

August 17, 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, UNITS 1 AND 2
NOTIFICATION TO CONDUCT A TRIENNIAL FIRE PROTECTION BASELINE
INSPECTION REPORT 05000454/2007008(DRS); 05000455/2007008(DRS)

Dear Mr. Crane:

On November 13, 2007, the U.S. Nuclear Regulatory Commission (NRC) will begin a triennial fire protection baseline inspection at the Byron Station, Units 1 and 2. The inspection will be conducted in accordance with Inspection Procedure 71111.05T, the NRC's baseline fire protection inspection procedure.

The schedule for the inspection is as follows:

- Information gathering visit - October 31 - November 2, 2007
- On-site inspection activity - November 13 - 16, 2007, and November 26 - 30, 2007

The purpose of the information gathering visit is to: (1) obtain information and documentation needed to support the inspection; (2) become familiar with the Byron Station's fire protection program, fire protection features, post-fire safe shutdown capabilities and plant layout; and (3) arrange administrative details such as office space, availability of knowledgeable office personnel and to ensure unescorted site access privileges.

Experience has shown that the baseline fire protection inspections are extremely resource intensive both for the NRC inspectors and the licensee staff. In order to minimize the inspection impact on the site and to ensure a productive inspection for both organizations, we have enclosed a request for documents needed for the inspection. These documents have been divided into four groups. The first group lists information necessary to aid the inspection team in choosing specific focus areas for the inspection. It is requested that this information be provided to the lead inspector via mail or electronically no later than October 1, 2007. The second group lists information necessary to ensure that the inspection team is adequately prepared for the inspection. This information should be available on-site no later than October 31, 2007. The third group of requested documents are those items that the inspection team will review, or need access to, during the inspection. Please have this information available by the first day of the on-site portion of the inspection (November 13, 2007). The fourth group lists information necessary to aid the inspection team in tracking issues identified

as a result of the inspection. It is requested that this information be provided to the lead inspector as the information is generated during the inspection. It is important that all of these documents are up to date and complete in order to minimize the number of additional documents requested during the preparation and/or the on-site portions of the inspection.

The lead inspector for this inspection is Mr. George M. Hausman. We understand that our regulatory contact for this inspection is Ms. Tracy Hulbert of your organization. If there are any questions about the inspection or the material requested, please contact the lead inspector at (630) 829-9743 or via e-mail at gmh1@nrc.gov.

In accordance with 10 CFR Part 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), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Julio F. Lara, Chief
Engineering Branch 3
Division of Reactor Safety

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

Enclosure: Fire Protection Inspection Document Request

cc w/encl: Site Vice President - Byron Station
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 Illinois
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station

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Julio F. Lara, Chief
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License Nos. NPF-37; NPF-66

Enclosure: Fire Protection Inspection Document Request

cc w/encl: Site Vice President - Byron Station
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 Illinois
State Liaison Officer, State of Wisconsin
Chairman, Illinois Commerce Commission
B. Quigley, Byron Station

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NAME	GHausman: Is		RSkokowski		JLara			
DATE	08/14/07		08/16/07		08/17/07			

OFFICIAL RECORD COPY

Letter to Mr. C. Crane from Mr. J. F. Lara dated August 17, 2007

SUBJECT: BYRON STATION, UNITS 1 AND 2
NOTIFICATION TO CONDUCT A TRIENNIAL FIRE PROTECTION BASELINE
INSPECTION REPORT 05000454/2007008(DRS); 05000455/2007008(DRS)

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FIRE PROTECTION INSPECTION DOCUMENT REQUEST
INITIAL REQUEST

Inspection Report: 05000454/2007008(DRS); 05000455/2007008(DRS)

Inspection Dates: October 31 - November 2, 2007 (Information Gathering Visit)
November 13 - 16, 2007 (On-site Inspection Activity)
November 26 - 30, 2007 (On-site Inspection Activity)

Inspection Procedures: IP 71111.05T, "Fire Protection (Triennial)"
IP 71152, "Identification and Resolution of Problems"

Inspectors: Lead Inspector: George M. Hausman, (630) 829-9743
Team Members: Benny Jose, (630) 829-9756
Darrell L. Schrum, (630) 829-9741

I. Information Requested Prior to the Information Gathering Visit

The following information is requested by October 1, 2007. If you have any questions regarding this information, please call the lead inspector as soon as possible. Please ensure that the information to be provided in "lists" contain enough information to be easily understood by someone who has a knowledge of the technology. All information may be sent to Mr. George M. Hausman (e-mail address gmh1@nrc.gov). Electronic media is preferred, if readily available. The preferred file format is a searchable "pdf" file on a CDROM. The CDROM should be indexed and hyper-linked to facilitate ease of use, if possible. Please provide four copies of each CDROM submitted (one for each inspector and for a senior reactor analysis).

