



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

May 24, 2019

Mr. Bryan C. Hanson  
Senior Vice President  
Exelon Generation Company, LLC  
President and Chief Nuclear Officer  
Exelon Nuclear  
4300 Winfield Road  
Warrenville, IL 60555

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2, AND PEACH BOTTOM  
ATOMIC POWER STATION, UNITS 1, 2, AND 3 — ISSUANCE OF  
AMENDMENTS TO REVISE THE EMERGENCY RESPONSE ORGANIZATION  
STAFFING REQUIREMENTS (EPID L-2018-LLA-0150)

Dear Mr. Hanson:

The U.S. Nuclear Regulatory Commission (NRC, the Commission) has issued the following enclosed amendments in response to the Exelon Generation Company, LLC application dated May 10, 2018 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML18149A290), as supplemented by letters dated November 1, 2018, and November 29, 2018 (ADAMS Accession Nos. ML18305B270 and ML18337A004, respectively):

1. Amendment No. 235 to Renewed Facility Operating License No. NPF-39 and Amendment No. 198 to Renewed Facility Operating License No. NPF-85 for the Limerick Generating Station, Units 1 and 2, respectively; and
2. Amendment No. 14 to Facility Operating License No. DPR-12, Amendment No. 325 to Renewed Facility Operating License No. DPR-44, and Amendment No. 328 to Renewed Facility Operating License No. DPR-56 for the Peach Bottom Atomic Power Station, Units 1, 2, and 3, respectively.

The amendments revise the emergency plans by changing the emergency response organization staffing requirements for each of these facilities.

B. Hanson

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A copy of the NRC staff's Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's biweekly *Federal Register* notice.

Sincerely,



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

Docket Nos. 50-352, 50-353, 72-65, 50-171,  
50-277, 50-278, and 72-79

Enclosures:

1. Amendment No. 235 to NPF-39
2. Amendment No. 198 to NPF-85
3. Amendment No. 14 to DPR-12
4. Amendment No. 325 to DPR-44
5. Amendment No. 328 to DPR-56
6. Safety Evaluation

cc: Listserv



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-352

LIMERICK GENERATING STATION, UNIT 1

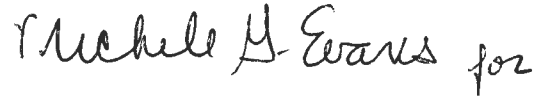
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 235  
Renewed License No. NPF-39

1. The U.S. Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (Exelon, the licensee) dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, Renewed Facility Operating License No. NPF-39 is hereby amended by revision to the emergency plan as set forth in the licensee's application dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, and evaluated in the NRC staff's safety evaluation for this amendment.

3. This license amendment is effective as of the date of its issuance and shall be implemented on or before December 31, 2019.

FOR THE NUCLEAR REGULATORY COMMISSION



Ho K. Nieh, Director  
Office of Nuclear Reactor Regulation

Date of Issuance: May 24, 2019



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

EXELON GENERATION COMPANY, LLC

DOCKET NO. 50-353

LIMERICK GENERATING STATION, UNIT 2

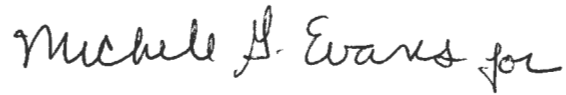
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 198  
Renewed License No. NPF-85

1. The U.S. Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (Exelon, the licensee) dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, Renewed Facility Operating License No. NPF-85 is hereby amended by revision to the emergency plan as set forth in the licensee's application dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, and evaluated in the NRC staff's safety evaluation for this amendment.

3. This license amendment is effective as of the date of its issuance and shall be implemented on or before December 31, 2019.

FOR THE NUCLEAR REGULATORY COMMISSION

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Ho K. Nieh, Director  
Office of Nuclear Reactor Regulation

Date of Issuance: May 24, 2019



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

EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR LLC

DOCKET NO. 50-171

PEACH BOTTOM ATOMIC POWER STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 14  
License No. DPR-12

1. The U.S. Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (Exelon, the licensee) dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, Facility Operating License No. DPR-12 is hereby amended by revision to the emergency plan as set forth in the licensee's application dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, and evaluated in the NRC staff's safety evaluation for this amendment.

3. This license amendment is effective as of the date of its issuance and shall be implemented on or before December 31, 2019.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink, appearing to read "Bruce A. Watson". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Bruce A. Watson, Chief  
Reactor Decommissioning Branch  
Division of Decommissioning, Uranium  
Recovery, and Waste Programs  
Office of Nuclear Material Safety  
and Safeguards

Date of Issuance: May 24, 2019





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

EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR LLC

DOCKET NO. 50-277

PEACH BOTTOM ATOMIC POWER STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 325  
Renewed License No. DPR-44

1. The U.S. Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (Exelon, the licensee) dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, Renewed Facility Operating License No. DPR-44 is hereby amended by revision to the emergency plan as set forth in the licensee's application dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, and evaluated in the NRC staff's safety evaluation for this amendment.

3. This license amendment is effective as of the date of its issuance and shall be implemented on or before December 31, 2019.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink that reads "Michelle A. Evans for". The signature is written in a cursive style.

Ho K. Nieh, Director  
Office of Nuclear Reactor Regulation

Date of Issuance: May 24, 2019



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

EXELON GENERATION COMPANY, LLC

PSEG NUCLEAR LLC

DOCKET NO. 50-278

PEACH BOTTOM ATOMIC POWER STATION, UNIT 3

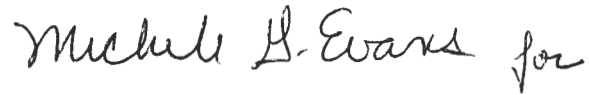
AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 328  
Renewed License No. DPR-56

1. The U.S. Nuclear Regulatory Commission (the Commission or the NRC) has found that:
  - A. The application for amendment by Exelon Generation Company, LLC (Exelon, the licensee) dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in Title 10 of the *Code of Federal Regulations* (10 CFR) Chapter I;
  - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
  - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
  - D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and
  - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.
2. Accordingly, Renewed Facility Operating License No. DPR-56 is hereby amended by revision to the emergency plan as set forth in the licensee's application dated May 10, 2018, as supplemented by letters dated November 1, 2018, and November 29, 2018, and evaluated in the NRC staff's safety evaluation for this amendment.

3. This license amendment is effective as of the date of its issuance and shall be implemented on or before December 31, 2019.

FOR THE NUCLEAR REGULATORY COMMISSION

A handwritten signature in black ink that reads "Michelle B. Evans for". The signature is written in a cursive style.

Ho K. Nieh, Director  
Office of Nuclear Reactor Regulation

Date of Issuance: May 24, 2019



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO

AMENDMENT NO. 235 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-39,

AMENDMENT NO. 198 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-85,

AMENDMENT NO. 14 TO FACILITY OPERATING LICENSE NO. DPR-12,

AMENDMENT NO. 325 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-44,

AND AMENDMENT NO. 328 TO RENEWED FACILITY OPERATING LICENSE NO. DPR-56

EXELON GENERATION COMPANY, LLC

LIMERICK GENERATING STATION, UNITS 1 AND 2

PEACH BOTTOM ATOMIC POWER STATION, UNITS 1, 2, AND 3

DOCKET NOS. 50-352, 50-353, 72-65, 50-171, 50-277, 50-278, and 72-79

1.0 INTRODUCTION

By application dated May 10, 2018 (Agencywide Documents Access and Management System (ADAMS) Package Accession No. ML18149A290), as supplemented by letters dated November 1, 2018, and November 29, 2018 (ADAMS Accession Nos. ML18305B270 and ML18337A004, respectively), Exelon Generation Company, LLC (Exelon, the licensee) submitted a license amendment request (LAR) for Limerick Generating Station (Limerick), Units 1 and 2, and Peach Bottom Atomic Power Station (Peach Bottom), Units 1, 2, and 3 (the facilities or sites). The amendments would revise the emergency plans by changing the emergency response organization (ERO) staffing requirements for each of these facilities.

The emergency plans for the Exelon facilities consist of the Standardized Radiological Emergency Plan and plant-specific emergency plan annexes. The Exelon Standardized Radiological Emergency Plan contains information that is common across the Exelon fleet, and it will be affected by the proposed changes. Exelon has requested similar changes to its emergency plans for most of its fleet. However, this review only considers the changes for the facilities requested in Exelon's May 10, 2018, application. The proposed emergency plan changes for other Exelon facilities will be reviewed separately.

