



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

November 19, 2010

LICENSEE: Exelon Generation Company, LLC  
FACILITY: LaSalle County Station, Units 1 and 2 (LaSalle)  
SUBJECT: SUMMARY OF OCTOBER 21, 2010, PUBLIC MEETING WITH EXELON GENERATION COMPANY, LLC REGARDING LASALLE NETCO INSERT REQUEST (TAC NOS. ME2376 AND ME2377)

On October 21, 2010, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Exelon Generation Company, LLC (the licensee) at the NRC Headquarters, One White Flint North, 11555 Rockville Pike, Rockville, Maryland. A list of attendees is provided as Enclosure 1. Significant portions of the meeting discussion were identified as proprietary, so most of the meeting was closed to those stakeholders that did not have an agreement for access with the vendor and licensee for information related to the inserts.

The purpose of the meeting was to discuss Exelon's proposal to allow full recovery of spent fuel storage rack cells that are unusable due to Boraflex neutron absorber degradation through the use of NETCO-SNAP-IN® rack inserts. As the licensee indicated that the LaSalle pool would not have NETCO inserts installed into all racks until 2016, continued credit for Boraflex would be necessary. This would require review of the RACKLIFE methodology and the NRC staff was unsure that the review could be completed in time to support the spring 2011 refueling outage. To that end, this meeting was held to discuss interim measures that could be reviewed in time for the outage.

The licensee's presentation (See Enclosure 2) summarized the current and accelerated plans for rack inserts, and the importance of the license amendment request for the LaSalle spring 2011 refueling outage. The NRC staff identified two technical issues that needed to be resolved prior to completing the review:

1. Adequacy of the Technical Specifications (TSs) proposed by the licensee
2. Accuracy of the method used to predict Boraflex degradation

On the first issue, the NRC staff was concerned about what means that would be employed to ensure that the inputs, assumptions, and methods, which form the bases for the TS, were appropriately controlled. The NRC staff was concerned that a change process, such as Section 50.59 to Title to the *Code of Federal Regulations* (10 CFR) may be unintentionally used to change design information essential to the maintaining the NRC staff's technical findings without prior NRC approval. The NRC staff requested that the licensee address those measures in place needed to ensure that significant changes to the assumptions, methodology, process, and procedures are adequately controlled. It was discussed about the possibility of the licensee adding wording in TS 4.3.1, Criticality, identifying the specific documents, including date and revisions, upon which the spent fuel pool criticality analysis is based. The NRC staff also identified that given the reliance on certain values and assumptions such as areal density, a more detailed description in TS Section 4.0 may be warranted. One proposal was the addition

of information, which specifies a Boron/Boraflex areal density limit. The NRC took an action to provide reference information related to a similar description in another licensee's TSs.

On the second issue, the NRC staff stated that it had concerns with the RACKLIFE methodology, which is used to predict Boraflex degradation given the duration of the proposed NETCO insert campaign. The significance of the nonconservatism rests with the determination of the percent degradation at which a non-NETCO cell becomes nonfunctional and therefore, cannot be loaded with a fuel assembly. As time goes by, the number of functional cells is reduced as a result of the degradation and at some point will render enough cells nonfunctional such that full offload of the core will be challenged. The licensee indicated in the submittal that the LaSalle pool would not have NETCO inserts installed into all racks until 2016, however during the discussion it was indicated that the licensee should be able to complete the NETCO insert campaign sooner than originally predicted.

Based on the review of the results of other licensee's who use RACKLIFE, nonconservatism related to the ability to accurately predict boron degradation, have the NRC staff concerned. As the use of the previous and current versions of RACKLIFE presently in use by the licensee has not been reviewed for LaSalle, the NRC staff indicated that a review would be necessary. This review would verify the quantification of the uncertainty introduced by the RACKLIFE code and subsequent revisions to the methodology to verify that the code was reasonably accurate. As the licensee has not even provided the methodology for review, it was determined that it was unlikely that the review could be completed in time for the refueling outage.

