



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

May 9, 2013

LICENSEE: Exelon Generation, LLC (Exelon)

FACILITY: Byron and Braidwood Stations, Units 1 and 2 (4 units total)

SUBJECT: PUBLIC MEETING SUMMARY REGARDING UPCOMING EXELON
LICENSE RENEWAL APPLICATION HELD ON MARCH 20, 2013

On March 20, 2013, a public meeting was held between members of the U.S. Nuclear Regulatory Commission (NRC or the staff), and representatives of Exelon Generation, LLC, (Exelon) at NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. The purpose of this meeting was for Exelon to present its plan for submitting a combined license renewal application (LRA) for the Byron Nuclear Station, Units 1 and 2 (Byron), and Braidwood Station, Units 1 and 2 (Braidwood).

The meeting notice was issued on February 4, 2013 (ADAMS Accession No. ML13014A765). Exelon provided presentation slides for the meeting, which are available in ADAMS under Accession No. ML13085A098. A list of the meeting attendees is provided in the Enclosure to this summary.

The meeting was planned for 9:00-11:00 a.m. and commenced on schedule. John Daily, Senior Project Manager in Division of License Renewal (DLR) in the Office of Nuclear Reactor Regulation (NRR), started the meeting. Mr. Daily stated that it was a Category 1 Meeting and that the public was invited to observe the meeting or listen in on an 800 number bridge line; the public was also invited to communicate with the NRC after the business portion but before the meeting was adjourned. To preclude interruption of the meeting, the phone was placed on a listening mode during the presentations and discussions.

Mr. Daily introduced Mr. John Lubinski, Director of DLR, Ms. Melanie Galloway, Deputy Director of DLR, and Mr. Michael Gallagher, Vice President of Licensing Projects, Exelon. All personnel attending then introduced themselves in a round-table fashion. Next, Mr. Daily briefly went over the meeting agenda, and then he turned the presentation over to Mr. Lubinski.

Agenda:

- (1) Introduction, Purpose and Opening Remarks
- (2) Exelon presentation of plan for submittal
 - a. Plant locations, descriptions.
 - b. Commonality of design
 - c. Overview of Application
- (3) Discussion of LRA review and staff comments
- (4) Public Comment
- (5) Adjourn

Mr. Lubinski thanked all the participants for attending and welcomed Exelon's presentation to provide information that will be useful as the staff prepares to receive the combined Byron-Braidwood LRA. Ms. Galloway then gave some brief remarks for the staff, and discussed the following points:

- (1) Resource and schedule considerations for a combined review of two sites: At this point, the staff believes that this review will be comprised of one Safety Evaluation Report (SER) and two supplemental environmental impact statements (SEISs), and the staff anticipates that the schedule would be somewhat longer than that for a single-site LRA. Ms. Galloway also stated that the staff would continue to monitor and evaluate the nature of schedule and resources; the staff may re-visit the question as to whether a single SER or two SERs would be more appropriate.
- (2) The need for unambiguous communications: By submitting and reviewing four units in two sites that are about 100 miles apart, both the staff and the applicant need to consistently exercise unambiguous communications and terminology while dealing with discussions, requests for additional information (RAIs), RAI responses, commitments, enhancements, exceptions, and so on, in order to ensure a clear understanding on everyone's part as to which facilities, units, components, and associated issues are being addressed (whether one unit, both units, one facility, both facilities, or some other subset of the two sites).
- (3) Potential for overuse of applying results from one unit universally to all other units: The staff has a concern that there could be a potential to over-utilize a methodology of sampling and inspecting some components in one unit and then using the results to bound all components in all units, when such an approach could mask issues or aging unnecessarily. Therefore, in cases such as one-time inspections or other sample-oriented aging management review inspections and tests, Exelon should be careful not to over-extend applicability between units.
- (4) RAI responses: The ability for the staff to keep its reviews, evaluations, SER/SEIS issuing, and findings on schedule is very dependent on the applicant's completeness, accuracy, and timeliness of its RAI responses; therefore Exelon is encouraged to proactively manage the RAI responses, to provide complete responses so that follow-up RAIs can be minimized, and to be timely in requesting any clarifying conference calls to discuss issues.
- (5) Commitment due dates as proposed in the LRA: Finally, Ms. Galloway discussed the current issue regarding use of "prior to the period of extended operation (PEO)" as a commitment date, and Exelon's awareness of it as a part of the Limerick Station LRA and SER. She observed that ideally, the commitments proposed by an applicant, accepted by the staff, documented in the SER, and implemented through updated final safety analysis report supplements and license conditions of the renewed license, should more properly involve due dates of six months before, or the last outage prior to, PEO, whichever is most appropriate.

