to Follow 10 CFR 55.59(c)(5), Licensed Operator Requalification Program Requirements, “Records.” (Section R11.6)
50-461/01-15-02	NCV	Failure to perform an adequate survey to identify and post an HRA (Section 2OS1.3)

LIST OF ACRONYMS USED

AIT	Augmented Inspection Team
ANS	American National Standard
ASME	American Society of Mechanical Engineers
CFR	Code of Federal Regulations
CPS	Clinton Power Station
CR	Condition Report
DRP	Division of Reactor Projects
EDG	Emergency Diesel Generator
ERAT	Emergency Reserve Auxiliary Transformer
FCV	Flow Control Valve
HPCS	High Pressure Core Spray
HRA	High Radiation Area
IIT	Incident Investigation Team
IR	Inspection Report
JPM	Job Performance Measure
LORT	Licensed Operator Requalification Training
MR	Maintenance Rule
NCV	Non-Cited Violation
NOMS	Nuclear Operations Management System
NRC	Nuclear Regulatory Commission
OD	Operability Determination
ODCM	Offsite Dose Calculation Manual
PI	Performance Indicator
REMP	Radiological Environmental Monitoring Program
RETS	Radiological Effluent Technical Specifications
RCIC	Reactor Core Isolation Cooling
RR	Reactor Recirculation
SDP	Significance Determination Process
SI	Special Inspection
SRO	Senior Reactor Operator
TLD	Thermoluminescence Dosimeter
UFSAR	Updated Final Safety Analysis Report

LIST OF DOCUMENTS REVIEWED

1R01 Adverse Weather Protection

CPS 1860.01	Cold Weather Operation	Revision 3
UFSAR, Volumes 1,2,and 3	Site and System Descriptions	

1R04 Equipment Alignment

Piping and Instrumentation Drawing	MO5-1004 “Reactor Feedwater”	
CPS 3103.01E001	Feedwater Electrical Lineup	Revision 11
CPS 3103.01V001	Feedwater Valve Lineup”	Revision 9
CPS 3103.01V002	Feedwater Instrumentation Valve Lineup	Revision 9
CPS 3103.01	“Feedwater” (Operating Procedure)	Revision 20a

1R11 Licensed Operator Requalification

Training Plan	LORT Two Year Cycle Plan for 2001/2002	Year 2001/2002
Training Documentation	LORT Cycle 01.01, 01.03, 01.04, 01.05, and 01.07 Training Documentation	Year 2001
Training Scores	2001 LORT Scores - Cycle 01.01 thru 01.07	Various
Attendance Documentation	Requal Cycle 01.01 thru 01.07 Training Attendance Documentation	Various
Evaluation Records	Year 2000 LORT Annual NRC Examination Evaluation Documentation	Various
Evaluation Records	Year 2001 Cycle 8 - Crew E, Simulator, JPM, and Written Evaluations	November 14-16, 2001
Remediation Packages	Year 2001 Cycle 8 Crew A - Crew Failure and Two Individual Failure Evaluations and Remediation Packages	November 7-9, 2001
Documents	PRA Task to Training Matrix	none

Documents	Quality Assurance Field Observation Reports	Various, 1999-2000
Documents	LORT Lesson Plan and Attendance Books Cycle 01.01 thru 01.07	Various, 2001
CR 00083261	Training Incomplete	November 16, 2001
CR 00083262	LORT Training Records Retrieval	November 16, 2001
CR 00083288	Common Cause Analysis on NTD Records	November 17, 2001
CR 00082877	Instructor Override Needed for NRC Exam Not Loaded	November 14, 2001
CR 00083264	JPM Validation Inadequate	November 16, 2001
Self-Assessment Report	ACAD 91-015 Focused Area Self-Assessment on Objective 4 Analysis, Design, and Development - Conduct of Licensed Operator Continuing Training	March 20, 2001
Self-Assessment Report	Clinton Focused Area Assessment Objective 8 for Operations Training September 24-26, 2001	October 2, 2001
Self-Assessment Report	Clinton Power Station Licensed Operator Requalification Training Program Focus Area Self-Assessment Report September 25-26, 2001	November 8, 2001
Self-Assessment Report	Clinton Station Operations Training Comprehensive Self-Assessment August 13-17, 2001	September 20, 2001
USAR	Clinton Updated Safety Analysis Report Chapter 15	Revision 7
OP-AA-1	Nuclear Policy: Conduct of Operations	Revision 0
OP-AA-20	Conduct of Operations Process Description	Revision 0
OP-AA-101-111	Roles and Responsibilities of On-Shift Personnel	Revision 0
OP-AA-105-101	Administrative Process for NRC License and Medical Requirements	Revision 0

