

December 1, 2004

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 EVALUATION OF CHANGES, TESTS OR, EXPERIMENTS AND  
PERMANENT PLANT MODIFICATIONS INSPECTION REPORT  
NO. 05000461/2004009

Dear Mr. Crane:

On November 5, 2004, the U.S. Nuclear Regulatory Commission (NRC) completed a combined baseline inspection of Evaluation of Changes, Tests or Experiments, and Permanent Plant Modifications at Clinton Power Station. The enclosed report documents the inspection findings, which were discussed on November 5, 2004, with Mr. M. McDowell 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.

On the basis of the results of the 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 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/

David E. Hills, Chief  
Materials Engineering Branch  
Division of Reactor Safety

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

Enclosure: Inspection Report 05000461/2004009(DRS)

See Attached Distribution

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C. Crane

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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  
                 Manager Licensing - Clinton Power Station  
                 Senior Counsel, Nuclear, Mid-West Regional Operating Group  
                 Document Control Desk - Licensing

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: 05000461/2004009(DRS)

Licensee: Exelon Generation Company, LLC

Facility: Clinton Power Station

Location: Route 54 West  
Clinton, IL 61727

Dates: November 1 through 5, 2004

Inspectors: R. Langstaff, Senior Reactor Inspector, Lead  
G. O'Dwyer, Reactor Inspector  
R. Ruiz, Reactor Engineer

Approved by: D. Hills, Chief  
Materials Engineering Branch  
Division of Reactor Safety

Enclosure

## **SUMMARY OF FINDINGS**

IR 05000461/2004009(DRS); 11/01/2004 - 11/05/2004; Clinton Power Station; Evaluation of Changes, Tests or Experiments, and Permanent Plant Modifications.

The report covers a one-week announced baseline inspection on evaluations of changes, tests or experiments, and permanent plant modifications. The inspection was conducted by three region based inspectors. No findings of significance were identified.

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-Revealed Findings**

None.

### **B. Licensee-Identified Violations**

None.

## REPORT DETAILS

### 1. REACTOR SAFETY

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

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

##### .1 Review of 50.59 Evaluations and Screenings

##### a. Inspection Scope

From November 1 through 5, 2004, the inspectors reviewed four evaluations performed pursuant to 10 CFR 50.59. The evaluations related to permanent plant modifications and changes to the updated final safety analysis report. The inspectors confirmed that the evaluations were thorough and that prior NRC approval was obtained as appropriate. The inspectors also reviewed twelve screenings where licensee personnel had determined that a 10 CFR 50.59 evaluation was not necessary. In regard to the changes reviewed where no 10 CFR 50.59 evaluation was performed, the inspectors verified that the changes did not meet the threshold to require a 10 CFR 50.59 evaluation. These evaluations and screenings were chosen based on the risk significance of samples from the different cornerstones. The list of documents reviewed by the inspectors is included as an attachment to this report.

The inspectors used, in part, Nuclear Energy Institute (NEI) 96-07, "Guidelines for 10 CFR 50.59 Implementation," 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," dated November 2000. The inspectors also consulted Part 9900 of the NRC Inspection Manual, "10 CFR Guidance for 10 CFR 50.59, Changes, Tests, and Experiments."

##### b. Findings

No findings of significance were identified.

#### 1R17 Permanent Plant Modifications (71111.17B)

##### a. Inspection Scope

From November 1 through 5, 2004, the inspectors reviewed five permanent plant modifications that had been installed in the plant during the last two years. The modifications were chosen based upon the effect on systems that had high probabilistic risk analysis (PRA) significance in the plant Individual Plant Evaluation (IPE) or high maintenance rule safety significance. The inspectors reviewed the modifications to verify that the completed design changes were in accordance with the specified design requirements and the licensing bases and to confirm that the changes did not affect any systems' safety function. Design and post-modification testing aspects were verified to

ensure the functionality of the modification, its associated system, and any support systems. The inspectors also verified that the modifications performed did not place the plant in an increased risk configuration.

