



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

October 13, 2010

Mr. Michael J. Pacilio  
President and Chief Nuclear Officer  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: BRAIDWOOD STATION, UNITS 1 AND 2, AND BYRON STATION, UNIT NOS. 1 AND 2 - WITHDRAWAL OF LICENSE AMENDMENT REQUEST RELATED TO UPPER CABLE SPREADING ROOM FIRE PROTECTION REQUIREMENTS (TAC NOS. ME0971, ME0972, ME0973, AND ME0974)

Dear Mr. Pacilio:

By letter to the Nuclear Regulatory Commission (NRC) dated March 26, 2009, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML090861015), as supplemented by letters dated September 10, 2009 (ADAMS Accession No. ML092540075), March 15, 2010 (ADAMS Accession No. ML100740499), and May 27, 2010 (ADAMS Accession No. ML101530125), Exelon Generation Company, LLC (the licensee), submitted a license amendment request (LAR) to revise the fire protection program to eliminate the requirement for the backup manual carbon dioxide fire suppression system in the upper cable spreading rooms. Subsequently, by letter dated September 20, 2010 (ADAMS Accession No. ML102630435), the licensee withdrew the LAR.

The purpose of this letter is to advise you that the above-cited LAR is being treated as withdrawn. A Notice of Withdrawal of Application for Amendment to Facility Operating License will be published in the *Federal Register*.

The NRC staff was in the process of reviewing the LAR when it received the request for withdrawal, and notes that its review identified areas where the LAR did not provide sufficient technical information to enable the staff to complete its review. Should you decide to resubmit your request, the NRC staff is enclosing guidance that may assist you in preparing your application.

M. Pacilio

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Please contact me at 301-415-1547, if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Marshall J. David". The signature is fluid and cursive, with the first name being the most prominent.

Marshall J. David, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. STN-456, STN-457,  
STN 50-454, and STN 50-455

Enclosure:  
As stated

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LICENSE AMENDMENT REQUEST GUIDANCE  
REGARDING REVISIONS TO FIRE PROTECTION PROGRAM  
BRAIDWOOD STATION, UNITS 1 AND 2  
AND BYRON STATION, UNIT NOS. 1 AND 2  
DOCKET NOS. STN 50-456, STN 50-457,  
STN 50-454, AND STN 50-455

By letter to the Nuclear Regulatory Commission (NRC) dated March 26, 2009, (Agencywide Documents Access and Management System (ADAMS) Accession No. ML090861015), as supplemented by letters dated September 10, 2009 (ADAMS Accession No. ML092540075), March 15, 2010 (ADAMS Accession No. ML100740499), and May 27, 2010 (ADAMS Accession No. ML101530125), Exelon Generation Company, LLC (EGC, the licensee), submitted a license amendment request (LAR) to revise the fire protection program to eliminate the requirement for the backup manual carbon dioxide (CO<sub>2</sub>) fire suppression system in the upper cable spreading rooms (UCSRs) at Braidwood Station, Units 1 and 2 (Braidwood), and Byron Station, Unit Nos. 1 and 2 (Byron). Subsequently, by letter dated September 20, 2010 (ADAMS Accession No. ML102630435), the licensee withdrew the LAR.

The NRC staff was in the process of reviewing the LAR when it received the request for withdrawal, and concluded that, at a minimum, the information delineated below should be included in a re-submitted request, should EGC elect to do so.

Background:

During original plant licensing, the licensee requested and received a deviation from the Branch Technical Position (BTP) Chemical and Mechanical Engineering Branch (CMEB) 9.5-1, which allowed the licensee to install an automatic Halon 1301 and manually-actuated backup CO<sub>2</sub> fire suppression systems in lieu of an automatic fire protection water system. The NRC staff found that the Braidwood and Byron fire protection programs satisfied the BTP CMEB 9.5-1 guidance based on using dry gaseous fire suppression agents in the UCSRs. However, removal of the manually-actuated backup CO<sub>2</sub> fire suppression systems, would place greater importance on the role of the station fire brigade and the use of water as the backup to the automatic Halon system. Accordingly, the following information should be included in a re-submitted request.

Information Needed:

- An analysis of the impact of fighting a fire with water hoses in the UCSR on the floor seal design configuration in the UCSRs. For example:
  - What standard test has been performed to demonstrate that the floor penetration seals can perform their design function after being subjected to water impingement from a fire hose?

ENCLOSURE

- What standard test has been performed to demonstrate that the gypsum in the penetrations will not soften and lose its sealing integrity after soaking?
- A detailed justification of why the recent steps taken to caulk the floor penetration seals at the floor-seal interface will effectively prevent any fire fighting water in the UCSRs from leaking onto safety-related equipment in the Control Rooms and Auxiliary Electrical Equipment Rooms below the UCSRs. For example:
  - What are the specifications of the caulking with respect to water resistance, heat resistance, and life expectancy?
  - What procedures were used for applying the caulking? What surface preparation did the procedures require?
- Demonstration, ideally through a full simulation drill in a UCSR, that the station fire brigade can effectively fight a fire in the UCSR with water hoses in the event that the primary Halon fire suppression system fails. Specific challenges to be addressed:
  - Fire brigade personnel must rely on an elevator to move fire carts from one floor to another before accessing the UCSRs, potentially causing a delay in responding to a fire.
  - Normal access to the UCSR is up a vertical ladder to a narrow platform, which constrains rapid entry of the full fire brigade in full turnout gear with firefighting equipment.
  - Fire hose stations are located inside the UCSRs where they might be rendered inaccessible or inoperable due to the effects of fire and smoke.
  - Measures to mitigate the effects of, or to remove, thick smoke have not been addressed.
  - The UCSRs are congested, which constrains the movement of fire brigade personnel in full turnout gear, especially if the fire is in a room connecting to the main room.
  - Floor to ceiling cable trays will make it difficult to find and effectively fight a fire using water if the fire is in an elevated or remote cable tray.
- A detailed justification for the use and effectiveness of the non-rated fire barrier penetration seals present in certain locations in the UCSRs.

M. Pacilio

- 2 -

Please contact me at 301-415-1547, if you have any questions.

Sincerely,

**/RA/**

Marshall J. David, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. STN-456, STN-457,  
STN 50-454, and STN 50-455

Enclosure:  
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**ADAMS Accession No.:** ML102780515

**NRR-106**

OFFICE	LPL3-2/PM	LPL3-2/LA	DRA/AFP/BC	LPL3-2/BC	LPL3-2/PM
NAME	MDavid	THarris	AKlein w/comments	EBrown for RCarlson	MDavid
DATE	10/7/10	10/7/10	10/12/10	10/13/10	10/13/10

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