OP-CL-402-1001	Operations Policy, CPS Narrative Log (NOMS)/Records	Revision 7b
TQ-AA-105-102	NRC Active License Maintenance	Revision 0
TQ-AA-106	License Operator Requal Training Program	Revision 0
TQ-AA-201	Examination Security and Administration	Revision 0
TQ-AA-210-4101	Remedial Training Notification and Action on Failure	Revision 0
TQ-AA-210-4102	Performance Review Committee Data Sheet	Revision 0
TQ-AA-210-4111	Missed Scheduled Training Notifications	Revision 0
TQ-AA-210-5108	Post Examination Test Item Analysis	Revision 0
NTAFT LOR 02	Classroom Attendance Sheet	Various
NTAFT LOR 03	Simulator Attendance Sheet	Various
NTAFT LOR 13	Simulator Demonstration Examination Individual Competency Evaluation Form	Revision 1
NTAFT LOR 14	Simulator Demonstration Examination Crew Competency Evaluation Form	Revision 1
NTAFT LOR 15	Simulator Demonstration Examination Shift Manager Competency Evaluation Form	Revision 1
NTAFT EVA 02	Nuclear Generating Group Trainee Reaction - Single Topic (Various Feedback Forms -September 2001)	Revision 3
CPS 1401.05	CPS Narrative Log - Nuclear Operations Management System/Records	Various
Training Procedure	Illinois Power Nuclear Program, Training Program Description - Operations Continuing	Revision 7
EC-02	EPIP: Emergency Classification Attachment 2, Emergency Classification Guide	Revision 6

Examination Material	Year 2000 Examination Material - Various Scenarios and JPMs	Various, 2000
Examination Material	Year 2001 Cycle 8 - Examination Material Week 2 Written Examinations - SRO & RO	Approved November 6, 2001
JPM 011264J014	Alternate Start of Division 3 Diesel Generator - Manual Override of Air Start Solenoids	Revision 1
JPM 015200J035	Perform a Start of the 1A Turbine Driven Reactor Feedwater Pump	Revision 2
JPM 011264J011	Manually Start Emergency Diesel Generator 1A	Revision 0
JPM 041301J002	Service Air Compressor Startup With Air System Completely Depressurized per CPS 3214.01	Revision 3
JPM 015200J070	Defeating Alternate Rod Insertion (ARI) Logic Trips	Revision 1
JPM 011259J004	Startup Motor Driven Reactor Feedwater Pump	Revision 1
JPM 011264J009	Parallel DG 1C With Off Site Power	Revision 1
ESG-08	Simulator Scenario - ATWS	Revision 16
ESG-12	Simulator Scenario - Small Break LOCA	Revision 14

1R12 Maintenance Rule Implementation

Plant Health Report	Third Quarter 2001	

1R13 Maintenance Risk Assessment and Emergent Work Evaluation

CPS WC-101	Online Work Control Process	Revision 6

1R14 Personnel Performance During Non-routine Plant Evolutions

CPS 3005.02	Unit Power Changes - Compensatory Operation of RR “A” FCV	Revision 0
ECN-28505	Modification to the RR “A” FCV Feedback Circuitry	

Contingency Plan	OPS-01-031 “Lockout of RR “A” FCV”	

1R15 Operability Evaluations

ECR 353113	Fan differential pressure switch in main control room ventilation system.”	
CR 87635	Functionality of VC dampers relies upon procedure steps” + OD	
CR 86833	CPS 3001.01 section 15.2 requires OD for 1B21-F010A&B” + OD	
CR 87110	CCP Exhaust Fan Tripped While Lifting Leads per Clearance	
CR 87718	Testing of RCIC vacuum breakers not per Code Requirements	

1R22 Surveillance Testing

CPS 9080.14	Diesel Generator 1C 24-Hour Run and Hot Restart - Operability	Revision 34

