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August 8, 2007

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

SUBJECT: BYRON STATION, UNIT 1 AND 2, NRC MATERIAL CONTROL
AND ACCOUNTING TEMPORARY INSTRUCTION (TI) 2515/154
PHASE III INSPECTION REPORT 05000454/2007402; 05000455/2007402

Dear Mr. Crane:

On June 27, 2007, the U.S. Nuclear Regulatory Commission (NRC) completed a material control and accounting (MC&A) safeguards program inspection at your Byron Station, Unit 1 and 2. The inspection was conducted under Phase III of Temporary Instruction (TI) 2515/154. The enclosed report documents the inspection results, which were discussed on June 8, 2007 with Mr. D. Hoots and other members of your staff and subsequently on June 27, 2007, with Mr. M. Prospero 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 storage of special nuclear material, and interviewed personnel. Areas examined during the inspection included physical inventory and accounting records.

EXEMPT FROM PUBLIC DISCLOSURE

May be exempt from public release under the Freedom of Information Act (5 U.S.C. 552)

Exemption number: 5

Nuclear Regulatory Commission review required before public release.

Christine A. Lipa, RIII/DRP/BR4
Name and organization of person making determination.

Date of determination: 07/13/2007

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Based on the results of this inspection, no findings of significance were identified. However, a licensee identified violation, which was determined to be of very low safety significance, is listed in this report. This violation is being treated as a Non-Cited Violation (NCV), consistent with Section VI.A of the Enforcement Policy. If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, 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 Inspector at the Byron Station.

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 NRC's document system (ADAMS), which is accessible from the NRC Website at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room). However, because of the sensitive 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.

In accordance with 10 CFR 2.390(b)(1)(ii), the NRC is waiving the affidavit requirements for your response, if any. This practice will ensure that your response will not be made available electronically for public inspection in the NRC Public Document Room or from NRC's document system ADAMS. If Safeguards Information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21. Otherwise, mark your entire response "Security-Related Information - Withhold Under 10 CFR 2.390" and follow the instructions for withholding in 10 CFR 2.390(b)(1).

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Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

/RA/

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

Docket Nos. 50-454; 50-455
License Nos. NPF-37; NPF-66

Enclosure: Inspection Report No. 05000454/2007402; 05000455/2007402
w/Attachment: Supplemental Information

cc w/o encl:: Plant Manager - Byron Station
Regulatory Assurance Manager - Byron Station
Chief Operating Officer
Senior Vice President - Nuclear Services
Vice President - Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
Manager Licensing - Braidwood and Byron
Senior Counsel, Nuclear
Document Control Desk - Licensing
Assistant Attorney General
Illinois Emergency Management Agency
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station

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Sincerely,

/RA/

Christine A. Lipa, Chief
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Senior Vice President - Nuclear Services
Vice President - Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
Manager Licensing - Braidwood and Byron
Senior Counsel, Nuclear
Document Control Desk - Licensing
Assistant Attorney General
Illinois Emergency Management Agency
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station

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DATE	08/06/2007		08/06/2007		08/08/2007		08/03/2007		08/07/2007	

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Letter to C. Crane from C. Lipa dated August 8, 2007

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