The LAR provided separate enclosures for each site (Enclosures 1 and 2), which provided an evaluation of the proposed changes for the site, a marked-up copy of the proposed site emergency plan, and a clean copy of the proposed site emergency plan. Enclosure 3 to the LAR provided an ERO task analysis applicable to all the plants. Enclosure 4 to the LAR

provided a summary of regulatory commitments. Enclosure 5 provided information regarding discussions with the Commonwealth of Pennsylvania and the State of Maryland regarding the proposed changes.

The licensee's supplement dated November 1, 2018, was in response to a U.S. Nuclear Regulatory Commission (NRC or the Commission) staff request for additional information dated October 2, 2018 (ADAMS Accession No. ML18276A020). The November 1, 2018, and November 29, 2018, supplements provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on July 17, 2018 (83 FR 33268).

## 2.0 REGULATORY EVALUATION

### 2.1 Description of Proposed Changes

For each facility, the proposed changes would revise the ERO staffing composition and increase the staff augmentation times for certain ERO positions from 60 minutes to 90 minutes following the declaration of an alert or higher emergency classification level (ECL). Additionally, the licensee proposed to relocate the listing of the ERO minimum staffing requirements from the site-specific annexes to the Exelon Standardized Radiological Emergency Plan. Some positions would also be relocated to emergency plan implementing procedures (EPIPs) as positions for full augmentation. Exelon considers full-augmented staff as those ERO positions that provide support for the minimum staff in response to an emergency. Tables 1, 2, and 3 below provide a summary of the changes to the ERO on-shift staff positions, minimum staff positions, and full-augmented staff positions, respectively.

**Table 1: Summary of Changes to ERO On-Shift Staff Positions**

<b>Emergency Plan Function</b>	<b>Current On-Shift Staff Positions</b>	<b>Proposed On-Shift Staff Positions</b>
Command and Control	Shift Emergency Director	Shift Emergency Director
Communications	(2) Shift Communicators	(1) Shift Communicator
Radiation Protection (RP)	(1) RP Technician (in-plant surveys)  (2) RP Technicians (in-plant protective actions) with collateral duties  (1) Chemistry Personnel	(2) RP Technicians
Supervision of RP Staff	Not Applicable (N/A)	Shift Emergency Director
Dose Assessment	(1) RP Technician (performed remotely)	Shift Dose Assessor (collateral duty)
Emergency Classifications	N/A	Emergency Classification Advisor (collateral duty)
Engineering	Shift Technical Advisor (collateral duty)	Shift Technical Advisor (collateral duty)
Security	Per the security plan	Per the security plan

Emergency Plan Function	Current On-Shift Staff Positions	Proposed On-Shift Staff Positions
Repair Team Activities	(1) Mechanical Maintenance Staff (operator collateral duty)  (1) Electrical Maintenance Staff (operator collateral duty)  (1) Radwaste Operator  (1) Instrument and Control (I&C) Personnel	N/A
Fire Fighting	(5) Persons	Per the fire protection plan
First Aid and Rescue Operations	(2) Plant Personnel (collateral duty)	N/A
Field Monitoring Team (FMT)	(2) Offsite FMT Personnel	N/A

**Table 2: Summary of Changes to ERO Minimum Staff Positions**

Current ERO Minimum Staff Positions	Proposed ERO Minimum Staff Positions (response times are 60 minutes unless otherwise noted)
<b>Technical Support Center (TSC)</b>	
Station Emergency Director	Station Emergency Director
Operations Manager	Operations Manager (Emergency Classification Advisor)
Emergency Notification System (ENS) Communicator	ENS Communicator
RP Manager	RP Manager
Core Thermal/Hydraulic Engineer	Core Thermal/Hydraulic Engineer
Mechanical Engineer	Mechanical Engineer
Electrical Engineer	Electrical Engineer
N/A	Security Coordinator
TSC Director	Relocated to EPIP as Full Augmentation
Technical Manager	Relocated to EPIP as Full Augmentation
Maintenance Manager	Relocated to EPIP as Full Augmentation
Severe Accident Management Guidelines (SAMG) Decision Maker (collateral duty)	Position Removed from Staffing Table
SAMG Evaluator #1 (collateral duty)	Position Removed from Staffing Table
SAMG Evaluator #2 (collateral duty)	Position Removed from Staffing Table
<b>Emergency Operations Facility (EOF)</b>	
Corporate Emergency Director	Corporate Emergency Director
State/Local Communicator	State/Local Communicator
Health Physics Network Communicator	Relocated to EPIP as Full Augmentation
Dose Assessment Coordinator	Dose Assessment Coordinator
RP Manager	RP Manager
Logistics Manager	Relocated to EPIP as Full Augmentation
Environmental Coordinator	Relocated to EPIP as Full Augmentation
EOF Director	Relocated to EPIP as Full Augmentation

<b>Current ERO Minimum Staff Positions</b>	<b>Proposed ERO Minimum Staff Positions (response times are 60 minutes unless otherwise noted)</b>
N/A	Computer Specialist (90 minutes)
<b>Joint Information Center (JIC)</b>	
Corporate Spokesperson	Corporate Spokesperson (90 minutes)
JIC Director	JIC Director (90 minutes)
Public Information Director	Public Information Director (90 minutes)
<b>Operations Support Center (OSC)</b>	
OSC Director	OSC Director
Offsite Field Team Personnel #1	Offsite Field Team Personnel
Offsite Field Team Driver #1	Offsite Field Team Driver
Offsite Field Team Personnel #2	Offsite Field Team Personnel (90 minutes)
Offsite Field Team Driver #2	Offsite Field Team Driver (90 minutes)
Onsite Field Team member (onsite surveys) #1	Onsite Field Team member (onsite surveys) #1
Onsite Field Team member (onsite surveys) #2	Deleted
RP Personnel (in-plant surveys) #1	RP Technician #1
RP Personnel (in-plant surveys) #2	RP Technician #2
RP Personnel (in-plant protective actions) #1	RP Technician #3
RP Personnel (in-plant protective actions) #2	RP Technician #4 (90 minutes)
RP Personnel (in-plant protective actions) #3	RP Technician #5 (90 minutes)
RP Personnel (in-plant protective actions) #4	RP Technician #6 (90 minutes)
Electrical/I&C Maintenance #1	Electrical Maintenance Technician
Electrical/I&C Maintenance #2	I&C Technician (90 minutes)
Mechanical Maintenance #1	Mechanical Maintenance Technician
Mechanical Maintenance #2	Deleted
Chemistry Personnel	Relocated to EPIP as Full Augmentation
N/A	Electrical Maintenance Supervisor/Lead (90 minutes)
N/A	Mechanical Maintenance Supervisor/Lead (90 minutes)
N/A	I&C Supervisor/Lead (90 minutes)
N/A	RP Supervisor/Lead (90 minutes)

For each facility, the description of the full-augmented staff contained in the emergency plan will be relocated to an EPIP. ERO staff in positions designated "as needed" in Table 3 will be qualified for their ERO position; however, these staff will only be notified to respond if conditions warrant, as determined by the emergency director or their designee.

**Table 3: Summary of Changes to the ERO Full-Augmented Staff Positions**

<b>Current ERO Augmented Positions</b>	<b>Proposed Change</b>
<b>Technical Support Center (TSC)</b>	
State/Local Communicator (TSC)	Position relocated to EPIP
Health Physics Network Communicator (TSC)	Position relocated to EPIP
Operations Communicators (TSC)	Position relocated to EPIP
Operations Communicators (Main Control Room (MCR))	Position relocated to EPIP