2OS1 Access Control to Radiological Significant Areas

CPS Radiological Survey Sheet	Nos. 01-10-08-003, 01-10-08-13, 01-10-19-16, 01-11-15-03, 01-11-29-06, 01-11-30-03, 01-11-30-12, and 01-12-6-3	
CR 64550	2-01-07-121 Common Cause Analysis (CCA) on Radioactive Source	
CR 81484	Radiation Area Sign Obscured by Workers Propping Open Door	
CR 83692	Radworker Insufficient Knowledge of Radiological Conditions	
CR 84645	Work Practices Lead to Personnel Contamination Event	
CR 89324	Incomplete Corrective Actions in RP CR	
CR 2-00-12-142	Radworker Performance Weakness	
CR 2-01-01-021	Source Plaques Improperly Signed Out	

CR 2-01-02-022	CPS Radioactive Source Database Not Updated in Accordance with CPS 9974.01	
CR 2-01-02-178	Failure to Perform Face to Face Turnovers with Oncoming Relief Lead Technician	
CR 2-01-03-012	Inadequate RP Turnover Resulted in Improper Survey of Radwaste Shipment W01-004	
CR 2-01-04-189	Key Control Documentation Deficiencies Found During Self-assessment	
CR 2-01-05-336	Failure to Control SF System Drain Resulted in Unplanned Spread of Contamination	
CR 2-01-06-043	CPS 3870.01 Performed Without RP Being Present	
CR 2-01-06-166	Cubicle Deposted form Radwaste Transfer While Transfer Appendix/s Open for that Cubicle	
CR 2-01-06-210	Radioactive Material Found Outside the RCA (Radiological Controlled Area)	
CR 2-01-06-243	Radworker Required Prompting to Remove Tool from Pocket Prior to Exiting the RCA	
CR 2-01-06-244	Radworker Required Prompting to Remove Tool from Pocket Prior to Exiting the RCA	
RP-AA-460	Controls for High and Very High Radiation Areas	Revision 2

2PS3 Radiological Environmental Monitoring Program

	Clinton Power Station 1999 Annual Radiological Environmental Operating Report	April 24, 2000
	Clinton Power Station 2000 Annual Radiological Environmental Operating Report	April 25, 2001

	Monthly Progress Report to AmerGen Co., Clinton, Illinois	November 5, 2001
	Self Assessment Report: Radiological Environmental Monitoring, and Dose Calculation Program and Radioactive Effluents (ODCM/REMP)	October 2001
48095	Field Observation Report	May 22, 2001; June 5, 2001; June 18, 2001
CPS 7911.33	Operation and Sample Volume Programming of Water Compositor Samplers *performed in November 2001*	Revision 7
CPS 8699.19	Calibration of Gas Rotameters *performed on October 16, 2001, October 9, 2001, and October 15, 1999 for environmental air samplers*	Revision 6
CPS 9437.14	Meteorology System Loop Calibration *performed on April 26, 2001; August 29, 2001; October 26, 2001; and October 29, 2001*	Revision 36a
CPS 9911.70	Radiological Environmental Surveillance Airborne Radioiodine and Particulate Monitoring	Revision 34b
CR 00064337	2-01-04-118 Failure to Comply with Regulatory Guide 1.23	April 18, 2001
CR 00078955	Reporting Errors Found in Monthly Report	October 19, 2001
CR 00079291	Failure to Meet Requirements for Free Release	October 18, 2001
CR 00082197	Documentation Errors Found in ODCM/REMP Monthly Reports	October 24, 2001
CR 00082418	Material Processed out of the RCA Without Passing a SAM	October 4, 2001
CR 00083143	ODCM Composite Water Sampler Found “Not” Sampling	November 16, 2001
CR 00084170	Water Compositors not Programmed IAW Station Procedure	November 28, 2001

CR 00084348	Blown Fuse Anapaest CL-15 Environmental Air Sampling Station	November 29, 2001
CR 00085038	Inconsistent Documentation in 1999 and 2000 REMP Reports	December 4, 20011
CR 2-01-04-046	Surface Water Sample Damaged During Shipment to Vendor Results in Non-Analysis Requirement	April 6, 2001
P1I-01-02	Quality Assurance Assessment: Radiation Protection, Chemistry and Radwaste	June 12, 2001
RP-CL-304	Unconditional Release Surveys	Revision 0
SR-2001-341	Supplier Evaluation Service Department, Audit Report No. SR-2001-341	July 22, 2001