The inspectors also used applicable industry standards, such as the American Society of Mechanical Engineers code, to evaluate acceptability of the modifications. The list of documents reviewed by the inspectors is included as an attachment to this report.

The permanent plant modifications reviewed included two Design Change Packages (DCPs) and three Engineering Changes (ECs) as follows:

DCP 335897, Eliminate Seal Staging Flow (1B33N007A) High Alarm for RR [Reactor Recirculation] Pump 1A;

DCP 336159, Install DG 1A Crankcase, Air Box and Water Jacket Pressure Gauges;

EC 330572, Modification to Gag Shut RHR [Residual Heat Removal] Heat Exchanger 1A Steam Supply Relief Valve 1E12-F055A, and Install a New Relief Valve to Perform the Relief Function;

EC 341361, Normalize Feedwater Reactor Water Level Channels A, B, and C to Full Power Average; and

EC 343693, Revise the 1FC01AA and 1FC01AB Heat Exchanger Data Sheet to Reflect a Change in the HX [Heat Exchanger] Fouling Factor and SX [Service Water] Flow Rates.

b. Findings

No findings of significance were identified.

**4. OTHER ACTIVITIES (OA)**

4OA2 Identification and Resolution of Problems

a. Inspection Scope

From November 1 through 5, 2004, the inspectors reviewed two condition reports that were written by licensee personnel to enter the issues in the corrective action program. The inspectors reviewed these documents 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, three condition reports, written on issues identified during the inspection, were reviewed to verify adequate problem identification and incorporation of the problems 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

.1 Exit Meeting

The inspectors presented the inspection results to Mr. M. McDowell and other members of licensee management, on November 5, 2004. 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. While proprietary information was reviewed, no proprietary information is included in the report.

ATTACHMENT: SUPPLEMENTAL INFORMATION

## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee

M. McDowell, Plant Manager  
R. Peak, Site Engineering Director  
W. Iliff, Regulatory Assurance Manager  
K. Baker, Sr. Manager, Design Engineering  
B. Bunte, Engineering Programs Manager  
J. Miller, Sr. Manager, Plant Engineering  
J. Hunsicker, Design Engineering  
M. Heger, Design Engineering  
D. Schavey, Operations Director  
E. Schweitzer, Design Engineering

#### Illinois Emergency Management Agency

D. Zemel, Resident Inspector

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

#### Opened and Closed

None.

#### Discussed

None.

## **LIST OF DOCUMENTS REVIEWED**

The following is a list of documents that were reviewed during the inspection. 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. Inclusion of a document on this list does not imply NRC acceptance of the documents, unless specifically stated in the body of the inspection report.

### 10 CFR 50.59 Safety Evaluations

CL-2003-E-022; Defeat RR 'B' Runback Logic; Revision 0

CL-2003-E-043; Change the Low Cycled Condensate (CY) Tank Level Trip (at 1.5 ft.) to a CY Tank Lo-Lo Level Annunciation, therefore Eliminating an Auto Trip of the CY Transfer Pumps; Revision 1

CL-2003-E-114; ORM 4.5.1/5.5.1 Revision of Containment Penetration Molded Case Breaker Test and PM Frequency from 72 to 96 Mo; Revision 0

CL-2003-E-149; Installation of Auxiliary Platform 1F15-E005, EC 346264 and Associated Procedure and USAR Changes; Revision 0

### 10 CFR 50.59 Screenings

CL-2001-S-102; Gag Shut Relief Valves 1E12-F055A/B and Replace Them with Smaller Relief Valves 1E12-F112A/B; Revision 0

CL-2003-S-021; DCP No. 341096 Temporary Modification to Defeat RR 'B' Runback Logic; Revision 0

CL-2003-S-023; Evaluate the Heat Removal Capability of SX as a Result of Lower than Expected Flows During Periods of Cold Lake Temperature's (i.e., Lake Temperatures less than 70 deg's F); Revision 0

CL-2003-S-035; Evaluation of the Use of Mobil 28 Grease in ABB K-line Breaker to Vendor Binders K2974-0004 and 0005; Revision 0