- (1) The reactor plant's Individual Plant Examination for External Events (IPEEE) for fire, results of any post-IPEEE reviews for fire, and listings of actions taken and/or plant modifications conducted in response to IPEEE information for fire. Alternatively, probabilistic risk analyses for fire and associated information, if it exists and is more recent than the IPEEE.
- (2) A list of fire areas requiring alternative shutdown capability, i.e., those areas for which 10 CFR Part 50, Appendix R, Section III.G requirements are satisfied under Section III.G.3, or where both safe shutdown trains can be affected.
- (3) A copy of the current version of the Fire Protection Program (FPP), Fire Hazards Analysis (FHA), Safe Shutdown Analysis (SSA), Updated Safety Analysis Report (USAR), Technical Specifications and License.
- (4) A copy of the current fire protection system "Health Report," if available.
- (5) A copy of the current plant drawings referred to as "Horse Notes," if available.

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**II. Information Requested During the Information Gathering Visit
(October 31 - November 2, 2007)**

The following information is requested to be provided to the inspection team during the on-site information gathering visit as one set of hard-copy documents. In addition, the requested information is to be provided as a file searchable compact disc (CD), if possible. If a CD(s) can be provided, three sets (one for each inspector) are requested.

(1) Licensing Information

- (a) The Facility's license, including the fire protection license condition;
- (b) All Nuclear Regulatory Commission (NRC) Safety Evaluation Reports (SERs) applicable to fire protection (specifically including those SERs referenced by the plant fire protection license condition) and all other associated licensing correspondence applicable to fire protection;
- (c) The FPP and applicable portions of the USAR, as referenced by the fire protection license condition;
- (d) Exemptions from 10 CFR 50.48 and 10 CFR Part 50, Appendix R, and associated licensing correspondence;
- (e) For pre-1979 plants (i.e., "Appendix R" plants), a listing of all 10 CFR Part 50, Appendix R, sections and paragraphs that are applicable to the plant under 10 CFR 50.48(b)(1);
- (f) For pre-1979 plants, all licensing correspondence associated with those sections of 10 CFR Part 50, Appendix R, that are not applicable to the plant under 10 CFR 50.48(b)(1). Specifically, the licensing correspondence associated with those fire protection features proposed or implemented by the licensee that have been accepted by the NRC staff as satisfying the provisions of Appendix A to Branch Technical Position (BTP) APCS 9.5-1 reflected in the NRC fire protection SERs issued before February 19, 1981 (10 CFR 50.48(b)(1)(I)); or those fire protection features which were accepted by the NRC staff in comprehensive fire protection SERs issued before Appendix A to BTP APCS 9.5-1 was published in August 1976 (10 CFR 50.48(b)(1)(ii)); and
- (g) For post-1979 plants, all licensing correspondence associated with the comparison to Standard Review Plan (NUREG-0800), Section 9.5.1 or equivalent for licensing purposes.

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(2) Fire Protection Program

- (a) If not already provided under request *II*. (1)(c) above, FPP documents including FHA and post-fire SSA;
- (b) A listing of changes made to the FPP (including associated adverse to SSA);
- (c) For pre-1979 plants, a listing of the protection methodologies identified under 10 CFR Part 50, Appendix R, Section III.G used to achieve compliance for selected fire zones/areas (***to be determined during information gathering visit***). That is, please specify whether 3-hour rated fire barriers; (Section III.G.2.a), 20-foot separation along with detection and suppression; (Section III.G.2.b), 1-hour rated fire barriers with detection and suppression; (Section III.G.2.c), or alternative shutdown capability; (Section III.G.3) is used for each selected fire zone/area;
- (d) A list of Generic Letter 86-10 evaluations (i.e., a list of adverse to safe shutdown evaluations);
- (e) A list of applicable codes and standards related to the design of plant fire protection features. The list should include National Fire Protection Association (NFPA) code versions committed to (i.e., the NFPA codes of record);
- (f) A list of plant deviations from code commitments and associated evaluations; and
- (g) Plant layout drawings which identify plant fire area delineation, areas protected by automatic fire suppression and detection, and the locations of fire protection equipment.