<b>Current ERO Augmented Positions</b>	<b>Proposed Change</b>
Damage Control Communicator (TSC)	Position relocated to EPIP
Damage Control Communicator (MCR)	Position relocated to EPIP
TSC Technical Communicator	Position relocated to EPIP
Radiation Control Coordinator	Position relocated to EPIP
Radiation Controls Engineer	Position relocated to EPIP
Logistics Coordinator	Position relocated to EPIP
Security Coordinator (TSC)	Position reclassified as minimum staff
Clerical Staff (As Needed)	Position relocated to EPIP
<b>Emergency Operations Facility (EOF)</b>	
ENS Communicator	Position relocated to EPIP
Emergency Operations Center Communicator (EOF)	Position relocated to EPIP
Regulatory Liaison	Position relocated to EPIP
Dose Assessor	Position relocated to EPIP
Field Team Communicator	Position relocated to EPIP
Technical Support Manager	Position relocated to EPIP
Operations Advisor	Position relocated to EPIP
Technical Advisor	Position relocated to EPIP
Administrative Coordinator	Position relocated to EPIP
Events Recorder	Position relocated to EPIP
Computer Specialist	Position reclassified as minimum staff
Security Coordinator	Position relocated to EPIP
State Emergency Operations Center Liaison	Position relocated to EPIP
Clerical Staff (As Needed)	Position relocated to EPIP
<b>Joint Information Center (JIC)</b>	
RP Spokesperson	Position relocated to EPIP
Technical Spokesperson	Position relocated to EPIP
News Writer	Position relocated to EPIP
JIC Coordinator	Position relocated to EPIP
Events Recorder	Position relocated to EPIP
Access Controller	Position relocated to EPIP
Administrative Coordinator	Position relocated to EPIP
Rumor Control Staff (As Needed)	Position relocated to EPIP
Media Monitor Staff (As Needed)	Position relocated to EPIP
Clerical Staff (As Needed)	Position relocated to EPIP
<b>Operations Support Center (OSC)</b>	
Damage Control Communicator (OSC)	Position relocated to EPIP
Assistant OSC Director	Position relocated to EPIP
Chemistry Personnel (As Needed)	Position relocated to EPIP
Operations Lead and Support (As Needed)	Position relocated to EPIP
Offsite Field Team Personnel (As Needed)	Position reclassified as minimum staff
On Site Field Team Personnel (As Needed)	Position reclassified as minimum staff
RP In-Plant Surveys (As Needed)	Position reclassified as minimum staff
RP Personnel In-Plant Protective Actions (As Needed)	Position reclassified as minimum staff
Mechanical Maintenance Personnel (As Needed)	Position reclassified as minimum staff

<b>Current ERO Augmented Positions</b>	<b>Proposed Change</b>
Electrical/I&C Maintenance Personnel (As Needed)	Position reclassified as minimum staff
First Aid (As Needed)	Position relocated to EPIP
Radwaste Operator (As Needed)	Position relocated to EPIP

## 2.2 Regulatory Requirements

The planning standards in Title 10 of the *Code of Federal Regulations* (10 CFR) 50.47(b) establish the requirements that the onsite and offsite emergency response plans must meet for the NRC staff to make a finding that there is reasonable assurance that the licensee can and will take adequate protective measures in the event of a radiological emergency. Specifically, on-shift and augmented ERO staffing is addressed under 10 CFR 50.47(b)(2), which states:

On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

In addition, Section IV.A, "Organization," of Appendix E to 10 CFR Part 50, "Emergency Planning and Preparedness for Production and Utilization Facilities," states, in part:

The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization....

## 2.3 Regulatory Guidance

NRC Regulatory Guide 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors" (ADAMS Accession No. ML090440294), provides guidance on methods acceptable to the NRC staff for implementing 10 CFR 50.47(b) and Appendix E to 10 CFR Part 50. Revision 2 of Regulatory Guide 1.101 endorses Revision 1 to NUREG-0654/FEMA-REP-1 (NUREG-0654), "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants" (ADAMS Accession No. ML040420012), which provides specific acceptance criteria for complying with the standards set forth in 10 CFR 50.47(b). These criteria provide a basis for NRC licensees and State and local governments to develop acceptable radiological emergency plans and to improve emergency preparedness.

Evaluation Criteria II.B.1 and II.B.5 in NUREG-0654 address the planning standard in 10 CFR 50.47(b)(2). Evaluation Criterion II.B.1 states: "Each licensee shall specify the onsite emergency organization of plant staff personnel for all shifts and its relation to the responsibilities and duties of the normal shift complement." Evaluation Criterion II.B.5 states, in part:

Each licensee shall specify the positions or title and major tasks to be performed by the persons to be assigned to the functional areas of emergency activity. For emergency situations, specific assignments shall be made for all shifts and for plant staff members, both onsite and away from the site. These assignments

shall cover the emergency functions in Table B-1 entitled, "Minimum Staffing Requirements for Nuclear Power Plant Emergencies." The minimum on-shift staffing levels shall be as indicated in Table B-1. The licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency. This capability shall be as indicated in Table B-1.

By letter dated June 12, 2018 (ADAMS Accession No. ML18022A352), the NRC staff provided alternative guidance to Evaluation Criterion II.B.5 in NUREG-0654, Revision 1, for minimum ERO on-shift and augmentation staffing. The letter stated, in part:

The NRC has revised Section II.B, Table B-1 of NUREG-0654, based in part on comments received from the public on the draft Revision 2 of NUREG-0654, located at [www.regulations.gov](http://www.regulations.gov) under Docket ID FEMA-2012-0026. The revised ERO staffing guidance has been finalized, and the NRC will include it when the entire NUREG-0654, Revision 2, is ready for issuance. Until then, the NRC staff is making available on an interim basis the ERO on-shift and augmentation staffing plan (attached). Regardless of whether a licensee chooses to use the guidance contained in Revision 1 of NUREG-0654, the attached, or an alternative approach, licensees are still required to adhere to 10 CFR 50.54(q) when revising their ERO staffing plans.

Henceforth, this alternative guidance will be referred to as the "revised NUREG-0654 Table B-1" in this safety evaluation. The LAR was originally based on a draft version of this revised guidance, but the licensee's November 29, 2018, supplement included a change to its request based on the final version of the guidance issued on June 12, 2018.

Regulatory Issue Summary 2016-10, "License Amendment Requests for Changes to Emergency Response Organization Staffing and Augmentation," dated August 5, 2016 (ADAMS Accession No. ML16124A002), provides examples of the scope and detail of information that should be provided in an LAR for ERO staffing and augmentation changes.

### 3.0 TECHNICAL EVALUATION

The NRC staff has reviewed the licensee's regulatory and technical analyses in support of the proposed changes to the Exelon Standardized Emergency Plan and the respective site-specific annexes for Limerick and Peach Bottom, as described in the LAR, as supplemented. An evaluation based upon the major functional areas of the Limerick and Peach Bottom EROs was performed, considering various enhancements to equipment (technology), dose assessment, procedural improvements, training, process improvements, staffing levels in excess of NUREG-0654 Table B-1 levels, and the establishment of response times for the JIC minimum staff. As part of its review, the staff compared the licensee's proposed emergency plan changes to the revised NUREG-0654 Table B-1.

#### 3.1 Enhancements

The NRC staff considered the overall enhancements in technology, information availability, and training described in Section 3.1 of LAR Enclosures 1 and 2 and summarized below. These enhancements enable the main control room (MCR) staff to perform major functions and tasks more efficiently, and thus, support the proposed changes in ERO staffing levels and response times.

### Plant Process Computer System

For each facility, the licensee stated that the plant process computer (PPC) system supports the safety parameter display system functions, and data collection, data processing, accounting, alarming, and logging functions. An auxiliary function of the PPC is to transmit plant data to remote locations, including the respective station's TSC and the Exelon EOF in Coatesville, Pennsylvania.

The licensee stated that the safety and plant parameter display systems provide a concise display of critical plant variables to the MCR personnel to aid them in rapidly and reliably determining the safety status of the plant. Parameters displayed are the quantitative and qualitative measures to indicate the accomplishment or maintenance of critical safety functions. Information needed to assess the status of the plant safety parameters is obtained by the measurement of key plant variables, to include: reactivity control, reactor core cooling and heat removal, reactor coolant system integrity, containment conditions, and radiation control.

The licensee stated that MCR personnel have the capability to quickly monitor all critical plant parameters from a single workstation. The licensee stated that the benefits of the PPC include:

- Improved plant monitoring capability by the shift director to support emergency director function;
- Workstations have the capability of being programmed for automated response (e.g., indicating a critical parameter during events that may challenge that parameter);
- Data manipulation functions require fewer key strokes and are more easily performed;
- Real-time plant data are available through graphical displays;
- Much of the PPC functionality can be made available to any desktop computer through the plant's site-wide intranet; and
- Increased capabilities of PPC have enhanced timeliness of monitoring and assessing plant conditions.

Both Limerick and Peach Bottom also use a digital plant viewer system that permits personnel to view conditions in the plant where cameras are installed. The digital plant viewer allows personnel to access live-time dose rate data in areas with installed area radiation monitors, with no RP support required to use the digital plant viewer.

### Dose Assessment

The licensee stated that radiological dose assessment has benefited from technological advances that make this function simpler and less time consuming to perform. The licensee currently uses the Unified RASCAL Interface for dose assessment, which provides greater efficiency than previous programs. The plant display systems have also improved, allowing access to more data points that are needed within dose assessment. Redundant dose assessment computers have been installed, and Limerick and Peach Bottom have an individual plant data screen dedicated to the needs of dose assessment inputs.

### Automated ERO Call-Out Systems

The licensee stated that the automated call-out and paging systems have streamlined processes for activation of the ERO, which now can occur through a Web-based or

phone-based system to initiate rapid notification of ERO members. The system includes a primary activation system, as well as backup capability, to ensure uninterrupted operation.