- (1) Experience and industry background: Exelon described its experience and industry background, having already performed seven applications for 13 of its nuclear units. It also stated that three stations have entered PEO and that two more will also enter very soon.
- (2) Design and basic features of Byron and Braidwood: Exelon discussed the design of both stations and stated that each site was commonly designed, constructed and operated, with two Westinghouse PWRs at each site. In addition, each unit is licensed for 3586.6 MWt. It stated that the major difference (accounting for most of the station-specific features) is that Byron disposes of its waste heat via cooling towers, whereas Braidwood uses a cooling lake.
- (3) LRA overview: Exelon plans to submit one LRA consisting of a common safety portion for both sites and two environmental reports, one for Byron and one for Braidwood. It discussed some details of the site-specific environmental reports and suggested that, since the two sites are about 100 miles apart, the staff should consider holding separate, site-specific SEIS public scoping meetings and environmental audits. The NRC staff noted that it had come to the same conclusion.
- (4) Scheduling of safety audits: Exelon discussed its suggestions regarding desired schedule length and how the staff might conduct its safety audits. These issues generated some discussion among both the staff and Exelon. The staff thanked Exelon for its suggestions but noted that, in its considerations, audit effectiveness and team access to the physical facilities and components are primary needs, which is why the staff is planning to conduct the safety audits onsite at the Byron and the Braidwood stations. However, both agreed that there may be ways to make the audits more efficient by not having to repeat all elements at both stations, and, to that end the staff would work with Exelon. Exelon also stated it would provide outage and major inspection impacts so that the staff can work around those dates if possible.

At the conclusion of Exelon's presentation, Mr. Daily asked if any members of the public were on the conference line and invited anyone to ask a question of or make public comments to the staff. Hearing none, the meeting was adjourned at 11:00 a.m.

No regulatory decisions were made during the meeting.

Please direct any inquiries to John Daily at 301-415-3873 or John.Daily@nrc.gov.

A handwritten signature in black ink that reads "John W. Daily". The signature is stylized, with the first letters of the first and last names being capitalized and prominent.

John W. Daily, Senior Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

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

Enclosure:
List of Attendees

cc w/encl: Listserv

Exelon Public Meeting
Attendance

March 20, 2013

9:00-11:00 a.m.

One White Flint Complex, O-7B4

Name	Organization
John Daily	Nuclear Regulatory Commission (NRC)
John Lubinski	NRC
Melanie Galloway	NRC
David Wrona	NRC
Michael Marshall	NRC
Bill Rogers	NRC
Melanie Wong	NRC
Lois James	NRC
Travis Tate	NRC
John Parillo	NRC
Michael Gallagher	Exelon Generation, LLC (Exelon)
Al Fulvio	Exelon
John Hufnagel	Exelon
Ralph Wolen	Exelon
Nancy Ranek	Exelon
Christine Kinkead	Exelon
Christina Pratt	Exelon
Albert Piha	Exelon
Ray Kuyler	Morgan, Lewis, and Brockius
David Gudger	Exelon
Don Brindle	Exelon
Don Warfel	Exelon

ENCLOSURE

*via telephone

No regulatory decisions were made during the meeting.

Please direct any inquiries to John Daily at 301-415-3873 or John.Daily@nrc.gov.

