



Energy Harbor Nuclear Corp.  
Perry Nuclear Power Plant  
10 Center Road  
P.O. Box 97  
Perry, Ohio 44081

**Rod L. Penfield**  
Site Vice President, Perry Nuclear

440-280-5382

May 18, 2021  
L-21-123

10 CFR 50.55a

ATTN: Document Control Desk  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555-0001

Subject:  
Perry Nuclear Power Plant  
Docket No. 50-440, License No. NPF-58  
Response to Request for Additional Information regarding a License Amendment  
Request that revises the Perry Nuclear Power Plant Emergency Plan  
(EPID No. L-2020-LLA-0282)

By letter dated December 28, 2020 (Accession No. ML20365A028), Energy Harbor Nuclear Corp. requested Nuclear Regulatory Commission (NRC) approval for a license amendment request (LAR). The LAR revises the Perry Nuclear Power Plant (PNPP) emergency plan to eliminate on-shift staffing positions, increase emergency response facility (ERF) augmentation times, revise ERF staffing positions, revise facility position titles to be consistent with the Energy Harbor Nuclear Corp. fleet, and eliminate information from the emergency plan contained in implementing procedures and instructions. By email dated April 19, 2021, the NRC staff requested additional information regarding the PNPP Emergency Plan LAR. The Energy Harbor Nuclear Corp. response to the April 19, 2021 NRC request is attached.

There are no regulatory commitments contained in this submittal. If there are any questions or if additional information is required, please contact Mr. Phil H. Lashley, Manager, Fleet Licensing, at (330) 696-7208.

I declare under penalty of perjury that the foregoing is true and correct. Executed on May 18, 2021.

Sincerely,

A handwritten signature in black ink, appearing to read "Rod L. Penfield", written over a horizontal line.

Rod L. Penfield

Attachments:

1. Response to Request for Additional Information
2. Table 5-1 Perry Plant Emergency Response Organization Functions and Shift Staff Augmentation Plan
3. Figure 5-2 OSC Augmented Response Organization
4. Revised PNPP Emergency Plan Page 5-5

cc: NRC Region III Administrator  
NRC Resident Inspector  
NRR Project Manager  
Executive Director, Ohio Emergency Management Agency, State of Ohio  
(NRC Liaison)  
Utility Radiological Review Board

Response to Request for Additional Information

Page 1 of 5

By letter dated December 28, 2020, Energy Harbor Nuclear Corp. submitted a license amendment request for Nuclear Regulatory Commission (NRC) review and approval. By email dated April 19, 2021, NRC staff requested additional information to complete its review. Each request for additional information is presented below in bold type and is followed by the Energy Harbor Nuclear Corp. response.

**RAI-NSIR-01**

**Requirement:**

- Title 10, “Energy,” of the *Code of Federal Regulations* (10 CFR), Section 50.47(b)(1) requires that each principal response organization has staff to respond and to augment its initial response on a continuous basis.
- 10 CFR 50.47(b)(2) requires that the on-shift facility licensee has adequate staffing to provide initial facility accident response in key functional areas is maintained at all times and timely augmentation of response capabilities is available.
- Associated guidance in NUREG-0654, Section II.B, Evaluation Criterion B.1.a states that the site-specific ERO is developed.

**Issue:** Section 3.2.2, “Emergency Direction and Control Major Functional Area,” of the LAR states:

The proposed revision to the PNPP Emergency Plan defines “facility activation” as the availability of minimum staff responders to perform response actions in each facility.

However, the guidance in the NRC Revised Table B-1 provides,

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).

- As proposed, it does not appear to the staff that the minimum staffing as described will allow the facilities to perform their intended functions (e.g., the minimum activation staffing for the Operations Support Center is one person, the OSC Coordinator). Please provide justification that the minimum facility staffing of each facility can implement the PNPP Emergency Plan until fully staffed.

Response:

The proposed changes to the Perry Nuclear Power Plant (PNPP) Emergency Plan provide for staffing of the required functions within 60 and 90 minutes of an Alert or higher classification to relieve and support the on-shift Emergency Response Organization (ERO) and effectively implement the Emergency Plan. The proposed changes to the PNPP Emergency Plan also provide for facility activation based on a minimum subset of facility staff required to assume the command and control functions, thereby relieving the on-shift ERO of the command and control duties as soon as this staffing is met.

The “facility activation” definition used in the proposed Emergency Plan specifically applies to positions responsible for performance of the command and control functions of Classification, Notification, Dose Assessment/Protective Action Recommendations (PARs), and Emergency Exposure Authorization as noted in Section 3.2.2 of the license amendment request. The emergency coordinator, core hydraulic engineer, radiation protection coordinator, and ENS communicator positions in the Technical Support Center (TSC) will relieve the control room staff of classification, NRC notification, core damage assessment, and emergency exposure authorization responsibilities. The Operations Support Center (OSC) coordinator will relieve the control room of responsibility for oversight of repair and corrective actions. The emergency director, dose assessment coordinator, and state/local communicator in the Emergency Operations Facility (EOF) will relieve the control room of responsibility for dose assessment, PARs, state/local notifications, and offsite response coordination.

