



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

September 20, 2016

Mr. David Hamilton  
Site Vice President  
FirstEnergy Nuclear Operating Company  
Perry Nuclear Power Plant  
P. O. Box 97, 10 Center Road, A-PY-A290  
Perry, OH 44081-0097

SUBJECT: PERRY NUCLEAR POWER PLANT, UNIT 1 – BASELINE EMERGENCY  
PREPAREDNESS BIENNIAL EXERCISE INSPECTION REPORT  
05000440/2016502

Dear Mr. Hamilton:

On September 15, 2016, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Perry Nuclear Power Plant, Unit 1. The enclosed report documents the results of this inspection, which were discussed on September 15, 2016, with you and other members of your staff.

No findings were identified during this inspection.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) will be available electronically for public inspection in the NRC's Public Document Room or from the Publicly Available Records (PARS) component of the NRC's Agencywide Documents Access and Management System (ADAMS, accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

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

Docket No. 50-440  
License No. NPF-58

Enclosure:  
IR 05000440/2016502

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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No: 50-440  
License No: NPF-58

Report No: 05000440/2016502

Licensee: FirstEnergy Nuclear Operating Company (FENOC)

Facility: Perry Nuclear Power Plant, Unit 1

Location: North Perry, Ohio

Dates: September 12 through 15, 2016

Inspectors: G. Hansen, Senior Emergency Preparedness Inspector  
M. Garza, Emergency Preparedness Inspector  
B. Kemker, Senior Resident Inspector  
J. Rutkowski, Project Engineer

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

Enclosure

## **SUMMARY**

IR 05000440/2016502; 09/12/2016 – 09/15/2016; Perry Nuclear Power Plant, Unit 1; Baseline Emergency Preparedness Exercise Evaluation; Exercise Evaluation Scenario Review; and Performance Indicator Verification.

This report covers a 1-week period of announced baseline inspection by four Region III 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," dated July 2016.

### **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 September 13, 2016, biennial emergency preparedness exercise 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 in 2014, 2015, and 2016, to verify that those drills' scenarios were sufficiently different from the scenario used in the September 13, 2016, exercise.

The inspectors observed and 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 (CRS);
- Technical Support Center (TSC);
- Operational Support Center (OSC); and
- Emergency Operations Facility (EOF).

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 CRS, TSC, OSC, and EOF 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, the inspectors conducted an in-office review of the exercise objectives and scenarios submitted to the NRC using IP 71114.08, “Exercise Evaluation – Scenario Review,” to determine if the exercise would test major elements of the Emergency Plan as required by 10 CFR 50.47(b)(14).

Documents reviewed are listed in the Attachment to this report.

This review of the exercise objectives and scenario constituted one 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 (DEP) Performance Indicator (PI) for the period from the second quarter of 2015 through the second quarter of 2016. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in Nuclear Energy Institute (NEI) 99-02, “Regulatory Assessment Performance Indicator Guideline,” Revision 7, were used. The inspectors reviewed the licensee’s records associated with the performance indicator 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 DEP sample as defined in IP 71151.

b. Findings

No findings were identified.

.2 Emergency Response Organization Drill Participation

a. Inspection Scope

The inspectors sampled licensee submittals for the Emergency Response Organization (ERO) Drill Participation PI for the period from the second quarter of 2015 through the

second quarter of 2016. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in NEI 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 2015 and 2016 drill, and revisions of the roster of personnel assigned to key emergency response organization 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 second quarter of 2015 through the second quarter of 2016. To determine the accuracy of the PI data reported during this period, PI definitions and guidance contained in NEI 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 September 15, 2016, the inspectors presented the biennial exercise inspection results to Mr. D. Hamilton, 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

D. Hamilton, Site Vice President  
F. Payne, Plant General Manager  
T. Brown, Performance Improvement Director  
D. Reeves, Site Engineering Director  
B. Blair, Operations Manager  
R. O'Connor, Emergency Preparedness Manager  
C. Elliot, Radiation Protection Manager  
J. Pry, Work Management Manager  
J. Tufts, Outage Management Manager  
P. Boissoneault, Training Manager  
S. Gorski, Programs & Technical Services Manager  
M. Fox, Security Manager  
S. Zalesny, Fleet Emergency Preparedness  
L. Zerr, Regulatory Compliance Supervisor  
T. Kledzik, Regulatory Compliance  
L. Vanderhourst, Emergency Preparedness  
B. Luthanen, Emergency Preparedness  
P. Harkins, Emergency Preparedness

