August 31, 2007

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

SUBJECT: MID-CYCLE PERFORMANCE REVIEW AND INSPECTION PLAN - BYRON STATION

Dear Mr. Crane:

On August 14, 2007, the NRC staff completed its performance review of Byron Station for the first half of the calendar year (CY) 2007 assessment cycle. Our technical staff reviewed performance indicators (PIs) for the most recent quarter and inspection results over the previous 12 months. The purpose of this letter is to inform you of our assessment of your safety performance during this period and our plans for future inspections at your facility.

This performance review and enclosed inspection plan do not include security information. A separate letter designated and marked as “Official Use Only - Security-Related Information” will include the security cornerstone review and resultant inspection plan.

Plant performance for the most recent quarter at the Byron Station Unit 1 was within the Licensee Response column of the NRC’s Action Matrix, based on all inspection findings being classified as having very low safety significance (Green) and all PIs indicating performance at a level requiring no additional NRC oversight (Green). Therefore, we plan to conduct reactor oversight process (ROP) baseline inspections at Unit 1.

Plant performance for the most recent quarter on Unit 2 was within the Regulatory Response column of the NRC’s Action Matrix. This conclusion is based on the fact that the first submittal of Mitigating Systems Performance Index (MSPI) results for the Auxiliary Feedwater System was White during the second quarter of CY 2006 and has remained White since that time. We conducted the supplemental inspection (95001) during the week of February 5, 2007. This inspection concluded that, in general, the root cause analysis and the planned corrective actions were appropriate to address the concerns associated with the auxiliary feedwater system.

The enclosed inspection plan details the inspections, less those related to security, scheduled through December 31, 2008. Significant inspections planned include a Triennial Fire Protection inspection in November 2007, an Evaluation of Changes, Tests, or Experiments and Permanent Plant Modifications inspection in January 2008, and a Component Design Bases inspection in July 2008. The inspection plan is provided to allow for the resolution of any scheduling conflicts.
and personnel availability issues well in advance of inspector arrival onsite. Routine resident inspections are not listed due to their ongoing and continuous nature. The inspections in the last nine months of the inspection plan are tentative and may be revised at the end-of-cycle review.

In accordance with 10 CFR 2.390 of the NRC’s “Rules of Practice,” a copy of this letter and its enclosure will be made 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), accessible from the NRC Web site at http://www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

The NRC is currently evaluating the scope and frequency of all the baseline inspection procedures. If the results of the evaluation, or any other circumstances, cause us to change the inspection plan, we will contact you to discuss the change as soon as possible. Please contact Richard A. Skokowski at (630) 829-9620 with any questions you may have regarding this letter or the inspection plan.

Sincerely,

/RA by A. H. Hsia for/

Cynthia D. Pederson, Director
Division of Reactor Projects

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

Enclosure: Byron Station Inspection/Activity Plan

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cc w/encl: Site Vice President - Byron Station
株 Plant Manager - Byron Station
Regulatory Assurance Manager - Byron Station
Chief Operating Officer
Senior Vice President - Nuclear Services
Vice President - Mid-West Operations Support
Vice President - Licensing and Regulatory Affairs
Director Licensing
Manager Licensing - Braidwood and Byron
Senior Counsel, Nuclear
Document Control Desk - Licensing
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State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station
President, Village of Leaf River
President, Village of Davis Junction
President, Village of Stillman Valley
Ogle County Board Chairman
Ogle County Sheriff/EMA Coordinator
EMA Coordinator, Winnebago County
Winnebago County Board Chair
Winnebago County Sheriff/ESDA
Mayor of Oregon
Mayor of Byron
President, Village of Mt. Morris
Mayor of Rochelle
INPO
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BYRON STATION

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This report shows only on-site and announced inspection procedures.
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