January 24, 2003

Mr. John L. Skolds, President
Exelon Nuclear
Exelon Generation Company, LLC
4300 Winfield Road
Warrenville, Illinois 60555

SUBJECT: CLINTON POWER STATION
NRC INSPECTION REPORT 50-461/02-10(DRS)

Dear Mr. Skolds:

On December 13, 2002, the NRC completed an inspection at your Clinton Power Station. The enclosed report documents the inspection findings, which were discussed with Mr. K. Polson and other members of your staff at the completion of the inspection.

The inspectors 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. Specifically, the inspection focused on the Evaluations of Changes, Tests, or Experiments per 10 CFR 50.59 and Permanent Plant Modifications.

No safety significant items were identified and no response to this inspection report is required.

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

Sincerely,

/RA/

Ronald N. Gardner, Chief
Electrical Engineering Branch
Division of Reactor Safety

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

Enclosure: Inspection Report 50-461/02-10(DRS)

See Attached Distribution

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Clinton Power Station Plant Manager
Regulatory Assurance Manager - Clinton
Chief Operating Officer
Senior Vice President - Nuclear Services
Senior Vice President - Mid-West Regional Operating Group
Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing - Mid-West Regional Operating Group
Manager Licensing - Clinton and LaSalle
Senior Counsel, Nuclear, Mid-West Regional Operating Group
Document Control Desk - Licensing

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REGION III

Docket No:	50-461
License No:	NPF-62
Report No:	50-471/02-10(DRS)
Licensee:	Exelon Generation Company, LLC
Facility:	Clinton Power Station
Location:	Route 54 West Clinton, IL 61727
Dates:	December 9 through 13, 2002
Inspectors:	H. Walker, Lead Inspector R. Winter, Engineering Inspector H. Anderson, Contract Inspector
Approved by:	Ronald M. Gardner, Chief Electrical Engineering Branch Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000471-02-10(DRS), Exelon Generation Company, LLC; on 12/09-13/02, Clinton Power Station; Evaluations of Changes, Tests, or Experiments per 10 CFR 50.59 and Permanent Plant Modifications.

The inspection was a one week baseline inspection of Permanent Plant Modifications and Evaluations of Changes, Tests, or Experiments. The inspection was conducted by regional engineering specialists, with the assistance of a mechanical consultant. No findings were identified during the inspection.

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Mitigating Systems

1R02 Evaluations of Changes, Tests, or Experiments (71111.02)

Review of Evaluations and Screenings for Changes, Tests, or Experiments

a. Inspection Scope

The inspectors reviewed five 10 CFR 50.59 evaluations and nine screenings. These documents were reviewed to ensure consistency with the requirements of 10 CFR 50.59. The inspectors used Nuclear Energy Institute (NEI) 96-07, "Guidelines of 50.59 Evaluations," Revision 1, to determine acceptability of the completed evaluations, and screenings. The NEI document was endorsed by the NRC in Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," November 2000. The inspectors also consulted Inspection Manual, Part 9900, 10 CFR GUIDANCE: 50.59. Documents reviewed during the inspection are listed at the end of the report.

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

.1 Review of Recent Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed eleven permanent plant modifications that were installed during the last two years. These changes affected various systems in the plant. The review of the records completed the activities required by Attachment 17 of NRC Inspection Procedure 71111. The modifications were reviewed to verify that the completed design changes were in accordance with specified design requirements and the licensing bases and to confirm that the changes did not affect the modified system or other systems' safety function. Calculations which were performed or revised to support the modifications were also reviewed. As applicable to the status of the modification, post-modification testing was reviewed to verify that the system, and associated support systems, functioned properly and that the modification accomplished its intended function. The inspectors also verified that the completed modifications did not place the plant in an increased risk configuration. The inspectors evaluated the modifications against the licensee's design basis documents and the updated final safety analysis report (UFSAR). The inspectors also used applicable industry standards, such as the American Society of Mechanical Engineers Code, to evaluate acceptability of the modifications.

In addition to the normal review of permanent plant modifications, the inspectors reviewed selected design changes and other licensee documents associated with the effects of the plant power up-rate on the flow accelerated corrosion (FAC) program. This review is discussed in this section of the report.

b. Findings

No findings of significance were identified.