CL-2003-S-046; Eliminate Seal Staging Flow (1B33N007A and B) High Alarm for RR Pumps 1A & 1B; Revision 0

CL-2003-S-058; Changing Sensing Probe for Differential Pressure Transmitters on VA and VR; Revision 0

CL-2003-S-083; Diesel Generator Div. 1 (1DG01KA) - Install DG Crankcase Pressure, Jacket Water Pressure and DG Air Box Pressure Gauges; Revision 0

CL-2003-S-106; Revise the 1FC01AA and 1FC01AB Heat Exchanger Data Sheet to Reflect a Change in the HX Fouling Factor and SX Flow Rates; Revision 1

CL-2004-S-001; Permanent Installation of Electrical Noise Suppression onto VX Optical Isolators IUO-VX507B; Revision 0

CL-2004-S-007; Diesel Generator Diagnostic Testing; Revision 0

CL-2004-S-039; ECCS Pump Shaft Coupling Guards; Revision 0

CL-2004-S-077; Add Dummy Loads to Safety Batteries; Revision 0

#### Condition Reports

160595; Inadequate 50.59 Applicability Review Performed for EC 33899; dated May 27, 2003

219667; VC A Ventilation Train Failed Surv 9070.02 Step 9.1.2; dated May 7, 2004

#### Condition Reports Initiated as a Result of the Inspection

269955; Shielding Plant Equipment for Functionality; dated November 3, 2004

270049; Deficiencies Discovered in 1E12F055A Gagging Modification; dated November 3, 2004

270423; Terms Used on Drawings and in USAR Package Misleading; dated November 4, 2004

#### Design Change Packages

335897; Eliminate Seal Staging Flow (1B33N007A) High Alarm for RR Pump 1A; Revision 0

336159; Install DG 1A Crankcase, Air Box and Water Jacket [*sic*] Pressure Gauges; Revision 0

341362; Normalize Feedwater Reactor Water Level Channels A, B and C to Full Power Average; Revision 0

#### Drawings

M05-1000; P & ID Index Clinton Power Station; Revision E

### Engineering Changes

330572; Modification to Gag Shut RHR Heat Exchanger 1A Steam Supply Relief Valve 1E12-F055A, and Install a New Relief Valve to Perform the Relief Function; Revision 2

343693; Revise the 1FC01AA and 1FC01AB Heat Exchanger Data Sheet to Reflect a Change in the HX Fouling Factor and SX Flow Rates; Revision 0

### Procedures and Instructions

3312.03; RHR - Shutdown Cooling (SDC) and Fuel Pool Cooling and Assist (FPC&A); Revision 4b

5003.05; Alarm Panel 5003 Annunciators - Row 5; Revision 30a

9843.02; Operational Pressure Testing of Class 1, 2, and 3 Systems; Revision 37

9861.05; Water Local Leak Rate Testing; Revision 24d

9861.05D001; RHR A/LPCS Water Leak Rate Test Data Sheet (S-MC021K01 and S-MC038K04); Revision 24c

9861.05D001; RHR B and RHR C Water Leak Rate Test Data Sheet (S-MC025K02 and S-MC023K03); Revision 24d

### Surveillances

9861.05D001; RHR A/LPCS Water Leak Rate Test Data Sheet (S-MC021K01 and S-MC038K04); dated February 5, 2004

9861.05D002; Surveillance Test Package Cover Sheet; dated April 11, 2002

## LIST OF ACRONYMS USED

ADAMS	Agency-wide Document Access and Management System
CFR	Code of Federal Regulations
CR	Condition Report
DCP	Design Change Package
DRS	Division of Reactor Safety
EC	Engineering Changes
HX	Heat Exchanger
IPE	Individual Plant Evaluation
NEI	Nuclear Energy Institute
NRC	Nuclear Regulatory Commission
NUREG	NRC technical report designation ( <u>N</u> uclear <u>R</u> egulatory Commission)
PARS	Publicly Available Records
PRA	Probabilistic Risk Analysis
RHR	Residual Heat Removal
RR	Reactor Recirculation
SX	Service Water