By establishing this minimum command and control staff needed for facility activation, the potential for relief of the control room personnel of these responsibilities could occur sooner than the 60-minute augmented response time, thus reducing control room burden. The number of ERO personnel and discipline specific capabilities provided by the minimum facility activation staff is sufficient to assume responsibility for the command and control functions from the minimum on-shift control room staff. The activation of the facility prior to 60 minutes does not preclude the remainder of the required functions being staffed within their specified response times.

Defining facility activation based on the minimum staff needed for command and control while also providing for staffing the remainder of the required functions within their specified time frames is consistent with NRC Inspection Procedure, IP 71114.03, “Emergency Response Organization Staffing and Augmentation System,” Section 03.01, which states that ERO augmentation staffing and Emergency Response Facility (ERF) activation criteria are defined per the licensee’s Emergency Plan commitments. The inspection procedure recognizes ERO augmentation staffing and facility activation criteria may be separate and distinct areas for performance evaluation based on licensee specific commitments. This approach is also consistent with NSIR/DPR-ISG-01, Interim Staff Guidance, “Emergency Planning for Nuclear Power Plants,” Section IV.I, Subsection 4.1, which describes the facility staffing and activation capabilities as,

“... within time frames and at emergency classification levels defined in the licensee emergency plan.”

## **RAI-NSIR-02**

### **Requirement:**

- 10 CFR 50.47(b)(1) requires that each principal response organization has staff to respond and to augment its initial response on a continuous basis.
- 10 CFR 50.47(b)(14) requires that periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

**Issue:** Section 8.8, “Drills and Exercises,” of the proposed PNPP Emergency Plan states, in part:

Periodic drills and exercises will be conducted to evaluate the status of emergency preparedness and to satisfy the requirements outlined in Section 8.8.4, “Frequency of Drills and Exercises.” The prime objective is to verify the preparedness of all participating personnel, organizations, and agencies.

- Describe how Energy Harbor Nuclear Corp plans to specifically evaluate the adequacy of the minimum staffing levels to perform required functions until full augmentation, with the proposed ERO staffing changes, to ensure continued effective implementation of the proposed PNPP Emergency Plan.

Response:

The minimum staff positions required to activate the facilities are those positions assigned responsibility for command and control functions and are described in the response to RAI-NSIR-01. These positions are already performing these functions in the current PNPP Emergency Plan and have demonstrated their ability to perform these responsibilities as part of the current PNPP drill and exercise program.

## **RAI-NSIR-03**

### **Requirement:**

- 10 CFR 50.47(b)(1) requires that each principal response organization has staff to respond and to augment its initial response on a continuous basis.
- 10 CFR 50.47(b)(2) requires that the on-shift facility licensee has adequate staffing to provide initial facility accident response in key functional areas is maintained at all times and timely augmentation of response capabilities is available.

- **Associated guidance in NUREG-0654, Section II.B, Evaluation Criterion B.1.a states that the site-specific ERO is developed.**

**Issue: Section 3.2.5, “Plant System Engineering, Repair and Corrective Actions Major Functional Area,” of the LAR states, in part:**

**Performance of activities associated with maintenance activities will be eliminated on-shift and response times will be extended for augmented resources from 30 to 60 minutes for the mechanical maintenance coordinator (OSC), electrical maintenance coordinator (OSC), and OSC coordinator (OSC). The augmented resource response times will be extended from 60 to 90 minutes for the I & C Coordinator (OSC), I&C personnel (OSC), mechanical personnel (OSC), electrical personnel (OSC).**

**Further, Section 5.2.2.2, “Operations Support Center (OSC)” of the proposed PNPP Emergency Plan states, in part:**

**Mechanical Maintenance (MM) Coordinator Supervisor, - responsible for troubleshooting performance of initial *electrical maintenance* corrective actions work in the plant.**

- **Describe how the functions related to repair and corrective actions will be adequately performed by the mechanical maintenance coordinator (OSC), electrical maintenance coordinator (OSC), and OSC coordinator (OSC) until relieved. Are these positions filled by personnel who maintain the same qualifications, training, and proficiency as the mechanical personnel (OSC) and electrical personnel (OSC)? Additionally, please clarify and/or correct the above statement concerning the role of the Mechanical Maintenance Coordinator Supervisor.**

**Response:**

The proposed changes to the PNPP Emergency Plan have been revised to reflect mechanical and electrical maintenance craft personnel arriving within 60 minutes of an Alert or higher classification to perform the initial troubleshooting and corrective actions work in the plant. In addition, the proposed changes to the PNPP Emergency Plan will reflect the mechanical maintenance coordinator and electrical maintenance coordinator positions in the OSC arriving within 90 minutes of an Alert or higher classification to provide supervisory oversight for their respective disciplines. The OSC coordinator position will direct repair and assessment personnel until the respective discipline supervisors arrive. These changes are incorporated in the clean pages of the proposed plan provided in attachments 2 and 3.

