



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION III  
2443 WARRENVILLE ROAD, SUITE 210  
LISLE, IL 60532-4352

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October 25, 2010

Mr. Michael J. Pacilio  
Senior Vice President, Exelon Generation Company, LLC  
President and Chief Nuclear Officer (CNO), Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

**SUBJECT: CLINTON NUCLEAR POWER STATION - NRC MATERIAL CONTROL AND ACCOUNTING PROGRAM INSPECTION REPORT NO. 05000461/2010405**

Dear Mr. Pacilio:

On October 18, 2010, the U.S. Nuclear Regulatory Commission (NRC) completed a security baseline inspection at Clinton Nuclear Power Station. The inspection covered one of the key attributes of the Security Cornerstone of the NRC's Reactor Oversight Process. The enclosed inspection report documents the inspection results, which were discussed on October 19, 2010, with Mr. M. Kanavos, Plant Manager, and other members of your staff.

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

Based on the results of this inspection, no findings were identified.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS). ADAMS is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room). However, because of the security-related information contained in the enclosure, and in accordance with 10 CFR 2.390, a copy of this letter's enclosure will not be available for public inspection.

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M. Pacilio

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Sincerely,

/RA/

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

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

Nonpublic Enclosure: NRC Inspection Report 05000461/2010405  
w/Attachment: Supplemental Information

cc w/encl: S. Coker, NSIR/DSO/DDSO/ST  
C. Johnson, NSIR  
J. Trapp, Region I  
M. Ernstes, RII  
M. Shannon, RIV  
J. Cunningham, Clinton Station Security Manager  
J. Klinger, State Liaison Officer,  
Illinois Emergency Management Agency

cc w/o encl: Distribution via ListServ

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

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

Report No.: 05000461/2010405

Licensee: Exelon Generation Company, LLC (Exelon)

Facility: Clinton Nuclear Power Station

Location: Clinton, Illinois

Dates: October 13-18, 2010

Inspector: David Lords, Acting Senior Resident Inspector

Approved By: Mark A. Ring  
Branch 1  
Division of Reactor Projects

REPORT DETAILS

3. SECURITY

Cornerstone: Security

3S11 Material Control and Accounting (MC&A) (71130.11 – 15 samples)

a. Inspection Scope

This area was inspected to: 1) verify that the licensee has implemented and is maintaining an adequate and effective program to control and account for the special nuclear material (SNM) in its possession; and 2) ensure that the licensee can detect loss, theft, or diversion of SNM in a timely manner. The inspectors conducted the following as appropriate:

- Determined whether MC&A related activities involving both fuel and non-fuel SNM are documented;
- Reviewed a representative sample of SNM transfer forms that the licensee used to document internal transfers of SNM and physical inventory records;
- Verified all fuel failures and reconstitutions that occurred since the last inspection were appropriately documented;
- Verified that changes made to MC&A related procedures since the last inspection were reviewed and approved by appropriate licensee personnel;
- Verified that SNM responsibilities were clearly identified and personnel were appropriately trained;
- Verified that the licensee conducts physical inventories at least every 12 months;
- Reviewed the most recent annual physical inventory list for completeness;
- Verified the licensee's physical inventory procedures and practices account for all SNM in the licensee's possession;
- Determined whether the licensee includes non-fuel SNM;
- Determined whether the results of the last two physical inventories were reconciled and discrepancies were entered in the licensee's corrective action program;
- Verified by physical observation or review of licensee video activities that samples of spent fuel assemblies are in their assigned locations in the pool;
- Verified by physical observation or review of licensee video activities that containers with rods, rod fragments, pellets, or any other pieces of fuel are in their assigned locations;

**SUPPLEMENTAL INFORMATION**

**KEY POINTS OF CONTACT**

**Licensee Personnel**

M. Vandermyde, Nuclear Engineer  
M. Walther, Reactivity Manager  
D. Kemper, Regulatory Assurance

**NRC Personnel**

D. Lords, Acting Senior Resident Inspector

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

None

**LIST OF DOCUMENTS REVIEWED**

**Material Control and Accounting**

Procedures:

- NF-AA-30, Exelon Nuclear, Special Nuclear Material Control Process Description, Revision 3
- NF-AA-300, Exelon Nuclear, Special Nuclear Material Control and Accountability, Revision 13
- NF-AA-309, Exelon Nuclear, Special Nuclear Material and Core Component Move Sheet Development, Revision 2
- NF-AA-310, Exelon Nuclear, Special Nuclear Material and Core Component Movement, Revision 17
- NF-CL-310-2000, Exelon Nuclear, Unusable Fuel Storage Cell Locations, Revision 3
- NF-AA-320, Exelon Nuclear, Controlling Special Nuclear Material Receipt and Shipment, Revision 11
- NF-AA-330, Exelon Nuclear, Special Nuclear Material Physical Inventories, Revision 9

SNM Inventories:

- Clinton Spent Fuel Pool Map
- July 20, 2010, Special Nuclear Material Annual Inventory
- July 14, 2009, Special Nuclear Material Annual Inventory
- July 11, 2008, Special Nuclear Material Annual Inventory

Attachment