### Procedure Improvements

The licensee stated that emergency action levels have been revised to simplify the emergency classification process. This includes the use of an overview matrix of emergency action level initiating conditions and threshold values, which streamlines the process of evaluating emergency action levels against plant conditions. Additionally, emergency operating procedures have been improved and generally use a symptom-based approach that demands less assessment and interpretation of plant conditions by the operating crews.

### Training

The licensee stated that training is used to strategically drive and sustain improved performance at Limerick and Peach Bottom through the application of the systematic approach to training. This approach ensures that training is conducted to the industry-accepted standards required to achieve and maintain accreditation by the National Academy for Nuclear Training. The licensed operator requalification training program includes the realistic integration of emergency response into performance evaluations.

### Radiation Protection Improvements

The licensee identified several improvements to RP technology and tools associated with in-plant protection actions. Access to the radiological controlled area is controlled electronically without interfacing with an RP technician. Automated whole-body monitors or handheld friskers are provided for contamination monitoring without the need to interface with an RP technician. In addition, personnel are provided with self-alarming dosimeters.

## 3.2 Major Functional Areas

For each site, the licensee provided justification (Section 3.2 of LAR Enclosures 1 and 2) for the proposed changes to the Limerick and Peach Bottom emergency plans that included a detailed review of each major functional area and task described in the revised NUREG-0654 Table B-1. The NRC staff's review of the proposed changes to the Limerick and Peach Bottom emergency plans, based on major functional areas and tasks, is described below.

Currently, the licensee's ERO for each site consists of personnel in the MCR, TSC, OSC, and EOF. The revised NUREG-0654 Table B-1 recommends activation of the EOF following the declaration of a site area emergency or general emergency. However, Exelon proposed to activate the OSC, TSC, and EOF within 60 minutes of declaration of an alert or higher ECL.

### 3.2.1 Command and Control

The purpose of the command and control function is to: (1) provide overall ERO command and control, until relieved; (2) approve emergency action level and/or protective action recommendation (PAR) classifications, until relieved; and (3) authorize personnel dose extensions, until relieved. For each site, the licensee provided its analysis of the command and control function in Section 3.2.1 of LAR Enclosures 1 and 2.

Currently, the Limerick and Peach Bottom emergency plans contain a note stating that the shift emergency director position may be performed by persons assigned other functions. The revised NUREG-0654 Table B-1 does not include such a note. The licensee stated that there are no additional functions assigned to the shift emergency director other than what is identified in the revised NUREG-0654 Table B-1. The licensee proposed to remove the note from the staffing tables in the Limerick and Peach Bottom emergency plans. The licensee determined, and the NRC staff agrees, that the note is unnecessary.

The proposed staffing for command and control is consistent with the revised NUREG-0654 Table B-1, with one difference. Specifically, the licensee proposed to staff the EOF emergency director position within 60 minutes of an alert or higher ECL, while the revised NUREG-0654 Table B-1 has this position staffing within 60 minutes of a site area emergency or general emergency. The NRC staff considers this difference to be an enhancement because it will ensure that the EOF ERO will be mobilized and available, should an alert classification escalate to a site area emergency or general emergency. By mobilizing the EOF at the declaration of an alert, certain emergency plan functions (e.g., dose assessment, State and local communications) can be established at the EOF, and the NRC staff agrees that these functions do not need to be duplicated at the TSC.

As discussed in Section 3.4.1 of LAR Enclosures 1 and 2, the licensee also proposed to revise the description of the turnover process in the Limerick and Peach Bottom emergency plans to include the transfer of non-delegable duties for PARs and State/local notifications directly from the MCR to the EOF. Under the current emergency plans, the MCR has the option to transfer PAR and State/local notification responsibilities directly to the EOF or to the TSC on an interim basis, should the EOF be unavailable. The licensee proposed to revise its emergency plans to no longer describe the capability to transfer PARs and State/local notifications to the TSC on an interim basis. The licensee stated that this revision will have no impact on timeliness or resources since the EOF and TSC are both staffed within 60 minutes of the declaration of an alert or higher ECL and will continue to have staff available to perform the functions. The turnover of command and control of emergency plan functions will occur through a conference line between the MCR, TSC, and EOF simultaneously, resulting in the prompt transfer of emergency plan functions from the MCR to the TSC or EOF. Based on this information, the NRC staff finds the proposed change to the turnover description acceptable.

The NRC staff reviewed the licensee's proposed changes to the command and control function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Where the proposed changes differed from the revised NUREG-0654 Table B-1, the staff found that the licensee provided adequate justification for those differences. In addition, the staff found the proposed changes to the description of the turnover process in the emergency plans acceptable. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to effective and timely command and control of licensee emergency response.

### 3.2.2 Communications

The purpose of the communications function is to communicate emergency action level and PAR classifications to offsite agencies, including the NRC, until relieved. For each site, the licensee provided its analysis of the communications function in Section 3.2.2 of LAR Enclosures 1 and 2.

Currently, the Limerick and Peach Bottom emergency plans identify two operators for on-shift communications (one for State/local communications and one for NRC communications via the ENS). The licensee proposed to reduce the on-shift communications function to one communicator. The NRC staff finds this proposed change acceptable because it is consistent with the revised NUREG-0654 Table B-1. Although the revised NUREG-0654 Table B-1 includes a note regarding collateral duties for the on-shift communicator, the licensee stated that this note is not needed since no collateral duties are assigned to its on-shift communicators.

The revised NUREG-0654 Table B-1 recommends that, following the declaration of an alert or higher ECL, the TSC be staffed with two communicators within 60 minutes and an additional communicator, as needed, within 90 minutes. In addition, Table B-1 recommends the staffing of one communicator in the EOF within 60 minutes of declaring a site area emergency or general emergency. The licensee proposed to maintain the ENS communicator position in the TSC and the State/local communicator position in the EOF, and both positions will be staffed within 60 minutes of the declaration of an alert or higher ECL. Table B-1 states that a second communicator should be located in the TSC as part of minimum staffing for communicating with offsite response organizations. However, the licensee stated, and the NRC staff agrees, that locating the State/local communicator in the EOF is acceptable since the EOF will be activated simultaneously with the TSC at an alert or higher ECL. Continuity will not be lost in the transfer of communications with State and local response organizations. Thus, a TSC communicator to support communications with offsite response organizations is not needed. Communications with the NRC via the ENS circuit will remain in the TSC and not transfer to the EOF.

Currently, the EOF health physics network communicator, TSC director, and EOF director are identified as minimum staff in the Limerick and Peach Bottom emergency plans. The licensee is proposing to re-categorize these positions as full-augmentation staff, and they will be relocated to an EPIP. These positions are not designated as minimum staff positions in the revised NUREG-0654 Table B-1. A statement will be added to the staffing tables that additional communicators will be staffed in the TSC and EOF as needed. This will ensure that, if required, additional communicators can be augmented as necessary to support communications between Exelon and the NRC.

The licensee stated that the TSC director and EOF director do not directly perform actions necessary to accomplish emergency preparedness functions, but rather, support other personnel performing required functions and overall facility operations. The licensee stated that these positions, as currently defined in its emergency plans, would not be considered as part of the ERO minimum staff needed to implement the emergency plans. Based on the information provided by the licensee, the NRC staff finds the re-categorization of the EOF health physics network communicator, TSC director, and EOF director as full-augmentation staff positions to be acceptable.

The NRC staff reviewed the licensee's proposed changes to the communications function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Where the proposed changes differed from the revised NUREG-0654 Table B-1, the staff found that the licensee provided adequate justification for those differences. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to maintaining timely and effective communications with the NRC and offsite response organizations.

### 3.2.3 Radiation Protection

The purpose of the RP function is to: (1) provide qualified health physics coverage for responders accessing potentially unknown radiological environments during emergency conditions; (2) provide in-plant surveys; and (3) control dosimetry and radiologically controlled area access. For each site, the licensee provided its analysis of the RP function in Section 3.2.3 of LAR Enclosures 1 and 2.

The licensee stated that this function is currently staffed by two RP technicians on shift. One RP technician is assigned to in-plant surveys. Two RP technicians are assigned to in-plant protective actions, but these actions may be performed by personnel assigned to other functions. The licensee proposed to maintain two RP personnel on shift to perform the RP function and tasks for protection coverage for responders, in-plant surveys, dosimetry, and radiologically controlled area access. Consistent with the revised NUREG-0654 Table B-1, the licensee proposed to just list the two RP technicians on shift for this function, without providing a specific breakdown of the assigned tasks. Therefore, a note clarifying that the in-plant protective actions may be performed by persons assigned to other functions is no longer needed. The NRC staff reviewed these proposed changes to the on-shift RP function and finds them acceptable.

