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

May 1, 2018

LICENSEE: EXELON GENERATION COMPANY, LLC

FACILITIES: BRAIDWOOD STATION, UNITS 1 AND 2; BYRON STATION, UNIT NOS. 1 AND 2; CALVERT CLIFFS NUCLEAR POWER PLANT, UNITS 1 AND 2; CLINTON POWER STATION, UNIT NO. 1; DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3; JAMES A. FITZPATRICK NUCLEAR POWER PLANT; LASALLE COUNTY STATION, UNITS 1 AND 2; LIMERICK GENERATING STATION, UNITS 1 AND 2; NINE MILE POINT NUCLEAR STATION, UNITS 1 AND 2; PEACH BOTTOM ATOMIC POWER STATION, UNITS 2 AND 3; QUAD CITIES NUCLEAR POWER STATION, UNITS 1 AND 2; R. E. GINNA NUCLEAR POWER PLANT; AND THREE MILE ISLAND NUCLEAR STATION, UNIT 1

SUBJECT: SUMMARY OF APRIL 26, 2018, MEETING WITH EXELON GENERATION COMPANY, LLC REGARDING DRAFT GUIDANCE FOR EMERGENCY RESPONSE ORGANIZATION STAFFING (EPID L-2018-LRM-0028)

On April 26, 2018, a Category 1 public meeting was held between the U.S. Nuclear Regulatory Commission (NRC) and representatives of Exelon Generation Company, LLC (Exelon, the licensee) via teleconference. The purpose of the meeting was to discuss draft guidance for emergency response organization (ERO) staffing. The meeting notice and agenda, dated April 13, 2018, are available in the Agencywide Documents Access and Management System (ADAMS) at Accession No. ML18103A036. A list of attendees and the licensee's handout used at the meeting are enclosed.

Currently, Revision 2 to NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (ADAMS Accession No. ML14163A605), is being developed. The proposed changes include a revision to the minimum staffing requirements, which are described in draft Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies" (ADAMS Accession No. ML17083A815). Exelon is planning[1] on revising its ERO staffing based on this draft guidance for most of its facilities. As of the date of this meeting, Exelon has submitted a license amendment request (LAR) for its Midwest facilities to make these changes (ADAMS Accession No. ML18053A159).

One of the proposed changes to Table B-1 is the removal of the chemistry technician function because it is no longer needed as the need for immediate reactor coolant sampling has been reduced due to the variety of plant indications of fuel damage available to licensees. As discussed in its handout, Exelon wanted additional clarification regarding this change because certain emergency action levels (EALs) are based on chemical sample analyses.

[1] See ADAMS Accession No. ML17347B102.

The NRC staff noted that the chemistry technician was listed in NUREG-0654 because of the need for immediate sample functions. If this function is not needed for emergency response, then it is not necessary to list a chemical technician as part of the ERO staff. The EALs do not specifically require a chemical technician.

Two state officials asked if the ability to take effluent samples will be retained. The NRC staff noted that the requirements for sampling are part of the technical specifications, and these requirements are not affected by emergency plan changes. Additionally, the EALs use sample results, but do not direct samples to be taken.

Exelon stated that it will supplement its LAR for its Midwest facilities because it stated that the chemistry technician would be retained.

Public meeting feedback forms were not received. Please direct any inquiries to me at 301-415-1380, or Blake.Purnell@nrc.gov.

Blake Purnell, Project Manager
Plant Licensing Branch III
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. STN 50-456, STN 50-457,
STN 50-454, STN 50-455, 50-317,
50-318, 50-461, 50-237, 50-249,
50-333, 50-373, 50-374, 50-352,
50-353, 50-220, 50-410, 50-277,
50-278, 50-254, 50-265, 50-244,
and 50-289

Enclosure:
1. List of Attendees
2. Exelon Handout

cc: Listserv

LIST OF ATTENDEES

APRIL 26, 2018, MEETING WITH EXELON GENERATION COMPANY, LLC

Name	Affiliation
Blake Purnell	NRC
Joe Anderson	NRC
Michael Norris	NRC
Richard Kinard	NRC
Larry Baker	Exelon
Doug Walker	Exelon
Mike Slaby	Exelon
Mark Friedmann	Exelon
Richard Gropp	Exelon
Rodney Brown	Energy Compliance Consultants, LLC
Diane Coffin	Southern Nuclear
Ricky Collings	Southern Nuclear
David Lafleur	Pennsylvania Department of Environmental Protection
Rich Janati	Pennsylvania Department of Environmental Protection
Patrick Mulligan	New Jersey Department of Environmental Protection
Ann Pfaff	New Jersey Department of Environmental Protection
Eric White	Duke Energy
Daniel King	Columbia Generating Station
Lori Tkaczyk	Enercon Services, Inc.
Bob Kidwell	Enercon Services, Inc.
John Conly	Certrec Corporation