The NRC encouraged the licensee to consider comprehensive and conservative alternatives to resolving its concerns. Several options were discussed including the development of a more conservative means of addressing boron degradation for the next 6 to 9 months, which reduces the dependence on specific RACKLIFE results, thereby allowing the NRC staff to complete an interim review for the spring 2011 outage while continuing to assess RACKLIFE for the duration of the NETCO insert campaign. The licensee indicated that they would take a look at interim measures and reengage with the NRC staff at a later date.

The NRC staff and the licensee agreed that a follow-up meeting in early November would be beneficial to discuss the licensee's proposed TSs and license condition.

One member of the public was in attendance. Public Meeting Feedback forms were not received. No commitments or regulatory decisions were made by the NRC staff during the meeting. Please direct any inquiries to me at 301-415-2315, or [eva.brown@nrc.gov](mailto:eva.brown@nrc.gov).

Sincerely,

*/RA/*

Eva A. Brown, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

Enclosures:

1. List of Attendees
2. Licensee Handout

cc w/encl: Distribution via ListServ

LIST OF ATTENDEES

OCTOBER 21, 2010, PUBLIC MEETING WITH EXELON GENERATION COMPANY, LLC

REGARDING LASALLE NETCO INSERT REQUEST

**NRC**

Robert Taylor	<a href="mailto:Robert.taylor@nrc.gov">Robert.taylor@nrc.gov</a>
April Pulvirenti	<a href="mailto:april.pulvirenti@nrc.gov">april.pulvirenti@nrc.gov</a>
Eva Brown	<a href="mailto:eva.brown@nrc.gov">eva.brown@nrc.gov</a>
Marshall David	<a href="mailto:marshall.david@nrc.gov">marshall.david@nrc.gov</a>
Matt Yoder	<a href="mailto:matt.yoder@nrc.gov">matt.yoder@nrc.gov</a>
Emma Wong	<a href="mailto:emma.wong@nrc.gov">emma.wong@nrc.gov</a>
Charles Harris	<a href="mailto:Charles.harris@nrc.gov">Charles.harris@nrc.gov</a>
Kent Wood	<a href="mailto:kent.wood@nrc.gov">kent.wood@nrc.gov</a>
Greg Roach	<a href="mailto:greg.roach@nrc.gov">greg.roach@nrc.gov</a>
Frances Ramirez	<a href="mailto:frances.ramirez@nrc.gov">frances.ramirez@nrc.gov</a>

**NEI**

Jeannie Rinckel	<a href="mailto:jmr@nei.org">jmr@nei.org</a>
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**Exelon**

Pete Wicyk	<a href="mailto:peter.wicyk@exeloncorp.com">peter.wicyk@exeloncorp.com</a>
Terence Simpkin	<a href="mailto:Terence.simpkin@exeloncorp.com">Terence.simpkin@exeloncorp.com</a>
Karl Hacmmuth	<a href="mailto:karl.hacmmuth@exeloncorp.com">karl.hacmmuth@exeloncorp.com</a>
Patrick Simpson	<a href="mailto:Patrick.simpson@exeloncorp.com">Patrick.simpson@exeloncorp.com</a>
Ken Nicely	<a href="mailto:ken.nicely@exeloncorp.com">ken.nicely@exeloncorp.com</a>
Darin Benyak	<a href="mailto:darin.benyak@exeloncorp.com">darin.benyak@exeloncorp.com</a>
Adam Levin	<a href="mailto:adam.levin@exeloncorp.com">adam.levin@exeloncorp.com</a>
Ken Petersen	<a href="mailto:ken.petersen@exeloncorp.com">ken.petersen@exeloncorp.com</a>

**NETCO**

Scot Leuenroth	<a href="mailto:sleuenroth@curtisswright.com">sleuenroth@curtisswright.com</a>
Ken Lindquist	<a href="mailto:klindquist@curtisswright.com">klindquist@curtisswright.com</a>
Matt Harris	<a href="mailto:mcharris@curtisswright.com">mcharris@curtisswright.com</a>