The revised NUREG-0654 Table B-1 identifies three RP technicians, in addition to RP personnel on shift, staffing the OSC within 60 minutes of the declaration of an alert or higher ECL. Table B-1 also lists an additional three RP technicians staffing the OSC within 90 minutes of the declaration of an alert or higher ECL. Currently, the licensee's emergency plans designate six minimum staff RP technicians as required to augment and support the emergency plan major tasks of in-plant surveys and in-plant protective actions within 60 minutes. The licensee proposed that the augmentation for this function occur in two stages, consistent with the revised NUREG-0654 Table B-1. Therefore, a total of eight qualified RP technicians will be available for ERO support, considering both the on-shift and augmented staff. The licensee stated that technological advances in protection coverage for responders, in-plant surveys, dosimetry, and radiologically controlled area access support the additional time proposed. Based on this, the NRC staff finds the proposed changes to the minimum staff for the RP function acceptable.

The licensee proposed to remove chemistry personnel from the on-shift and minimum staffing list for the RP function. The licensee stated that it performed on-shift staffing analyses in accordance with Section IV.9 of Appendix E to 10 CFR Part 50 to ensure that the chemistry major task is not required per station procedures prior to augmentation. No chemistry sampling tasks were identified as time critical in any of the analyzed events. The chemistry/radiochemistry function is not included in the revised NUREG-0654 Table B-1. The licensee stated that the need for immediate reactor coolant sampling has been reduced due to the variety of available plant indications of fuel damage available at its plants. Early indications of fuel damage can be identified through containment radiation monitors, core instrumentation, or effluent radiation monitors, all of which are available in the MCR. Based on this, the NRC staff finds the removal of the chemistry personnel from the on-shift and minimum staffing list for the RP function acceptable.

The NRC staff reviewed the licensee's proposed changes to the RP function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be consistent with the revised NUREG-0654 Table B-1. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency



plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the timely and effective performance of RP functions.

#### 3.2.4 Supervision of Radiation Protection Staff and Site Radiation Protection

The purpose of the supervision of RP function is to: (1) evaluate and assess plant and offsite radiological data for the development of onsite and offsite PARs, until relieved; (2) provide onsite and offsite PARs to the applicable decision-maker, until relieved; (3) direct all RP activities, including FMT direction, until relieved; and (4) provide relevant information to applicable communicators who are communicating offsite PARs to offsite response organizations, until relieved. For each site, the licensee provided its analysis of the supervision of RP function in Section 3.2.4 of LAR Enclosures 1 and 2.

The revised NUREG-0654 Table B-1 identifies an operations shift manager to perform the supervision of RP function on shift, until relieved. The current Limerick and Peach Bottom emergency plans do not specifically identify this function on shift, but the licensee proposed to assign this function to the shift emergency director, until relieved by the augmented staff. The NRC staff finds this proposed change acceptable because it aligns with the revised NUREG-0654 Table B-1.

The revised NUREG-0654 Table B-1 recommends that the supervision of RP function be augmented by a site RP coordinator in the TSC within 60 minutes of the declaration of an alert or higher ECL, and by an RP manager in the EOF within 60 minutes of the declaration of a site area emergency or general emergency. Currently, the licensee staffs both the TSC and EOF RP manager positions within 60 minutes of the declaration of an alert or higher ECL. The licensee did not propose any changes for this function.

The licensee stated that the TSC RP manager would perform site-related duties, which would include actions to recommend onsite protective actions, to direct all RP activities at the site, and to evaluate and assess plant radiological data in the development of onsite protective actions. The TSC RP manager would also provide relevant information to applicable communicators who are transmitting offsite PARs to offsite response organizations. The EOF RP manager will perform duties that include actions to support evaluation of offsite radiological data in the development of onsite protective actions and offsite PARs, and to direct FMTs at the alert or higher ECL. The assigned major tasks are consistent with those stated in the revised NUREG-0654 Table B-1.

The NRC staff reviewed the licensee's proposed changes to the supervision of RP function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the effective supervision of the on-shift and augmented ERO RP functions.

#### 3.2.5 Dose Assessments and Projections

The purpose of the dose assessment and projections function is to perform dose assessments and projections and provide input to the applicable PAR decision-maker, until relieved. For

each site, the licensee provided its analysis of the dose assessment and projections function in Section 3.2.5 of LAR Enclosures 1 and 2.

The revised NUREG-0654 Table B-1 identifies a dose assessment/projection staff member as performing this function on shift, and clarifies that: "Other personnel may be assigned this function if no collateral duties are assigned to an individual that are beyond the capability of that individual to perform at any given time." Currently, Limerick uses on-shift RP personnel from Peach Bottom and Peach Bottom uses on-shift RP personnel from Limerick to perform the dose assessment function prior to augmentation of the ERO. Exelon proposed to reassign this position to on-shift staff assigned to the specific site, such that Limerick and Peach Bottom would no longer rely on staff at the other site to fulfill this function. Exelon also proposed to add the clarification from the revised NUREG-0654 Table B-1 for this position to its emergency plans. The NRC staff finds these proposed changes acceptable because they are consistent with the revised NUREG-0654 Table B-1.

The revised NUREG-0654 Table B-1 recommends one dose assessment position to be staffed at the TSC within 60 minutes of the declaration of an alert or higher ECL, and another dose assessment position to be staffed at the EOF within 60 minutes of the declaration of a site area emergency or general emergency. Currently, the licensee staffs one dose assessment position at the EOF within 60 minutes of the declaration of an alert or higher ECL, and does not staff a dose assessment position at the TSC. The licensee did not propose any changes for this function.

The EOF dose assessment coordinator will perform duties that include actions to perform dose assessments/projections and provide input to the applicable PAR decision-maker. Since the EOF is mobilized simultaneously with the respective station's TSC, and responsibility for dose assessment is transferred directly from the MCR to the EOF, the licensee stated, and the NRC staff agrees, that staffing of the dose assessment position in the TSC is redundant.

The NRC staff reviewed the licensee's proposed changes to the dose assessment and projections function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Where the proposed changes differed from the revised NUREG-0654 Table B-1, the staff found that the licensee provided adequate justification for those differences. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the timely and effective performance of radiological dose assessments and projections.

### 3.2.6 Emergency Classifications

The purpose of the emergency classifications function is to evaluate plant conditions and recommend emergency classification, until relieved. For each site, the licensee provided its analysis of the emergency classifications function in Section 3.2.6 of LAR Enclosures 1 and 2.

The revised NUREG-0654 Table B-1 recommends an emergency classification advisor to perform this function on shift, and clarifies that: "Other personnel may be assigned this function if no collateral duties are assigned to an individual that are beyond the capability of that individual to perform at any given time." Currently, the licensee's emergency plans do not specify a separate emergency classifications function for the on-shift or augmenting minimum staff. The licensee proposed to assign this function to a pre-existing on-shift staff member (e.g.,

the shift technical advisor) as a collateral duty. The NRC staff finds the proposed change acceptable because it is consistent with the revised NUREG-0654 Table B-1.

The revised NUREG-0654 Table B-1 recommends that the on-shift emergency classification advisor be augmented by a second emergency classification advisor in the TSC within 60 minutes of the declaration of an alert of higher ECL. The licensee proposed to assign the TSC emergency classification advisor function to the TSC operations manager. The shift emergency director and station emergency director will continue to have the non-delegable command and control responsibility for emergency classification decisions. The on-shift and TSC emergency classification advisors will advise the shift emergency director and station emergency director, respectively. The NRC staff finds the proposed change acceptable because it is consistent with the revised NUREG-0654 Table B-1.

The NRC staff reviewed the licensee's proposed changes to the emergency classifications function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the timely and accurate classification of emergency events.

### 3.2.7 Engineering

The purpose of the engineering function is to provide engineering coverage related to core/thermal hydraulics, electrical equipment and I&C, and mechanical equipment, until relieved. For each site, the licensee provided its analysis of the engineering function in Section 3.2.7 of LAR Enclosures 1 and 2.

The revised NUREG-0654 Table B-1 recommends a core/thermal hydraulics engineer to evaluate reactor conditions for the on-shift engineering function, and clarifies that: "Other personnel may be assigned this function if no collateral duties are assigned to an individual that are beyond the capability of that individual to perform at any given time." Currently, the licensee has the shift technical advisor satisfy the on-shift responsibilities for the plant system engineering, repair, and corrective actions function, which is re-categorized as the engineering function in the revised Table B-1. The license proposed to revise the Limerick and Peach Bottom emergency plans to identify the engineering function as a collateral duty satisfied by the shift technical advisor on shift. The NRC staff finds this proposed change acceptable because it is consistent with the revised NUREG-0654 Table B-1.