.2 Flow Accelerated Corrosion (FAC) Program

a. Inspection Scope

In accordance with Inspection Procedure 49001, "Inspection of Erosion-Corrosion/Flow-Accelerated-Corrosion Monitoring Programs," the inspectors reviewed documents and records to verify selected aspects of the FAC program. The review included associated design changes and calculations completed or revised to address the potential effects of the extended power up-rate (EPU) on the FAC program at the Clinton Power Plant. Evaluation of these documents also involved extensive discussions with licensee personnel.

In the review, the inspectors noted that Revision A of calculation 01065301, "CHECWORKS FAC Analysis," was confirmed to have incorporated inputs from the General Electric up-rate heat balance into the current FAC analysis. The Safety Evaluation Report (SER) related to the EPU was issued prior to completion of Revision A of the calculation; however, the SER summarized "in-progress" results provided by licensee personnel prior to issuance of Revision A of the calculation.

By reviewing documents and records, per Inspection Procedure 49001, "Inspection of Erosion-Corrosion/Flow-Accelerated-Corrosion Monitoring Programs," the inspectors verified the following aspects of the FAC program:

- The FAC program included a systematic method to predict system and component susceptibility, analyze inspection data to determine wall thinning rates, determine inspection intervals based on past inspection results, and repair or replace piping components.

- The program had defined criteria for selection of inspection locations.

- The program procedurally included measures to support effective monitoring and management of FAC effects during the life of the plant.

- The FAC program monitored the effect on FAC of expected changes in operating plant parameters as a result of the EPU in systems as identified in the SER, including main steam and attached piping, feedwater, and other pressure boundary piping.

- The program identified risk significant FAC concerns as a result of the EPU including identification of FAC program material replacements scheduled for installation during refueling outage RF09 in 2004.

The licensee personnel confirmed that the "in-progress" results discussed in the SER were conservative. The calculation results predicted wall thinning rates of 25 mils at 100 percent power and 27 mils at EPU conditions, an increase of approximately 8 percent.

Concerns raised by the inspectors were discussed with the licensee.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES (OA)

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The team reviewed seventeen condition reports that were identified by licensee personnel and had been entered into the corrective action program. The inspectors reviewed these issues to verify an appropriate threshold for identifying issues and to evaluate the effectiveness of corrective actions related to the permanent plant design and evaluations for Changes, Tests, or Experiments issues. In addition, the condition report, written on an issue identified during the inspection, was reviewed to verify adequate problem identification and incorporation of the problem into the corrective action system. The specific corrective action documents that were sampled and reviewed by the team are listed in the attachment to this report.

b. Findings

No findings of significance were identified.

4OA6 Meetings

Exit Meeting

The inspectors presented the inspection results to Mr. K. J. Polson, and other members of licensee management, on December 13, 2002. The licensee acknowledged the inspection results presented. Licensee personnel were asked to identify any documents, materials, or information provided during the inspection that were considered proprietary. No proprietary information was identified.

KEY POINTS OF CONTACT

Licensee Management
K. Polson, Plant Manager
K. Baker, Senior Manager Design Engineering
R. Frantz, Regulatory Assurance
W. Iliff, Regulator Assurance Manager
R. Kerestes, Engineering
J. Madden, Nuclear Oversight Manager
P. Marcum, Engineering
E. Schwertzer, Engineering
R. Schmidt, Maintenance Director
J. Williams, Site Engineering Director

NRC
C. Brown, Resident Inspector
R. Gardner, Chief, Electrical Engineering Branch, DRS
P. Louden, Senior Resident Inspector
A. Stone, Chief, Projects Branch 4, DRP

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened

None

Closed

None

Discussed

None

LIST OF DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors during the Clinton biennial inspection of Evaluations of Changes, Tests, or Experiments and Permanent Plant Modifications conducted from December 9 through 13, 2002. The inspection was conducted to accomplish the objectives and scope of the inspection and to support the findings and issues noted. The list may include documents prepared by others for the licensee. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but that selected portions of the documents were evaluated as part of the overall inspection effort. Also inclusion on this list does not imply NRC acceptance of the document, unless specifically stated in the body of the inspection report.