**AREVA**

Ed Fowles  
Earl Riley  
Stan Jones

LICENSEE HANDOUTS

OCTOBER 21, 2010, PUBLIC MEETING WITH EXELON GENERATION COMPANY, LLC

REGARDING LASALLE NETCO INSERT REQUEST

**LaSalle County Station Unit 2**  
**Spent Fuel Storage Racks**

October 21, 2010

## **Purpose**

- ✓ Identify remaining open items for issuance of rack inserts license amendment
- ✓ Describe current spent fuel pool status
- ✓ Discuss current and "best-available" schedule for rack inserts installation
- ✓ Discuss any concerns regarding Boraflex monitoring program plans during rack inserts installation transition period in Unit 2 spent fuel pool

## **Agenda**

- ✓ Opening Remarks . . . . . Ken Nicely
- ✓ Discussion of Remaining Open Items. . . . . NRC/Exelon
- ✓ Spent Fuel Pool Management Strategy . . . . . Adam Levin
- ✓ Interim Boraflex Management Strategy. . . . . NRC/Exelon

# Discussion of Remaining Open Items

NRC/Exelon

# **Spent Fuel Pool Management Strategy**

Adam Levin  
Director, Spent Fuel & Decommissioning

## **Current Unit 2 Fuel Pool Status**

- ✓ Total number of locations – 4078
- ✓ Total number of usable locations – 4004
- ✓ Plans to adopt RACKLIFE 2.1.1
  - Limiting assembly design – ATRIUM-10
  - Limiting Boraflex degradation with all uncertainties – 44.5%
  - Per RACKLIFE calculations – 1099 unusable locations
- ✓ Number of empty, usable cells between now and 12/31/2010 – 196
- ✓ After 1/1/2011, number of empty, usable cells ~96
- ✓ Dry cask storage program campaign substantially delayed; potential start date now pushed to no earlier than October 22, 2010

## **Current Unit 2 Fuel Pool Status**

- ✓ Due to plant activity scheduling, unlikely that more than three (3) dry storage casks can be loaded – creates additional 204 usable locations
- ✓ Entering Spring 2011 outage, LaSalle will have 300 empty locations
- ✓ 312 assemblies permanently discharged – insufficient number of locations to perform Spring 2011 refueling outage
- ✓ Evaluating compensatory measures in order to execute refueling outage
- ✓ Additional ~200 locations expected to be declared unusable on 7/1/2011

## **Current Plans for Rack Inserts**

- ✓ Based upon RACKLIFE 2.1.1 model, approximately 200 locations will be declared unusable every 6 months
- ✓ Schedule for installing rack inserts between 2010 and 2016 is sufficient to stay ahead of unusable declarations
  - 400 inserts per year beginning in 2011 (after initial installation of 1875 inserts in 2010-2011)
- ✓ Three racks full of inserts required to perform Spring 2011 refueling outage without compensatory measures

## **Accelerated Plans for Rack Inserts**

- ✓ Remaining 775 of 1875 total in manufacturing expected to be delivered by February 2011
- ✓ New ingot of raw material can be scheduled with Alcan for January 2011 – raw material necessary for 4000+ cells in Unit 2 pool
- ✓ NETCO can begin manufacturing additional inserts in February 2011 at a rate of ~200/month
- ✓ NETCO completes manufacturing of inserts Spring 2012
- ✓ Critical path for complete deployment is availability of installation windows (competing with outages and dry cask storage activities)
- ✓ Current best estimate has complete deployment in Fall 2013

**Exelon®**

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# **Interim Boraflex Management Strategy**

NRC/Exelon

The NRC staff and the licensee agreed that a follow-up meeting in early November would be beneficial to discuss the licensee's proposed TSs and license condition.

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Sincerely,

*/RA/*

Eva A. Brown, Senior Project Manager  
Plant Licensing Branch III-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-373 and 50-374

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cc w/encl: Distribution via ListServ

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Package ADAMS Accession No. **ML103070485**      ADAMS Meeting Notice **ML102800359**  
**Meeting Summary ML103070484**      Licensee Handouts **ML103090378**      **NRC-001**

OFFICE	DORL/LPL3-2/PM	DORL/LPL3-2/LA	DORL/LPL3-2/BC	DORL/LPL3-2/PM
NAME	EBrown	THarris	RCarlson	EBrown
DATE	11/18/10	11/10/10	11/19/10	11/19/10

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