The revised NUREG-0654 Table B-1 recommends that the TSC minimum staff for the engineering function consist of one core thermal/hydraulic engineer to support the evaluation of reactor conditions, one mechanical engineer for coverage of ERO-related mechanical equipment, and one electrical/I&C engineer for coverage of ERO-related electrical and I&C equipment. Currently, the Limerick and Peach Bottom emergency plans identify the following positions as the minimum staff for the engineering function: one core thermal/hydraulic engineer, one mechanical engineer, one electrical engineer, one TSC technical manager, one SAMG decision-maker, and two SAMG evaluators. The licensee proposed to retain the core thermal/hydraulic engineer, the mechanical engineer, and the electrical engineer as the minimum staff for the engineering function. These positions are to be staffed within 60 minutes from the declaration of an alert or higher ECL. The licensee proposed to re-categorize the remaining positions as full-augmented staff that will be included in an EPIP.

The licensee stated that the TSC technical manager does not directly perform actions necessary to accomplish emergency plan functions, but rather, supports other personnel at the TSC. The licensee proposed that this position, as currently defined in the Limerick and Peach Bottom emergency plans, would not be considered as part of the ERO minimum staff needed to implement the emergency plans. The NRC staff finds that re-categorizing this position as a full-augmentation position is acceptable because it is consistent with the revised NUREG-0654 Table B-1.

Exelon implemented SAMGs following the issuance of the NRC Policy Statement on Severe Reactor Accidents Regarding Future Designs and Existing Plants (50 FR 32138; August 8, 1985). The licensee stated that it developed guidance for use by ERO personnel in assessing plant damage, planning and prioritizing response actions, and implementing strategies that delineate actions inside and outside the control room. Strategies and guidance were interfaced with the emergency operating procedures and emergency plans. However, the TSC SAMG decision-maker and the TSC SAMG evaluator positions are not included in the revised NUREG-0654 Table B-1. The licensee stated that personnel in these positions do not directly perform actions necessary to accomplish emergency plan functions. The licensee stated that these positions, as currently defined in its emergency plans, would not be considered as part of the ERO minimum staff needed to implement the emergency plans. Although the licensee proposed to remove the TSC SAMG decision-maker and evaluators from the minimum staff, the licensee stated that it will continue to describe the SAMG interface in the Limerick and Peach Bottom emergency plans and maintain its commitments for the program. The NRC staff finds that removing these positions as minimum staff positions is acceptable because it is consistent with the revised NUREG-0654 Table B-1.

The NRC staff reviewed the licensee's proposed changes to the engineering function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the engineering function.

### 3.2.8 Security

For each site, the licensee provided its analysis of the security function in Section 3.2.8 of LAR Enclosures 1 and 2. The revised NUREG-0654 Table B-1 recommends that the on-shift security function be provided by security staffing per the site-specific security plan. For the on-shift security function, the current Limerick and Peach Bottom emergency plans are consistent with the revised NUREG-0654 Table B-1, and the licensee has not proposed any changes.

The revised NUREG-0654 Table B-1 recommends that the on-shift security staffing should be augmented by a security coordinator in the TSC within 60 minutes of the declaration of an alert or higher ECL to coordinate security-related activities. The licensee proposed to re-categorize the TSC security coordinator, which is currently listed as a full-augmentation position, to a minimum staff position. This position will be staffed within 60 minutes from the declaration of an alert or higher ECL. The licensee stated that this will ensure timely and effective coordination between the security force and the ERO, particularly for events where offsite resources are necessary, as well as for security-related events and site personnel accountability. The NRC

staff finds the proposed change acceptable because it is consistent with the revised NUREG-0654 Table B-1.

The NRC staff reviewed the licensee's proposed changes to the security function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the security function.

### 3.2.9 Repair Team Activities

The revised NUREG-0654 Table B-1 indicates that an on-shift repair team is not needed to support the emergency plan. Currently, the Limerick and Peach Bottom emergency plans state that on-shift repair team activities will be provided by mechanical maintenance, electrical maintenance, I&C maintenance, and a radwaste operator. The licensee stated (Section 3.2.9 of LAR Enclosures 1 and 2) that due to the redundant and diverse design of the emergency core cooling systems, on-shift maintenance functionality is unnecessary.

In its November 29, 2018, supplement, the licensee proposed to revise the Limerick and Peach Bottom emergency plans to indicate that there is no designated on-shift position for the repair team activities. The NRC staff finds the proposed changes to the on-shift repair team activities acceptable because they are consistent with the revised NUREG-0654 Table B-1.

The revised NUREG-0654 Table B-1, identifies the following maintenance personnel that should respond to the OSC to support repair team activities:

- One electrician and one mechanic within 60 minutes of the declaration of an alert or higher ECL to provide support for emergency core cooling system equipment, event mitigation, and equipment repair.
- One I&C technician within 90 minutes of the declaration of an alert or higher ECL to provide assistance with logic manipulation, support for event mitigation and equipment repair, and support of digital I&C, if applicable.

For Limerick and Peach Bottom, the licensee provided its analysis of repair team activities in Section 3.2.9 of LAR Enclosures 1 and 2, as revised by its November 29, 2018, supplement. Currently, the licensee's emergency plans identify two mechanical maintenance technicians, two electrical maintenance technicians, and one I&C technician to staff the OSC within 60 minutes from the declaration of an alert or higher ECL. The licensee proposed to revise the minimum staff repair team response to the OSC, consistent with the revised NUREG-0654 Table B-1. The NRC staff finds these changes to be acceptable because they are consistent with the revised NUREG-0654 Table B-1.

The NRC staff reviewed the licensee's proposed changes to the repair team activities and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to repair team activities.

### 3.2.10 Supervision of Repair Team Activities

The revised NUREG-0654 Table B-1 indicates that an on-shift repair team supervisor is not needed to support the emergency plan. Currently, the licensee does not have a designated on-shift repair team supervisor. As indicated in its November 29, 2018, supplement, the licensee is not proposing any changes related to the on-shift repair team supervisor, so this position will not be listed as on-shift staffing in the Limerick and Peach Bottom emergency plans. The NRC staff finds this acceptable because it is consistent with the revised NUREG-0654 Table B-1.

The revised NUREG-0654 Table B-1 recommends a lead OSC supervisor to staff the OSC within 60 minutes of an alert or higher ECL, and four OSC supervisors to staff the OSC within 90 minutes from the declaration of an alert or higher ECL. The latter OSC supervisors would oversee electrical, mechanical, I&C, and RP activities. For Limerick and Peach Bottom, the licensee provided its analysis of the supervision of repair team activities in Section 3.2.10 of LAR Enclosures 1 and 2.

Currently, the Limerick and Peach Bottom emergency plans identify the OSC director and TSC maintenance manager as supervisory positions for repair and corrective actions, with the OSC director effectively managing maintenance resources upon activation of the OSC. The licensee proposed to re-categorize the TSC maintenance manager position as full-augmented staff under an EPIP. The licensee proposed to add supervisors/lead technicians for electrical maintenance, mechanical maintenance, I&C maintenance, and RP as minimum staff positions for the OSC. These four positions would be staffed within 90 minutes from the declaration of an alert or higher ECL.

The licensee's proposal to allow lead technicians to fulfill the supervisory positions for maintenance and RP is a deviation from NUREG-0654 Table B-1. The licensee stated that its lead technicians under its maintenance and RP program are qualified, experienced craft technicians who successfully demonstrate the day-to-day leadership of the technician work force and act as leads on back shifts. Duties and responsibilities of lead technicians include training and development of other employees in performing preventive maintenance and routine equipment service activities. Basic qualifications for a lead technician include demonstrated reliability and responsibility and the ability to make quick and effective technical decisions, as well as demonstrated situational leadership and environmental and safety stewardship. The licensee stated, and the NRC staff agrees, that the experience and qualification of the lead technicians for maintenance and RP would satisfy the requirements and the needs of the OSC for the supervision of repair team activities.

The licensee stated that the TSC maintenance manager does not directly perform actions necessary to accomplish emergency plan functions, but rather, supports other personnel at the TSC. The licensee stated that this position, as currently defined in its emergency plans, would not be considered as part of the ERO minimum staff needed to implement the emergency plans. Based on this information, the NRC staff finds the re-categorization of the TSC maintenance manager as a full-augmentation position acceptable.

The NRC staff reviewed the licensee's proposed changes to the supervision of repair team activities and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Where the proposed changes differed from the revised NUREG-0654 Table B-1, the staff found that the licensee provided adequate justification for those differences.

Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the supervision of repair team activities.