1R02 Evaluations of Changes, Tests, or Experiments

Evaluations

CL-2001-E-01890; DCP No. 333952 Temporary Modification, Defeat RR 'A' Runback; dated December 14, 2001

CL-2001-E-01900; DCP No. 334153 Temporary Modification, Manual RR 'A' FCV Position Control; dated December 14, 2001

CL-2002-E-00028; Activity/Document Number: CPS 3302.03 - Noble Metal Injection; Revision 1

CL-2002-E-00052; Clinton Unit 1 Cycle 9 Reload Core Design and Licensing; Revision 0

CL-2002-E-00520; Temporary Modification EC 338256, Temporarily Disable Turbine Control Valve #4; dated September 13, 2002

Screenings

CL-2001-S-0018; ECN 32439, Installation of Tie-In for WO Piping and Valves for the New Suppression Pool Cooling Heat Exchanger; dated March 22, 2001

CL-2001-S-0115; Reduction of Main Steam Line Radiation Monitors from Four to Two; dated October 25, 2001

CL-2001-S-01740; ORM 35-6, Setpoint Sign Changes; dated November 30, 2001

CL-2002-S-00210; USAR Change Package 8-303, USAR Change Package for Containment and Drywell Volume Corrections Including EPU; dated February 26, 2002

CL-2002-S-00510; USAR Change 10-095(change to 6.2.1.1.5.5 only), Evaluation of Change in the Analysis of the Small Break LOCA with Drywell Bypass Leakage; dated April 16, 2002

CL-2002-S-00780; EC337228, USAR Change 10-109, TS Bases Change, Instrumentation Aspects of Diesel Fuel Tank Level Requirements; dated June 27, 2002

LS-AA-104-1001; Reclassification of RCIC Pump Tech Spec Surveillance Parameters from Not Nominal to Nominal; dated May 20, 2002

LS-AA-104-1003; Replacement of Cylinder Indicator Valves on Div. 1 Diesel Generator - (1DG01KA); dated January 11, 2001

1005.06F001; Replace DG Air Start Solenoid Pilot Valves per ECNs 30444 and 30745; dated November 6, 1998

Condition Reports Written as a result of the Inspection

CR 00135358; Inconsistent Methods Were Used to Document the Results of 10 CFR 50.59 applicability Reviews for Modification; dated December 13, 2002

Condition Reports

CR 2-00-11-127; OD/OE Process/Procedure Does Not Provide Adequate Barriers to Assure Timely Corrective Actions; dated November 17, 2000

CR 2-01-06-017; 50.59 Screening Form Was Not Prepared; dated June 4, 2001

CR 2-01-05-157-0; Inadequate Implementation of LS-AA-104; dated May 15, 2001

CR 00099796; FP Diesel Tank Level Changed Without Documentation Bases; dated March 18, 2002

CR 00123080; Potential Expiration of TS 3.4.11 Pressure/Temperature Curve; dated September 16, 2002

CR 00124037; 50.59 Review Not Completed as Required per CPS 1870.02; dated September 22, 2002

Procedures

LS-AA-104; Exelon 50.59 Review Process; Revision 2

LS-AA-104-1000; Exelon 50.59 Resource Manual; Revision 0

LS-AA-104-1001; 50.59 Review Coversheet Form; Revision 0

LS-AA-104-1002; 50.59 Applicability Review Form; Revision 0

LS-AA-104-1006; Exelon 50.59 Training and Qualification; Revision 0

LS-AA-107; UFSAR Update Procedure; Revision 0

1R17 Permanent Plant Modifications

Modifications

31717; Replace Division II DG Crank Lockout Pressure Switches 1PSDG064C and 1PSDG065C with a Model with a Smaller Dead Band; dated November 21, 2001

32181; Remove the ERAT/RAT SVC Freeze Input to The SVC Controller by Jumpering the Breaker Aux Contact “B” from the Division 1 Diesel Generator Output Breaker; dated November 21, 2001

330499; Authorization for an Acceptable Replacement for Obsolete Gould ITE Type HE, JL, KM and E2 Molded Case Circuit Breakers Used in Gould ITE 5600 Series 125 VDC Motor Control Center; dated May 9, 2002