(3) Facility Information

- (a) Piping and instrumentation (flow) diagrams showing the components used to achieve and maintain hot standby and cold shutdown for fires outside the control room and those components used for those areas requiring alternative shutdown capability;
- (b) Plant layout and equipment drawings which identify the physical plant locations of hot standby and cold shutdown equipment for selected fire zones/areas (***to be determined during information gathering visit***);
- (c) Plant layout drawings which identify the general location of the post-fire emergency lighting units;
- (d) One-line schematic drawings of the electrical distribution system for 4160 Volts alternating current (Vac) down to 480 Vac;

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- (e) One-line schematic drawings of the electrical distribution system for 250 Volts direct current (Vdc) and 125 Vdc systems as applicable; and
 - (f) Safe shutdown cable routing database (requested electronically such as on compact disc, if available).
- (4) Operations Response for Fire Protection
- (a) Pre-fire plans for selected fire zones/areas (***to be determined during information gathering visit***);and.
 - (b) Plant operating procedures which would be used and describe shutdown for a postulated fire in selected fire zones/areas (***to be determined during information gathering visit***).
- (5) Corrective Actions
- (a) Listing of open and closed fire protection condition reports (i.e., problem identification forms and their resolution reports) since the date of the last triennial fire protection inspection; and
 - (b) Listing of fire impairments since the date of the last triennial fire protection inspection.
- (6) General Information
- (a) A listing of abbreviations and/or designators for plant systems;
 - (b) Organization charts of site personnel down to the level of fire protection staff personnel; and
 - (c) A phone list for on-site licensee personnel.
- (7) On-Site Discussions

In addition, during the information gathering visit, it is requested that licensee staff be available for the following:

- (a) Informal discussion on plant procedures operators would use in the event of fire and under what conditions would the plant be shutdown using alternative shutdown methodology;
- (b) Informal discussion on the plant's safe shutdown cable routing database and the plant-wide cable routing database, as applicable; and

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- (c) A tour of alternative shutdown and risk significant fire areas.

**III. Information Requested to be Available on First Day of Inspection
(November 13, 2007)**

(1) Procedures

- (a) List of the FPP implementing procedures (e.g., administrative controls, surveillance testing, fire brigade);
- (b) List of maintenance and surveillance testing procedures for alternative shutdown capability and fire barriers, detectors, pumps, and suppression systems;
- (c) List of maintenance procedures which routinely verify fuse breaker coordination in accordance with the post-fire safe shutdown coordination analysis;
- (d) List of procedures and/or instructions that control the configuration of the reactor plant's FPP, features, and post-fire safe shutdown methodology and system design; and
- (e) List of procedures and/or instructions that govern the implementation of plant modifications, maintenance, and special operations, and their impact on fire protection.

(2) Design and Equipment Information

- (a) Coordination calculations and/or justifications that verify fuse/breaker coordination for selected fire zones/areas (**to be determined during information gathering visit**) that are fed off of the same electrical buses as components in the protected safe shutdown train;
- (b) Copies of significant fire protection and post-fire safe shutdown related design change package descriptions (including their associated 10 CFR Part 50.59 evaluations) and Generic Letter (GL) 86-10 (or adverse to safe shutdown) evaluations;
- (c) Gaseous suppression system pre-operational testing, if applicable, for selected fire zones/areas (**to be determined during information gathering visit**);
- (d) Hydraulic calculations and supporting test data which demonstrate operability for water suppression systems, if applicable, for selected fire zones/areas (**to be determined during information gathering visit**);

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- (e) Alternating current (ac) coordination calculations for 4160 Vac down to 480 Vac electrical systems;
 - (f) Vendor manuals and information for fire protection equipment (such as detection, suppression systems, fire pumps), applicable to selected fire zones/areas (***to be determined during information gathering visit***); and
 - (g) List of all fire protection or Appendix R calculations.
- (3) Assessment and Corrective Actions
- (a) The three most recent fire protection Quality Assurance (QA) audits and/or fire protection self-assessments; and
 - (b) Corrective action documents (e.g., condition reports, including status of corrective actions) generated as a result of the three most recent fire protection Quality Assurance (QA) audits and/or fire protection self-assessments.

IV. Information Requested to Be Provided Throughout the Inspection

- (1) Copies of any corrective action documents generated as a result of the inspection team's questions or queries during this inspection.
- (2) Copies of the list of questions submitted by the inspection team members and the status/resolution of the information requested (provided daily during the inspection to each inspection team member).