/RA/

John W. Daily, Senior Project Manager
Projects Branch 1
Division of License Renewal
Office of Nuclear Reactor Regulation

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List of Attendees

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DISTRIBUTION: See next page

ADAMS Accession No. ML13106A117

OFFICE	PM:RPB1:DLR	LA:RPB1:DLR	BC:RPB1:DLR	PM:RPB1:DLR
NAME	JDaily	YEdmonds	YDiaz-Sanabria	JDaily
DATE	5/06/13	5/08/13	5/09/13	5/09/13

OFFICIAL RECORD COPY

Memorandum to file from J. Daily dated May 9, 2013

SUBJECT: PUBLIC MEETING SUMMARY REGARDING UPCOMING EXELON LICENSE
RENEWAL APPLICATION HELD ON MARCH 20, 2013

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JBenjamin, RIII

EDuncan, RIII

JWiebe, DORL

Pre-Application Meeting – March 20, 2013

Exelon Generation Company and NRC

Byron and Braidwood License Renewal Application



Byron Station, Units 1 and 2



Braidwood Station, Units 1 and 2

Exelon Representatives

- **Mike Gallagher – Vice President, License Renewal Projects**
- **Al Fulvio – Manager, License Renewal**
- **Don Warfel – Technical Manager, Byron/Braidwood Project**
- **Nancy Ranek – Environmental Lead**
- **Christine Kinkead – Project Manager**
- **Albert Piha – Mechanical Lead**
- **Don Brindle – Byron Site Lead**
- **Ralph Wolen – Braidwood Site Lead**
- **John Hufnagel – Licensing Lead**
- **Christina Pratt - Communications**

Agenda

- **Introductions – John Hufnagel**
- **Purpose of the meeting – Mike Gallagher**
- **Exelon License Renewal Experience and Industry Leadership – Al Fulvio**
- **Plant locations, design and basic features – Ralph Wolen**
- **License Renewal Application overview – John Hufnagel**
- **Attributes of the Environmental Reports – Nancy Ranek**
- **Discussion of suggestions for NRC's application review – Al Fulvio**
- **Closing comments – Mike Gallagher**

Purpose of the Meeting

- **Provide NRC staff with some information about:**
 - **Byron and Braidwood Stations, Units 1 and 2 locations and design**
 - **Approach for the License Renewal Application**
- **Share some thoughts and ideas regarding options for conducting the LRA review, to maximize effectiveness and efficiency**

License Renewal Experience and Industry Leadership

- **7 applications, 7 sites, 13 units**
 - Involved in industry initiatives since 1996
 - Oyster Creek, Dresden and Quad Cities have entered PEO
 - Peach Bottom and TMI-1 entering PEO soon
- **Heavily involved with industry working groups**
 - Integration committee chairman - EPRI Long Term Operations Group
 - Senior member of NEI License Renewal Task Force
 - Member of NEI LR SLR Working Group
 - Incoming Chair of NEI Mechanical Working Group
 - Chair of NEI Electrical Working Group
 - Outgoing Chair of Implementation Working Group
 - LR Environmental Working Group
- **Consistent participant in industry LRA peer reviews**

