



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION III
2443 WARRENVILLE RD. SUITE 210
LISLE, IL 60532-4352

May 16, 2017

Mr. Bryan C. Hanson
Senior VP, Exelon Generation Co., LLC
President and CNO, Exelon Nuclear
4300 Winfield Road
Warrenville, IL 60555

SUBJECT: DRESDEN NUCLEAR POWER STATION, UNITS 2 AND 3 – BASELINE
EMERGENCY PREPAREDNESS BIENNIAL EXERCISE INSPECTION
REPORT 05000237/2017502; 05000249/2017502

Dear Mr. Hanson:

On April 20, 2017, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at the Dresden Nuclear Power Station, Units 2 and 3, and the NRC inspectors discussed the results of this inspection with Mr. P. Karaba and other members of your staff. The results of the inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with Title 10 of the *Code of Federal Regulations* 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

/RA/

Steven K. Orth, Chief
Plant Support Branch
Division of Reactor Safety

Docket Nos. 50–237, 50–249
License Nos. DPR–19; DPR–25

Enclosure:
IR 05000237/2017502; 05000249/2017502

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Letter to Bryan Hanson from Steven K. Orth dated May 16, 2017

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-237; 50-249
License No: DPR-19; DPR-25

Report No: 05000237/2017502; 05000249/2017502

Licensee: Exelon Generation Company, LLC

Facility: Dresden Nuclear Power Station, Units 2 and 3

Location: Morris, IL

Dates: April 17 – 20, 2015

Inspectors: G. Hansen, Senior Emergency Preparedness Inspector
P. Elkmann, Senior Emergency Preparedness Inspector
I. Khan, Reactor Inspector
D. Sargis, Reactor Engineer

Approved by: S. Orth, Chief
Plant Support Branch
Division of Reactor Safety

Enclosure

SUMMARY

IR 05000237/2017502; 05000249/2017502; 04/17/2017 – 04/20/2017; Dresden Nuclear Power Station, Units 2 and 3; Baseline Emergency Preparedness Biennial Exercise Inspection; Exercise Evaluation Scenario Review; Performance Indicator Verification.

This report covers a 1-week period of announced baseline inspection by four regional inspectors. The U.S. Nuclear Regulatory Commission's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5, dated February 2014.

NRC-Identified and Self-Revealed Findings

Cornerstone: Emergency Preparedness

No findings were identified.

Licensee-Identified Violations

None

REPORT DETAILS

1. REACTOR SAFETY

Cornerstone: Emergency Preparedness

1EP1 Exercise Evaluation (71114.01)

.1 Exercise Evaluation

a. Inspection Scope

The inspectors reviewed the April 19, 2017, Biennial Emergency Preparedness Exercise's objectives and scenario to ensure that the exercise would acceptably test major elements of the licensee's Emergency Plan and to verify that the exercise's simulated problems provided an acceptable framework to support demonstration of the licensee's capability to implement its plan. The inspectors also reviewed records of other drills and exercises conducted from 2015 through 2017, to verify that those drills' scenarios were sufficiently different from the scenario used in the April 19, 2017, exercise.

The inspectors evaluated the licensee's exercise performance, focusing on the risk-significant activities of emergency classification, notification, and protective action decision-making, implementation of accident mitigation strategies, and correction of past exercise weaknesses in the following emergency response facilities:

- Control Room Simulator;
- Technical Support Center (TSC);
- Operations Support Center (OSC); and
- Emergency Operations Facility.

The inspectors also assessed the licensee's recognition of abnormal plant conditions, transfer of responsibilities between facilities, internal communications, interfaces with offsite officials, readiness of emergency facilities and related equipment, and overall implementation of the licensee's Emergency Plan.

The inspectors attended post-exercise critiques in the control room simulator, TSC, OSC, and emergency operations facility to evaluate the licensee's initial self-assessment of its exercise performance. The inspectors later met with the licensee's lead exercise evaluators and managers to obtain the licensee's findings and assessments of its exercise participants' performances. These self-assessments were then compared with the inspectors' independent observations and assessments to assess the licensee's ability to adequately critique its exercise performance. Documents reviewed are listed in the Attachment to this report.

This exercise evaluation inspection constituted one sample as defined in Inspection Procedure (IP) 71114.01.

b. Findings

No findings were identified.

