



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

December 13, 2013

Mr. Michael P. Gallagher
Vice President Nuclear Licensing Projects
Exelon Generating Company, LLC
200 Exelon Way
Kennett Square, PA 19348

SUBJECT: AUDIT REPORT REGARDING THE BYRON AND BRAIDWOOD STATIONS,
LICENSE RENEWAL APPLICATION (TAC NOS. MF1834, MF1835, MF1790,
MF1791, MF1792, MF1793, MF1832, AND MF1833) - SAMA

Dear Mr. Gallagher:

By letter dated May 29, 2013, Exelon Generating Company, LLC (Exelon), submitted an application pursuant to Title 10 of the *Code of Federal Regulations* Part 54 (10 CFR Part 54), to renew the operating license for Byron and Braidwood Station for review by the U.S. Nuclear Regulatory Commission (NRC or the staff). On November 6, 2013, the NRC audit team completed the regulatory audit of Severe Accident Mitigation Alternatives (SAMA) analysis used in the license renewal application. The audit report is enclosed.

If you have any questions, please contact Tam Tran at 301-415-3617 or by e-mail at Tam.Tran@nrc.gov.

Sincerely,

A handwritten signature in black ink that reads "Tam Tran".

Tam Tran, Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulations

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

Enclosure:
As stated

cc w/encl: See next page

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/RA/

Tam Tran, Project Manager
Projects Branch 2
Division of License Renewal
Office of Nuclear Reactor Regulations

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

Enclosure:
As stated

cc w/encl: See next page

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*concurrence by email

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|--------|-------------|----------|-------------|-------------|-------------|
| OFFICE | PM:RPB1:DLR | LA:DLR | BC:AADB:DRA | BC:RPB2:DLR | PM:RPB2:DLR |
| NAME | TTran | YEdmonds | JDozier* | DDrucker | TTran |
| DATE | 12/13/13 | 12/13/13 | 12/12/13 | 12/13/13 | 12/13/13 |

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**U.S. NUCLEAR REGULATORY COMMISSION
OFFICE OF NUCLEAR REACTOR REGULATION
DIVISION OF RISK ASSESSMENT**

Docket Nos: 50-454, 50-455, 50-456, and 50-457

License Nos: NPF-37, NPF-66, NPF-72, and NPF-77

Licensee: Exelon Generation Company, LLC

Facility: Byron and Braidwood Stations

Location: Exelon Offices
Kennett Square, Pennsylvania

Dates: November 4-6, 2013

Approved By: Jerry Dozier, Chief
Accident and Dose Branch (AADB)
Division of Risk Assessment
Office of Nuclear Reactor Regulation

ENCLOSURE

AUDIT REPORT

Subject

Bryon/Braidwood Station License Renewal Application Severe Accident Mitigating Alternatives (SAMA) Analysis

When

November 4, 2013 10:30 am to 5 pm

November 5, 2013 8:30 am to 5 pm

November 6, 2013 8:30 am to 1:30 pm

Location

Exelon Generating Company offices, Kennett Square, Pennsylvania

Participants

| | |
|-------------------|-------------------------------|
| John Parillo | NRC |
| Bob Schmidt | NRC/PNNL |
| Steve Short* | NRC/PNNL |
| Bruce Schmidt* | NRC/PNNL |
| Chris Wilson | Exelon/License Renewal |
| Al Fulvio** | Exelon/License Renewal |
| Nancy Ranek | Exelon/License Renewal |
| Greg Krueger** | Exelon/ Corporate PRA |
| Don MacLeod | ERIN Engineering |
| Eric Thornsbury | ERIN Engineering |
| Alex Duval** | ERIN Engineering |
| Jeff Gabor** | ERIN Engineering |
| Michael Koenemann | DTE Energy (Fermi - Observer) |

* Participated part time via conference call.

** Participated part time.

Documents Reviewed

"Byron/Braidwood Self-Assessment", BB PRA-016, Rev. 2, October 17, 2012

"Seismic Walkdown Report In Response to the 50.54(f) Information Request Regarding Fukushima Near-Term Task Force Recommendation 2.3: Seismic for the Byron Station, Unit 1". Appendix G. Report Number 12Q0108.20-R-001. Rev. 1. Correspondence No.: RS-12-161.

"Braidwood Fire Modeling Report", Rev. 4, January 15, 2009

"Byron Fire Modeling Analysis", Rev. 0, September 22, 2009

Discussion

After a welcome and introductions the schedule, plans and logistics for the audit were discussed. The purpose of the audit was to provide the opportunity for the NRC staff and the Exelon staff involved in the SAMA review and preparation to discuss various issues raised by the NRC staff during its initial review of the Byron and Braidwood license renewal application. The goal of the audit was for the NRC staff to provide an initial identification of the issues for which further information will be needed and to assist Exelon in understanding the specific information desired by the NRC staff. The discussions covered the following general topics all relative to the SAMA analysis:

1. the Level 1 internal Events Probabilistic Risk Assessment (PRA)
2. the Level 2 PRA accident phenomenology model
3. the treatment of external events
4. the Level 3 PRA consequences analysis
5. the identification and screening of potential SAMAs
6. the cost benefit analysis of SAMAs
7. potential lower cost alternative SAMAs

The RAIs as a result of the Byron and Braidwood SAMA audit and review, will be issued in a separate letter.