Byron Nuclear Plant

Two operating units

**Each reactor licensed
for 3586.6 MWt**

**Pressurized Water
Reactor-Westinghouse**

**Exelon Nuclear-100 %
Ownership**

**Current Operating
Licenses expire:
Unit 1: Oct 31, 2024
Unit 2: Nov 6, 2026**



Braidwood Nuclear Plant

Two operating units

**Each reactor licensed for
3586.6 MWt**

**Pressurized Water Reactor-
Westinghouse**

**Exelon Nuclear-100 %
Ownership**

**Current Operating Licenses
expire:**

Unit 1: Oct 17, 2026

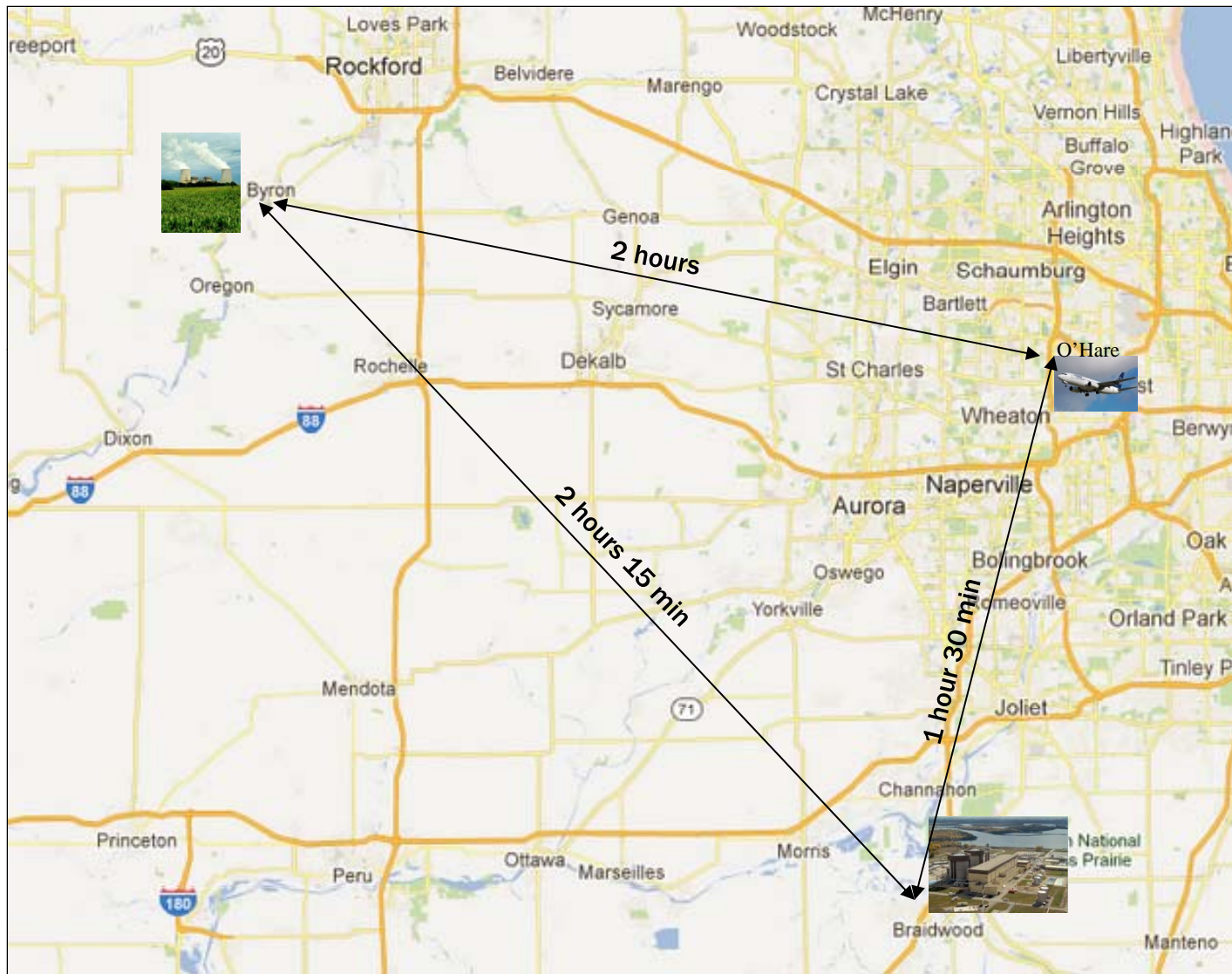
Unit 2: Dec 18, 2027



Design and Basic Features

- Each Station is comprised of two units.
 - Westinghouse 4-loop PWRs
 - Cooling cycle waste heat
 - Byron utilizes natural draft cooling towers; Braidwood uses a cooling lake
 - Make-up water source
 - Byron draws from the Rock River; Braidwood from the Kankakee River
 - Each unit is licensed to a thermal power rating of 3586.6 MWth .
 - A Measurement Uncertainty Recapture (MUR) uprate (~1 percent) is being pursued at this time.
- Byron and Braidwood routinely share resources and operating experience as they are nearly the same age, were both operated originally by Commonwealth Edison and now by Exelon