1EP8 Exercise Evaluation – Scenario Review (71114.08)

a. Inspection Scope

Prior to the inspection activity on-site, the inspectors conducted an in-office review of the exercise objectives and scenarios submitted to the U.S. Nuclear Regulatory Commission using IP 71114.08, “Exercise Evaluation - Scenario Review,” to determine if the exercise would test major elements of the Emergency Plan as required by Title 10 of the *Code of Federal Regulations*, Part 50.47(b)(14). Documents reviewed are listed in the Attachment to this report.

This review of the exercise objectives and scenario constituted one inspection sample as defined in IP 71114.08.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

Cornerstone: Emergency Preparedness

4OA1 Performance Indicator Verification (71151)

.1 Drill/Exercise Performance

a. Inspection Scope

The inspectors sampled licensee submittals for the Drill/Exercise Performance Indicator (PI) for the period from the first quarter of 2016 through fourth quarter of 2016. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the Nuclear Energy Institute (NEI) Document 99-02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, were used. The inspectors reviewed the licensee’s records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; assessments of PI opportunities during pre-designated control room simulator training sessions, and performance during other drills. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one Drill/Exercise Performance sample as defined in IP 71151.

b. Findings

No findings were identified.

.2 Emergency Response Organization (ERO) Drill Participation

a. Inspection Scope

The inspectors sampled licensee submittals for the ERO Drill Participation PI for the period from the first quarter of 2016 through fourth quarter of 2016. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, were used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI; performance during the 2016 exercises and drills; and revisions of the roster of personnel assigned to key ERO positions. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one ERO Drill Participation sample as defined in IP 71151.

b. Findings

No findings were identified.

.3 Alert and Notification System

a. Inspection Scope

The inspectors sampled licensee submittals for the Alert and Notification System (ANS) PI for the period from the first quarter of 2016 through fourth quarter of 2016. To determine the accuracy of the PI data reported during those periods, PI definitions and guidance contained in the NEI Document 99-02, "Regulatory Assessment Performance Indicator Guideline," Revision 7, were used. The inspectors reviewed the licensee's records associated with the PI to verify that the licensee accurately reported the indicator in accordance with relevant procedures and the NEI guidance. Specifically, the inspectors reviewed licensee records and processes including procedural guidance on assessing opportunities for the PI and results of periodic scheduled ANS operability tests. Documents reviewed are listed in the Attachment to this report.

This inspection constituted one ANS sample as defined in IP 71151.

b. Findings

No findings were identified.

4OA6 Management Meetings

.1 Exit Meeting Summary

On April 20, 2017, the inspectors presented the biennial exercise inspection results to Mr. P. Karaba, and other members of the licensee staff. The licensee acknowledged the issues presented. The inspectors confirmed that none of the potential report input discussed was considered proprietary.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

P. Karaba, Site Vice President
J. Washko, Plant Manager
B. Franzen, Regulatory Assurance Manager
J. Quinn, Maintenance Director
T. Dean, Training Director
W. Remaisz, Acting Work Management Director
A. Daniels, Midwest Emergency Preparedness Manager
J. Feigl, Engineering Manager
G. Baxa, Manager CMO
D. Doggett, Emergency Preparedness Manager
L. Antos, Security Manager
R. Bauman, Shift Operations Superintendent
R. Miller, Emergency Preparedness Specialist
R. Martin, Emergency Preparedness Specialist (Corporate)
E. Maloni, Emergency Preparedness Specialist (Corporate)
C. Nelson, Emergency Preparedness Specialist (Corporate)
D. Walker, NRC Coordinator

U.S. Nuclear Regulatory Commission

G. Roach, Senior Resident Inspector
J. Wojewoda, Resident Inspector, Acting

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened, Closed, and Discussed

None

LIST OF DOCUMENTS REVIEWED

The following is a partial list of documents reviewed during the inspection. Inclusion on this list does not imply that the NRC inspectors reviewed the documents in their entirety, but rather that selected sections or portions of the documents were evaluated as part of the overall inspection effort. Inclusion of a document on this list does not imply NRC acceptance of the document or any part of it, unless this is stated in the body of the inspection report.