EXELON HANDOUT

Teleconference Briefing Notes
04/26/18

In reviewing the guidance in draft Revision 2 of NUREG-0654 for ERO staffing, it is noted that the Chemistry Technician is not included on the Shift Staffing Table B-1. The accompanying NRC Technical Basis document for the draft ERO guidance provides the following insight:

> *The Chemistry/Rad Chemistry function listed in Table B-1 to Revision 1 of NUREG-0654/FEMA-REP 1, is no longer needed as the need for immediate reactor coolant sampling has been reduced due to the variety of plant indications of fuel damage available to licensees.*

Discussion Points

- It is understood that a License Amendment is required to revise Emergency Plan staffing requirements, which includes an On-Shift Staffing Assessment and a functional analysis of NUREG-0654, Table B-1 Emergency Preparedness (EP) Functions and Tasks.

- Further clarification would be helpful in determining whether additional Emergency Plan changes would be required to support removal of the Chemistry Technician (e.g., Emergency Action Levels (EALs)).

- Certain EALs under the NEI 99-01, Revision 6 guidance reference sample analysis (some examples are cited below for reference). Clarification would be helpful in determining whether a Shift Chemist would be required 24/7 to support classification of these EALs.

    - NEI 99-01, Revision 6 - provides guidance for some of these EALs with respect to alternate EAL thresholds which rely on hand held or deployed detectors in place of the sample analysis. But the guidance does not seem to be consistently written for all of the referenced chemistry sample related EALs.

    - NEI 99-01, Revision 6 - also discusses samples in terms of requiring "several hours to complete" and that the "sample-related threshold is included as a backup to other indications."

    - It is noted that Reactor Coolant System (RCS) samples are taken on a scheduled frequency when a Chemistry Technician would be scheduled to be available, or are required 2-6 hours following a power change, where a Chemistry Technician could be called in. Further clarification would helpful for determining if this is adequate justification for no longer requiring Chemistry Technicians on shift to support EAL classification.

Supporting Information – NEI 99-01, Revision 6 EALs Related to Chemistry Sampling

- Fission Product Barrier Matrix – Fuel Clad Barrier Thresholds

  Threshold #1 – Reactor Coolant Activity Level - Loss – This value indicates that RCS activity is in excess of 300 mCi/gm dose equivalent I-131.

It is recognized that RCS sampling and analysis activities, particularly those involving samples with elevated activity levels, could require several hours to complete. Nonetheless, a sample-related threshold is included as a backup to other indications.

The threshold value should be expressed as either a dose rate measured on the sample or radioactivity concentration such as mCi/gm or mCi/cc.

- SU3 - Initiating Condition: Fuel clad degradation greater than Technical Specification allowable limits.

  Threshold #2 – Reactor coolant sample activity greater than (site-specific Technical Specification allowable limits). EAL #2 addresses reactor coolant sample results that are beyond those allowed by Technical Specifications.

  Note that SU3, EAL Threshold #1 allows for a hand-held monitor or deployed detector reading with pre-calculated conversion values or readily implementable conversion calculation capability in place of the installed radiation monitor.

- AU1 - Initiating Condition: Release of gaseous or liquid radioactivity greater than 2 times the (site-specific effluent release controlling document) limits for 60 minutes or longer

  Threshold #3 – Sample analysis for a gaseous or liquid release indicates a concentration or release rate greater than 2 times the (site-specific effluent release controlling document) limits for 60 minutes or longer.

  EAL #3 - This EAL addresses uncontrolled gaseous or liquid releases that are detected by sample analyses or environmental surveys, particularly on unmonitored pathways (e.g., spills of radioactive liquids into storm drains, heat exchanger leakage in river water systems, etc.).

- AA1 - Initiating Condition: Release of gaseous or liquid radioactivity resulting in offsite dose greater than 10 mrem TEDE or 50 mrem thyroid CDE.

  Threshold #3 – Analysis of a liquid effluent sample indicates a concentration or release rate that would result in doses greater than 10 mrem TEDE or 50 mrem thyroid CDE at or beyond (site-specific dose receptor point) for one hour of exposure.

When considering the available draft NUREG-0654, Revision 2 guidance, additional clarification is requested regarding the commitment related to on-shift chemistry staffing.

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DISTRIBUTION:

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RidsNrrPMREGinna Resource
RidsNrrPMThreeMileIsland Resource
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TWertz, NRR
LBurkhart, EDO
JAnderson, NSIR
MNorris, NSIR
RKinard, NSIR

ADAMS Accession No. Meeting Notice ML18103A036 Meeting Summary ML18120A177

OFFICE	NRR/DORL/LPL3/PM	NRR/DORL/LPL3/LA	NRR/DORL/LPL3/BC	NRR/DORL/LPL3/PM
NAME	BPurnell	SRohrer	DWrona	BPurnell
DATE	4/30/18	4/30/18	5/1/18	5/1/18

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