### 3.2.11 Field Monitoring Teams

The revised NUREG-0654 Table B-1 recommends one onsite FMT and two offsite FMTs as minimum staff. Each team would consist of a driver and one qualified individual (i.e., a field monitor) to assess the area for radiation and contamination. Each field monitor would also provide RP coverage for the team as directed by the TSC site RP coordinator or EOF RP manager. The field monitors for the offsite teams would also provide radioactive plume tracking. The onsite FMT and one offsite FMT are recommended to be staffed within 60 minutes from the declaration of an alert or higher ECL, and the second offsite team is recommended to be staffed within 90 minutes from the declaration of an alert or higher ECL. For Limerick and Peach Bottom, the licensee provided its analysis of the FMTs in Section 3.2.11 of LAR Enclosures 1 and 2.

Currently, both Limerick and Peach Bottom have two RP personnel designated as minimum staff to perform onsite surveys. The licensee proposed to perform onsite field monitoring with just one onsite field monitor responsible for radiological monitoring of the site's protected area. The onsite field monitor will be staffed within 60 minutes from the declaration of an alert or higher ECL. The licensee stated that the onsite FMT will not be staffed if the radiological conditions jeopardize the safety of the FMT. The licensee stated that a driver for the onsite FMT is not needed due to the size and configuration of the protected areas for Limerick and Peach Bottom, as they are easily traversed without the use of a vehicle. The NRC staff finds that the licensee's proposal to have one onsite FMT consisting of one field monitor is acceptable because it is generally consistent with the revised NUREG-0654 Table B-1, and because the licensee has provided adequate justification for not including a driver as part of the onsite FMT.

Currently, both Limerick and Peach Bottom have one offsite FMT on shift and one offsite FMT staffed within 60 minutes following the declaration of an alert or higher ECL. The offsite FMTs consist of a driver and a field monitor. The licensee proposed to revise the staffing times to 60 minutes for one offsite FMT and 90 minutes for the other offsite FMT, so that there would no longer be an offsite FMT on shift. The offsite FMTs will be under the control the EOF dose assessment coordinator or the EOF RP manager. The offsite field monitors would also provide RP coverage of the FMT as directed by the EOF RP manager. The NRC staff finds the proposed changes to the offsite FMTs acceptable because they are consistent with the revised NUREG-0654 Table B-1.

The licensee stated that the field monitors will be qualified to assess radiation and contamination levels, but will not necessarily be qualified as RP technicians in accordance with the American National Standards Institute. The onsite field monitor will be under the direct supervision of the RP manager in the TSC. The licensee stated that the offsite field monitors do not need to be qualified in accordance with the American National Standards Institute as long as they are under the direct supervision of senior staff in the TSC or EOF. This is consistent with the guidance in Regulatory Issue Summary 2016-10; therefore, the NRC staff finds this acceptable.

The licensee also proposed to re-categorize the EOF environmental coordinator from minimum staff to full-augmentation staff under an EPIP. The licensee stated that the EOF environmental coordinator position does not directly perform actions necessary to accomplish emergency

preparedness functions, but rather, supports other personnel. The licensee stated that this position, as currently defined in its emergency plans, would not be considered as part of the ERO minimum staff needed to implement the emergency plans. The NRC staff finds that the re-categorization of the EOF environmental coordinator as a full-augmentation position is acceptable because it is consistent with the revised NUREG-0654 Table B-1.

The NRC staff reviewed the licensee's proposed changes to the FMTs and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Where the proposed changes differed from the revised NUREG-0654 Table B-1, the staff found that the licensee provided adequate justification for those differences. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to FMTs.

### 3.2.12 Media Information

The purpose of the media information function is to manage and coordinate media information related to the event. The Exelon communications department currently supports Limerick and Peach Bottom in responding to media inquiries at all times for any ECL. The communications department coordinates responses with Exelon management and respective emergency response facilities, and issues press releases, as appropriate. For each site, the licensee provided its analysis of the media information function in Section 3.2.12 of LAR Enclosures 1 and 2.

The revised NUREG-0654 Table B-1 recommends that JIC staff assigned to address media inquiries be capable of performing this function within 60 minutes of the declaration of an alert or higher ECL, but notes that this function does not need to be performed at the TSC or OSC. Table B-1 further recommends additional staff to perform JIC functions be capable of performing their function within 60 minutes of the declaration of a site area emergency or general emergency. For the JIC, Table B-1 notes: "Emergency response facility activation timing is not the concern; it is whether the facility staff is performing the stated function(s) within the time specified." The revised Table B-1 does not specify an on-shift capability and does not identify specific staff positions for the minimum staff.

Currently, the Limerick and Peach Bottom emergency plans identify the corporate spokesperson, public information director, and JIC director as minimum staff positions that report to the JIC following the declaration of an alert or higher ECL. However, no specific response time is currently designated for these positions. The licensee proposed to maintain these three positions and establish a response time of within 90 minutes of the declaration of an alert or higher ECL. The Exelon communications department will provide the JIC functions until the JIC is activated and turnover of responsibilities occurs, and may continue to provide some JIC functions after the JIC is activated. The NRC staff finds that the 90-minute response times for these positions are acceptable because the licensee will continue to maintain a communication department that can respond to media inquiries at all times.

The licensee stated that the corporate spokesperson would staff the JIC to maintain command and control of the facility and conduct periodic briefings with the news media. The JIC director would also staff the JIC to coordinate with the State, local, and Federal agencies to maintain factual consistency of information conveyed. In addition, the public information director position will oversee the issuance of news releases and media monitoring/rumor control; however, this



function may be performed remotely by taking advantage of advances in communications technology. The NRC staff finds it acceptable to perform the public information director position remotely, because the licensee will have the capability to perform the function within 90 minutes of the declaration of an alert or higher ECL.

The NRC staff reviewed the licensee's proposed changes to the media information function and found them acceptable based on the information discussed above. With the proposed changes, the licensee's emergency plans will be generally consistent with the revised NUREG-0654 Table B-1. Where the proposed changes differed from the revised NUREG-0654 Table B-1, the staff found that the licensee provided adequate justification for those differences. Based on this review, the NRC staff has determined that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the media information function.

### 3.2.13 Information Technology

The purpose of the information technology (IT) function is to provide support for computer-based equipment if relied upon to perform emergency plan functions. The revised NUREG-0654 Table B-1 states that IT staff is only required to be described in the emergency plan if critical digital assets are identified per 10 CFR 73.54. For each site, the licensee provided its analysis of the IT function in Section 3.2.13 of LAR Enclosures 1 and 2.

The revised NUREG-0654 Table B-1 recommends an IT lead staff the TSC within 90 minutes of the declaration of an alert or higher ECL, and another IT lead staff the EOF/JIC within 60 minutes of the declaration of a site area emergency or general emergency. The purpose of the IT leads is to ensure IT equipment is operable.

Consistent with the revised NUREG-0654 Table B-1, the licensee stated that there are no on-shift staff assigned to the IT function and it is not proposing any changes to on-shift IT staffing. However, the licensee's IT department maintains a helpdesk available at all times to assist users with IT-related issues. Currently, the licensee maintains a computer specialist position at the EOF as a full-augmentation position. The licensee proposed to reassign the computer specialist as EOF/JIC minimum staff that will be available within 90 minutes from the declaration of an alert or higher ECL.

The licensee stated that an IT lead position is not needed as minimum staff for the TSC because of acceptable performance of digital equipment during drills and exercises and built-in redundancy of communication systems and digital emergency plan assets. The licensee stated that the EOF and TSC contain multiple computers and programs, which are used during training and periodically tested. If issues are identified during testing, they are promptly addressed. In addition, many computer issues can be addressed remotely by the IT helpdesk. If additional help is needed at the TSC, the EOF IT specialist will be available to support resolution of the issue because the EOF IT specialist is proposed to be staffed within 90 minutes from the declaration of an alert or higher ECL. The time for staffing the EOF IT specialist overlaps with the NUREG-0654 Table B-1 recommendation of staffing an IT lead at the TSC within 90 minutes of the declaration of an alert or higher ECL.

Although there is a difference between the proposed staffing of the IT function and the revised NUREG-0654 Table B-1, the NRC staff determined that the licensee will still provide for an effective IT system through multiple IT resources. Therefore, the NRC staff concludes that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of

10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, with respect to the IT function.

#### 3.2.14 Resource Allocation and Administration

The resource allocation and administration function is not included in the revised NUREG-0654 Table B-1. The licensee proposed (Section 3.2.14 of LAR Enclosures 1 and 2) to re-categorize the EOF logistics manager position from minimum staff to full-augmentation staff under the EIPs. The licensee stated that the EOF logistics manager does not directly perform actions necessary to accomplish emergency preparedness functions, but rather, supports other personnel at the EOF. The licensee stated that this position, as currently defined in its emergency plans, would not be considered as part of the ERO minimum staff needed to implement the emergency plans. The NRC staff determined that the proposed re-categorization of the EOF logistics manager position as a full-augmentation position is acceptable because it is consistent with the revised NUREG-0654 Table B-1.