331074; Rotate Rosemont Transmitter 1LT-SM016 Suppression Pool Level; Revision 1

331208; Install Ball Valves in the MCR Breathing Air System Fill Lines; Revision 1

331323; Feedwater Support Modification; Revision 0

331896; Replacement of Cylinder Indicator Valves on Div 1 Diesel Generator; Revision 0

333256; Replace the Division III Carbon Steel Vacuum Breakers with New Stainless Steel Replacements (1SX315A/B and 1SX316A/B); Revision 0

333417; Upgrade Woodward Controls 2301A Load Sharing and Speed Control on the Division II Diesel Generator 1B Control Panel (1PL12JB); Revision 1

334569; 0DG-ST-11 Line Replacement; Revision 0

335110; Allow Replacement of Existing Reactor Core Isolation Cooling (RI) Piping of Carbon Steel Material with 2 1/4 CR-MO (Chrome-Moly) Material; Revision 0

Equivalency Evaluations

Evaluation #10718/1106915; Hydrogen Ignitors - The original AC Delco 7G glow plug is obsolete and possesses a high failure rate per CR 2-01-02-143. The Champion CH-78 (Stock # 178) glow plug is an acceptable alternate in fit, form, and function to the original AC Delco 7G.

Evaluation #16231/1146463; Emergency Diesel Generator (EDG) Right Hand Air Start Motors - Evaluation #16231 performed IEE to approve material changes as per equivalency performed by diesel vendor, ESI, and scanned into IEE OLE field. Part number of motors did not change.

Design Report

DR-A020104; Design Report DR-A020104 Revision 0 for 3/4", stainless steel, ANSI Class 600, In-line Check Valve with Screwed End Endcaps (Purchase order No. PO 00037775, BNL Shop Order No. A020104); Revision 0

Condition Reports

CR 1-96-11-252; Unauthorized Modification Installed in WS System under MWR D74712 - System Declared Operable; dated November 16, 1996

CR 86825; RR FCV A Temp Mod Implementation Problems; dated December 15, 2001

CR 93284; Discrepancies ID'ed in D C P 32236; dated January 31, 2002

CR 2-01-05-157-0; Inadequate Implementation of LS-AA-104; dated May 15, 2001

CR 00064517; 2-01-07-053 Design Change Process Breakdown for EC 331444 CO; dated July 5, 2001

CR 00099796; FP Diesel Tank Level Changed Without Documentation Bases; dated March 18, 2002

CR 00105636; Design Deficiency in RCIC MOD; dated May 20, 2002

CR 00108356; NON (Nuclear Operations Network) Review of Effects of Diesel Exhaust on Charcoal Filters; completed October 30, 2002

CR 00115251; Non-compliance w/ANSI N18.7 Configuration Changes; completed July 23, 2002

CR 00119318; Enhancements to OP-AA-108-101/102; completed August 26, 2002

CR 00123080; Potential Expiration of TS 3.4.11 Pressure/Temperature Curve; dated September 16, 2002

Procedures

CI-01.00; Instrument Setpoint Calculation Methodology; Revision 2

CC-AA-102; Design Input and Configuration Change Impact Screening; Revision 4

CC-AA-103; Configuration Change Control; Revision 3

CC-MW-103-1001; Configuration Change Control Guidance; Revision 0

CC-AA-107; Configuration Change Acceptance Testing Criteria; Revision 2

CC-AA-107-1001; Post Modification Acceptance Testing; Revision 0

CC-AA-309; Control of Design Analysis; Revision 3

SM-AA-300; Procurement of Engineering Support; Revision 0

SM-AA-401; Material Procurement; Revision 2

Miscellaneous Documents

Assessment of Maintenance Effectiveness 10CFR50.65 (a)(3) Assessment, Clinton Power Station, March 1, 2000 to October 20, 2002

Flow Accelerated Corrosion Issues

CSI Calculation No. 01065301; CHECWORKS FAC Analysis - Clinton Power Station; Revision A (For Use); dated January 11, 2002

ER-AA-430; Conduct of Flow Accelerated Corrosion Activities; Revision 0

ER-AA-430-1001; Guidelines for Flow Accelerated Corrosion Activities; Revision 0

ER-AA-430-1002; Feedwater Heater Shell Inspection for Detection of Flow Accelerated Corrosion; Revision 1