Byron and Braidwood Nuclear Plants



License Renewal Application Overview

- **Single Part 54 LRA, addressing both Byron and Braidwood**
- **Method for performing Integrated Plant Assessment (IPA) identical for both Stations**
- **44 GALL Aging Management Programs are common to both Stations**
 - **Byron has a 45th AMP (Fuse Holders)**
- **Single Program Basis Document for each AMP**
- **AMP enhancements being made as needed to bring both Stations up to GALL standard**
- **Limited number of GALL exceptions**
- **Any station-specific differences are identified in the LRA**
 - **Section 2 results, Section 3 Tables, AMPs, OE examples**
 - **Four (4) unit-specific sets of drawings will be provided, with common conventions**
- **Common UFSAR with Station-specific aspects described as necessary**
- **Site-specific Environmental Reports**

License Renewal Application Overview

- **Element 10 of AMPs (Operating Experience)**
 - **Plant-specific and industry operating experience considered**
 - **Two to three examples of relevant operating experience for each Station provided in the Appendix B AMP descriptions**
- **Approach for AMP inspections**
 - **Inspection sample will be determined from common methodology**
 - **Neither Station will credit the other Station's inspections in lieu of performing their own inspections**

Attributes of the Environmental Reports

- **Site-specific Environmental Reports will be provided**
- **ERs prepared by the Aiken, SC office of Tetra Tech, Inc., which is very experienced in developing ERs for License Renewal**
 - **SAMA analyses performed by ERIN Engineering**
- **ER formatting follows 1996 Generic Environmental Impact Statement & Guidance**
 - **Content supplemented based on SECY-12-0063 to cover new Category 2 issues**
- **Clean Water Act Section 401 Certification Applications submitted to Illinois EPA**
 - **IEPA review pending Exelon submittal of LRA**
- **Because ERs will be site-specific, consider holding separate, site-specific SEIS Public Scoping Meetings and Environmental Audits**
 - **Stagger schedules to allow for more efficient use of resources**

NRC Resource Suggestions

	Typical Single Site Application	Byron & Braidwood Suggestion
Application	1- Part 54 LRA 1- Part 51 ER	1- Part 54 LRA 2- Part 51 ERs
Approximate Review Resources	1 team- Part 54 1 team- Part 51 1 team- Part 51 (SAMA)	1.0 - 1.25 team Part 54 2.0 team Part 51 (excluding SAMA) 1.0 - 1.25 team Part 51 (SAMA)
Public Meetings	1 set near site	1 set near Byron 1 set near Braidwood
Part 51 ER Audit	1 week onsite	1 week at Byron 1 week at Braidwood
Part 51- SAMA Audit	New- 3 days onsite	If necessary, 3 days at Kennett Square
Part 54 Scoping & Screening Methodology Audit	1 week onsite	1 week at Kennett Square Site walkdowns with AMP Audit
Part 54 AMP Audit	2 weeks onsite	1 week at Byron 1 week at Braidwood
Part 54 71002 Inspection	2 weeks onsite	1 week at Byron 1 week at Braidwood

Considerations for scheduling Audits, Inspections

- **Two Stations, four units will make good communications and coordination a high priority**
- **Refueling outages are conducted on 18-month frequencies for each unit**
 - **1 outage in fall 2013 (Braidwood)**
 - **2 outages in spring 2014**
 - **1 outage in fall 2014**
- **3/4/13 Region III Annual Assessment letters show:**
 - **Braidwood Component Design Basis Inspection 7/29/13 – 8/30/13**
 - **Byron PI&R Inspection 9/9/13 – 9/27/13**
 - **Byron Fire Protection Triennial 11/18/13 – 12/13/13**

Closing Comments

- **Byron and Braidwood are two-unit Exelon Stations with very similar design and operational history**
- **LRA is common to both, but clearly identifies and discusses any differences**
- **ERs need separate treatment as locations and issues are different**
- **We believe review efficiencies can be achieved due to commonality of methodology and aging management programs, and we request NRC consideration of these ideas**
- **Close coordination will be required to manage resources and achieve efficiency and effectiveness**