#### 3.2.15 Fire Brigade

Note viii to the revised NUREG-0654 Table B-1 states: "The number of operations staff, security force staff, or fire brigade staff on shift is controlled by the site-specific Technical Specifications or other licensing documents."

The licensee proposed (Section 2.1.2 of LAR Enclosures 1 and 2) to remove the designated on-shift fire brigade personnel from the Limerick and Peach Bottom emergency plans, and to control the firefighting function per the site fire protection plan. The NRC staff determined that the proposed change is acceptable because the firefighting function will continue to be controlled under the NRC-approved fire protection programs and because the proposed change is consistent with the revised NUREG-0654 Table B-1.

#### 3.2.16 First Aid and Rescue Operations

First aid and rescue operations are no longer identified as an emergency plan function under the revised NUREG-0654 Table B-1. Currently, both Limerick and Peach Bottom have two on-shift staff assigned for first aid and rescue operations as collateral duties. The licensee proposed (Section 3.2.15 of LAR Enclosures 1 and 2) to maintain qualified first aid and rescue operations personnel on shift, but to remove these positions from the emergency plans. The NRC staff determined that the proposed change is acceptable because it is consistent with the revised NUREG-0654 Table B-1.

### 3.3 Minimum/Full Augmentation Staffing

Full-augmentation positions are not described in either Table B-1 of NUREG-0654, Revision 1, or the revised NUREG-0654 Table B-1. The revised NUREG-0654 Table B-1 addresses the required minimum staffing to perform major functional areas, as compared to other staff not critical to the effective implementation of the emergency plan. Note iii of the revised NUREG-0654 Table B-1 describes the distinction between ERO minimum staffing and ERO members who serve in a supporting capacity:

The minimum ERO staffing plan is that which is required to effectively implement the site-specific emergency plan (i.e., the emergency plan cannot be effectively implemented without this staff). The emergency plan should describe the

minimum ERO staffing plan, while supporting implementing procedures can describe any other staff response desired by the licensee as long as this staff is not critical to effective emergency plan implementation[.] The augmentation times listed are intended to provide a model for applicants and licensees to consider in the development of their site-specific emergency plan.

The licensee stated (Section 3.3 of LAR Enclosures 1 and 2) that the proposed emergency plans describe the absolute minimum ERO staff needed to implement the emergency plans (i.e., if any position or function is not staffed, then the emergency plans cannot be effectively implemented). The licensee considers full-augmented positions as those ERO positions that provide support for the minimum staff in response to an emergency. For Limerick and Peach Bottom, the description of the full-augmented positions currently in the emergency plans will be relocated to an EPIP. Section 2.1 of this safety evaluation identifies the proposed minimum staff positions (Table 2) and those positions currently in the emergency plans that will be designated as full-augmented positions and relocated to EPIPs (Table 3). The NRC staff finds it acceptable to relocate the full-augmented staff positions from the emergency plans to EPIPs because, consistent with the revised NUREG-0654 Table B-1, these positions are not needed to implement the emergency plans.

The licensee stated that it will use additional full-augmentation ERO staff that are trained and qualified. Most full-augmentation staff will still be assigned to ERO teams, be expected to maintain fitness-for-duty during duty weeks, and be notified to respond to their emergency response facility. The full-augmentation staff performs support functions such as intra-facility communications, organization liaisons, and expert advisors. As such, the proposed emergency plans will be effectively implemented using the minimum staff positions. Full-augmentation staff will not be required to activate a respective emergency response facility and are not directly needed to implement the functions and tasks identified in the revised emergency plans.

By letter dated November 1, 2018, Exelon stated, in part, that:

Exelon will institute the Minimum Staff Drill as part of the drill cycle for its nuclear stations. The drill will include participation from the Minimum Staff of the Emergency Operations Facility (EOF), the Joint Information Center (JIC), the Technical Support Center (TSC), and the Operations Support Center (OSC). The MCR may be represented through use of the Simulator or a drill control cell.

Exelon will perform a Minimum Staff Drill for each Emergency Operations Facility once per drill cycle. Specifically, one site which utilizes the EOF will perform the drill and the other sites which share the EOF will take credit for the performance for that drill cycle. For example, if Limerick performs the Minimum Staff drill for the first drill cycle, then PBAPS [Peach Bottom] would be able to take credit, but Exelon stations in Illinois or New York would not be able to credit the drill.

The NRC staff determined that this minimum staff drill commitment provides additional assurance that the staff identified in the emergency plan is capable of performing their designated functions without reliance on the full-augmentation staff.

As discussed above, the NRC staff determined that the relocation of full-augmentation staff positions from the licensee's emergency plans to EPIPs is consistent with the revised NUREG-0654 Table B-1, and therefore, acceptable. The revised Limerick and Peach Bottom emergency plans will continue to include those positions necessary for effective implementation

of the emergency plans, and this will be demonstrated by periodic drills. Therefore, the NRC staff concludes that the Limerick and Peach Bottom emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50.

### 3.4 Summary

The NRC staff reviewed the proposed changes to the Limerick and Peach Bottom emergency plans as described in Exelon's LAR, as supplemented by letters dated November 1, 2018, and November 29, 2018. The NRC staff finds that, with the proposed changes, the emergency plans will continue to meet the requirements of 10 CFR 50.47(b)(2) and Section IV.A of Appendix E to 10 CFR Part 50, and that adequate protective measures can and will be taken in the event of a radiological emergency. Therefore, the NRC staff concludes that the proposed changes to the Limerick and Peach Bottom emergency plans are acceptable.

### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the NRC staff consulted with State officials in the Pennsylvania Bureau of Radiation Protection (BRP) on the proposed issuance of the amendments. In its November 1, 2018, letter, Exelon committed to conduct a confirmation drill at Limerick or Peach Bottom prior to implementation of the amendments to demonstrate the ability of the designated minimum staff to perform required emergency plan functions until full staff augmentation. During a teleconference on November 5, 2018, the State officials raised concerns regarding Exelon's commitment. The State officials noted that although the EOF in Coatesville, Pennsylvania, is common to Limerick and Peach Bottom, the other facilities (e.g., TSC, OSC) are site-specific. The State officials stated that they would like both Limerick and Peach Bottom to participate in separate drills, and that the drills should include State participation. In addition, the State would like the testing to include more than one emergency response team at the Coatesville EOF.

By e-mail dated February 25, 2019, a Pennsylvania official stated, in part:

1. The State of Pennsylvania Bureau of Radiation Protection (BRP) believes that the nature of the proposed changes merit individual testing for all facilities affected. The results of testing at Peach Bottom would not be representative of Limerick Nuclear Plant's performance and would not ensure confirmation of the effectiveness of the changes in ERO staffing at Limerick. Each site's ERO uses different personnel, facilities, and management teams, and confirmation testing of the ERO staffing changes should require testing at each facility.
2. A confirmation of Emergency Preparedness Drill as specified in the amendment should include BRP participation to ensure realism in testing of ERO plant and corporate interactions with BRP personnel during activation of the Emergency Response Facilities. The State of Pennsylvania BRP is committed to participation in all confirmation drills for this license amendment.

On March 1, 2019, and March 5, 2019, Exelon and the Pennsylvania officials, respectively, informed the NRC staff that they had reached an agreement. Specifically, Exelon agreed to conduct a confirmatory drill for Limerick prior to implementation of the amendments and will invite the Pennsylvania BRP to participate in the drill. The State officials confirmed that, with this agreement, they do not object to the issuance of the amendments.

## 5.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, 51.32, and 51.35, an environmental assessment and finding of no significant impact was published in the *Federal Register* on July 18, 2018 (83 FR 33961). Accordingly, based upon the environmental assessment, the Commission has determined that the issuance of these amendments will not have a significant effect on the quality of the human environment.

## 6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Kinard, NSIR

Date: May 24, 2019

SUBJECT: LIMERICK GENERATING STATION, UNITS 1 AND 2, AND PEACH BOTTOM ATOMIC POWER STATION, UNITS 1, 2, AND 3 — ISSUANCE OF AMENDMENTS TO REVISE THE EMERGENCY RESPONSE ORGANIZATION STAFFING REQUIREMENTS (EPID L-2018-LLA-0150) DATED MAY 24, 2019

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PEER REVIEW DATE: 5/10/2019

**ADAMS Accession No.: ML19078A018**

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