1EP1 Exercise Evaluation (71114.01)

- EP-AA-1000; Exelon Nuclear Standardized Radiological Emergency Plan; Revision 28
- EP-AA-1004; Exelon Nuclear Radiological Emergency Plan Annex for Dresden Station; Revision 35
- EP-AA-1004, Addendum 1; Dresden Station On-Shift Staffing Technical Basis; Revision 1
- EP-AA-1004, Addendum 3; Exelon Nuclear Emergency Action Levels for Dresden Station; Revision 5
- EP-AA-110; Assessment of Emergencies; Revision 10
- EP-AA-111; Emergency Classification and Protective Action Recommendations; Revision 19
- EP-AA-111-F-04; Dresden Plant Based PAR Flowchart
- EP-AA-112; Emergency Response Organization (ERO)/Emergency Response Facility Activation and Operation; Revision 18
- EP-AA-113; Personnel Protective Actions; Revision 12
- EP-AA-114; Notifications; Revision 13
- EP-AA-115; Termination and Recovery; Revision 9
- EP-AA-121; Emergency Response Facilities and Equipment Readiness; Revision 15
- EP-AA-122; Drills and Exercise Program; Revision 18
- EP-AA-122-300-F-01; Drill and Exercise Evaluation Criteria; Revision H
- Dresden 2015 NRC Graded Exercise Evaluation Report; Dated July 29, 2015
- Dresden 2015 Pre Exercise Evaluation Report - Revision 1; Dated June 17, 2015
- Dresden 2016 Off-Year Exercise Evaluation Report; Dated June 7, 2016
- Dresden 2017 NRC Graded Exercise Evaluation Report; Dated April 19, 2017
- PowerPoint Presentation; Dresden Biennial Exercise – Review of Exercise Results and Critique; Dated April 19, 2017
- Two-Year List of Drill and Exercise Condition Reports; April 2015 – April 2017
- Two Years of Drill and Exercise Timelines; April 2015 – April 2017
- AR 02513026; EP-Enhancement Identified in URI Dose Assessment Model; Dated June 10, 2015
- AR 02535105; Dresden NRC EP Exercise – Assembly/Accountability – OSC; Dated July 30, 2015
- AR 02539103; DRE-EP-2015-NRC-EX-SIM-Other Issues; Dated August 7, 2015
- AR 02539106; DRE-EP-2015-NRC-EX-TSC-Other Issues; Dated August 7, 2015
- AR 02539107; DRE-EP-2015-NRC-EX-OSC-Other Issues; Dated August 7, 2015
- AR 02539115; DRE-EP-2015-NRC-EX-Station-Program; Dated August 7, 2015
- AR 02560019; EP-NARS Form Attention to Detail Error Trend; Dated September 24, 2015
- AR 02560387; 4Q EP Drill Roll-Up IR; Dated November 20, 2015
- AR 02643990; EP-ANS Addendum Not Updated Following Siren Upgrades; Dated March 22, 2016

- AR 02645512; EP-1Q16 Full PI Drill Facilities and Equipment; Dated March 25, 2016
- AR 02652776; NOS ID: Enhancement for OSC Radio Inventory; Dated April 8, 2016
- AR 02652785; NOS ID: Enhancement for EP Vehicles; Dated April 8, 2016

- AR 02667268; Inadvertent Siren Activation of Will County Sirens; Dated May 9, 2016
- AR 02679009; EP DEP PI Not Evaluated for TSC Focus Area Drill; Dated June 8, 2016
- AR 02730970; EP-3Q16 Focus Area Drill Facilities and Equipment Issues;
Dated October 21, 2016
- AR 02730975; EP-3Q16 Focus Area Drill OSC Comments; Dated October 21, 2016
- AR 02730981; EP-3Q16 Focus Area Drill TSC Comments; Dated October 21, 2016
- AR 03971624; Deficiencies Found in TSC Quarterly Inventory; Dated February 8, 2016

1EP8 Exercise Evaluation – Scenario Review (71114.08)

- Dresden Station 2017 NRC Graded Exercise Manual 60 Day Submittal;
Dated February 15, 2017

4OA1 Performance Indicator Verification (71151)

- NRC PI Data Sheets; NRC Indicator ANS Reliability; January 2016 – December 2016
- NRC PI Data Sheets; ERO Readiness; January 2016 – December 2016
- NRC PI Data Sheets; Drill/Exercise Performance; January 2016 – December 2016

LIST OF ACRONYMS USED

| | |
|-----|------------------------------------|
| ANS | Alert and Notification System |
| ERO | Emergency Response Organization |
| IP | Inspection Procedure |
| NEI | Nuclear Energy Institute |
| NRC | U.S. Nuclear Regulatory Commission |
| OSC | Operations Support Center |
| PI | Performance Indicator |
| TSC | Technical Support Center |