LIST OF ACRONYMS USED

ADAMS	Agency-wide Document Access and Management System
CFR	Code of Federal Regulations
DRS	Division of Reactor Safety
EPU	Extended Power Up-rate
FAC	Flow Accelerated Corrosion
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
PARS	Publicly Available Records System
SDP	Significance Determination Process
SER	Safety Evaluate Report
UFSAR	Updated Final Safety Analysis Report

Inspection was rescheduled from July 29, 2002 to December 9, 2002

MODIFICATION AND 50.59 INSPECTION DOCUMENT REQUEST

The following information was provided electronically to the licensee prior to the inspection:
E-mailed on June 7, 2002

Lead Inspector: Zelig Falevits
Team Members: Gerard O'Dwyer, Ken O'Brien, Bob Winter

I **Information Needed for In-Office Preparation Week** (July 22-26,2002)

The following information is needed by July 19, 2002, or sooner, to facilitate the selection of specific items that will be reviewed during the onsite inspection week. The team will select specific items from the information requested below and submit a list to your staff by July 24, 2002. We request that the specific items selected from the lists be available and ready for review on the first day of onsite inspection (July 29, 2002). If you have any questions regarding this information, please contact me at (630) 829-9717 or e-mail zxf@nrc.gov as soon as possible. All lists requested should cover the time frame July 2000 until present. All information should be sent electronically if at all possible.

Permanent Plant Modifications

1. List of permanent plant modifications/ design changes. In addition to the list, please provide a brief (one paragraph) description of each modification (e.g., copy of modification description from DCP or safety evaluation.)

2. List of setpoint changes. (Identify system and instrument).

3. List of equivalency evaluations or suitability analysis.

4. List of commercial grade dedications.

5. List of condition reports (open or closed) issued to address permanent plant modification issues, concerns, or process.

6. Copy of procedures for the following: modifications, design changes, set point changes, equivalency evaluations or suitability analyses, commercial grade dedications, and post-modification testing.

Changes, Tests, or Experiments (10 CFR 50.59)

1. List of all 10 CFR 50.59 completed evaluations involving: (A) changes to facility (modifications); (B) procedure revisions; (C) tests or non-routine operating configurations; (D) changes to the UFSAR; or (E) calculations

2. List of all 10 CFR 50.59 screenings that have been screened out as not requiring a full evaluation involving: (A) changes to facility (modifications); (B) procedure revisions; (C) tests or non-routine operating configurations; (D) changes to the UFSAR; or (E) calculations

3. List of condition reports (open or closed) issued to address problems associated with 10 CFR 50.59 evaluations, screenings, or process.

4. Copy of procedures that specify how 10 CFR 50.59 evaluations and screenings are performed.

5. Copy of procedures that delineate how 10 CFR 50.59 FSAR updates are prepared by engineers or staff and how the licensee submits 10 CFR 50.59 FSAR updates.

6. List of special tests or experiments and non-routine operating configurations in the last two years (if any.)

General Information

1. Latest engineering organization chart

2. Site phone list

3. System and Design Engineering lists

4. List of maintenance rule high safety significant systems

5. List of maintenance rule (a)(1) systems. (Those systems presently in (a)(1) and systems that were (a)(1) in 2001 or 2002 and returned to (a)(2) [List date system went to (a)(1) and date system returned to (a)(2)])

II **Information to be Available on First Day of Onsite Inspection**

We request that the following information be available to the inspectors once they arrive onsite. (Copies of the updated final safety analysis report, independent plant evaluation probabilistic safety analysis, vendor manuals, or technical specifications do not need to be solely available to the team as long as the inspectors have ready access to them.)

· The latest 10 CFR 50.59 Final Safety Analysis Report Update Submittal

· Updated Final Safety Analysis Report

· Technical Specifications

· Independent Plant Evaluation Probabilistic Safety Analysis Report

- Vendor Manuals
- Equipment Qualification Binders
- Relevant Calculations And Analyses (for selected modifications and 50.59s)
- Copies of previously selected modifications, permanent plant changes, design changes, setpoint changes, procedure changes, equivalency evaluations, suitability analyses, calculations, commercial grade dedications, 10 CFR 50.59 evaluations and screenings and condition reports.