#### U.S. Nuclear Regulatory Commission

J. Nance, Resident Inspector

### **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)

Perry Nuclear Power Plant Emergency Plan; Revision 48

EPI-A1; Emergency Action Levels; Revision 26

EPI-A2; Emergency Actions Based on Event Classification; Revision 19

EPI-A6; Technical Support Center Activation; Revision 26

EPI-A7; Operations Support Center Activation; Revision 22

EPI-A8; Emergency Operations Facility Activation; Revision 21

Two Years of Drill and Exercise Corrective Action Program Items; September 2014 - September 2016

Two Years of Scenario Timelines; September 2014 -September 2016

EPI-B1; Emergency Notification System; Revision 25

EPI-B4; First Aid and Medical Care; Revision 16

EPI-B5; Personnel Accountability/Site Evacuation; Revision 16

EPI-B8; Protective Actions and Guides; Revision 18

EPI-B10; Emergency Radiological Environmental Monitoring Program; Revision 7

EPI-B11; Emergency Dosimetry Issue; Revision 10

EP-B13; Determination of Core Damage Under Accident Conditions; Revision 10

NOP-LP-2001; Corrective Action Program; Revision 38

NOP-LP-5007; Perry MIDAS Dose Assessment; Revision 2

CR 2014-13881; 8/27/14 ERO Drill Controller Performance Issues;  
Dated September 3, 2014

CR 2014-14364; PA-PY-14-02, Repeat procedure use and adherence issues with ERO dose assessment; Dated September 15, 2014

CR 2015-04097; Perry ANS Siren Performance Trend Identified; Dated March 26, 2015

CR 2016-04271; Declining trend in pager test responses; Dated March 31, 2016

CR 2016-11070; Evaluated Exercise – Transfer of Emergency Coordinator Duties;  
Dated September 19, 2016

CR 2016-10863; ERO Drill critique, monitoring of subcriticality during an ATWS,  
EOP-1A; Dated September 13, 2016



CR 2016-10923; 2016 Evaluated Exercise- Release source term not communicated;  
Dated September 15, 2016

CR 2016-10925; 2016 Evaluated Exercise - NOP-LP-5007 MIDAS Logic Flowchart  
Deficiencies; Dated September 15, 2016

CR 2016-10932; 2016 Evaluated Exercise - Perry and State Protective Action  
Recommendations to the Counties were not in Agreement; Dated September 15, 2016

CR 2016-10938; 2016 Evaluated Exercise - Objective K.7 Not Met – Site Area  
Emergency News Statement Timeliness; Dated September 15, 2016

CR 2016-10941; 2016 Evaluated Exercise - Objective F.6 Not Met – Source of Release;  
Dated September 15, 2016

1EP8 Exercise Evaluation – Scenario Review (71114.08)

Perry Nuclear Plant Emergency Preparedness Exercise 60-Day Scenario Submittal;  
Dated July 11, 2016

4OA1 Performance Indicator Verification (71151)

NOBP-LP-4012-11; Emergency Preparedness Drill/Exercise Performance Records;  
April 2015 – June 2016

NOBP-LP-4012-12; Emergency Response Organization Drill Participation Records;  
April 2015 – June 2016

NOBP-LP-4012-13; Alert and Notification System Reliability Records;  
April 2015 – June 2016

### LIST OF ACRONYMS USED

ADAMS	Agencywide Documents Access and Management System
ANS	Alert and Notification System
CFR	<i>Code of Federal Regulations</i>
CRS	Control Room Simulator
DEP	Drill and Exercise Performance
EOF	Emergency Operations Facility
ERO	Emergency Response Organization
IP	Inspection Procedure
NEI	Nuclear Energy Institute
NRC	U.S. Nuclear Regulatory Commission
OSC	Operational Support Center
PARS	Publicly Available Records System
PI	Performance Indicator
TSC	Technical Support Center

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Steven K. Orth, Chief  
Plant Support Branch  
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