During review of the revised PNPP Emergency Plan, the NRC staff identified an error regarding the troubleshooting responsibilities of the mechanical maintenance coordinator. The proposed plan incorrectly stated that the mechanical maintenance coordinator was responsible for troubleshooting of initial electrical maintenance corrective actions work in the plant. The plan has been revised to correct the statement that the mechanical maintenance coordinator is responsible for mechanical troubleshooting and corrective actions work in the plant. Additionally, the plan has been revised to clarify the oversight descriptions of the mechanical maintenance coordinator, electrical maintenance coordinator, and instrumentation and control coordinator and acknowledges their role in troubleshooting and corrective actions work in the plant. These changes are provided in Attachment 4.

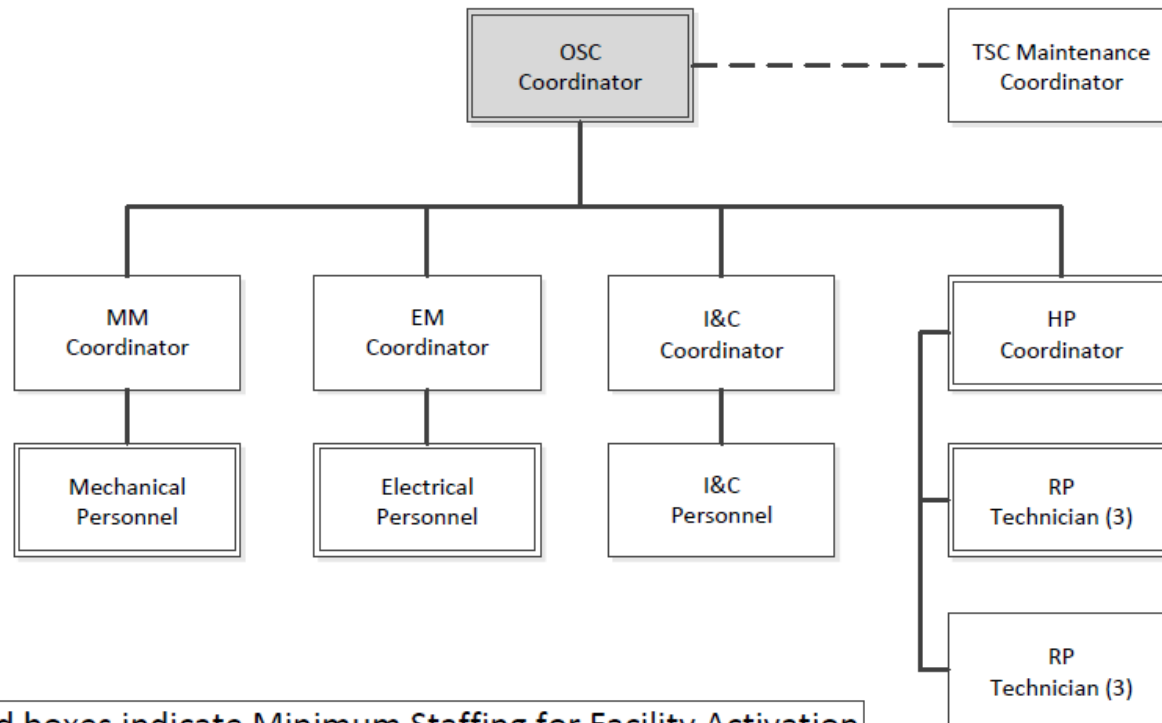
TABLE 5-1  
PERRY PLANT EMERGENCY RESPONSE ORGANIZATION FUNCTIONS AND  
SHIFT STAFF AUGMENTATION PLAN

Major Functional Area	Major Tasks	Position Title/Expertise	Proposed On-Shift	Capability for Additions	
				60 min	90 min
Emergency Direction and Control	Classification/Oversight	Shift Manager (SRO)	1	-----	-----
		TSC Emergency Coordinator (TSC)	-----	1	-----
		Emergency Director (EOF)	-----	1	-----
Notification/ Communication	Licensee, Local/State Federal personnel and maintain communication	Shift Communicator (State/local/Federal)	1	-----	-----
		State/local Communicator (EOF)	-----	1	-----
		ENS Communicator (TSC)	-----	1	-----
Radiological Accident Assessment	Offsite Dose Assessment	Shift Technical Advisor (SRO/STA)	1*	-----	-----
		Dose Assessment Coordinator (EOF)	-----	1	-----
	Offsite Surveys	FMT Lead	-----	1	1
		FMT Member	-----	1	1
	In-plant/Onsite (out-of-plant)	RP qualified individual	1	1	1
	Protective Actions	RP qualified individual	1	2	2
	RP Oversight	RP Coordinator (TSC)	-----	1	-----
Plant System Engineering	Technical Support	Shift Technical Advisor (SRO/STA)	1	-----	-----
		Core Hydraulic Engineer (TSC)	-----	1	-----
		Electrical Engineer (TSC)	-----	1	-----
		Mechanical Engineer (TSC)	-----	1	-----
Repair and Corrective	Repair and Corrective Actions	MM Coordinator (OSC)	-----	-----	1
		EM Coordinator (OSC)	-----	-----	1
		I&C Coordinator (OSC)	-----	-----	1
		OSC Coordinator (OSC)	-----	1	-----
		HP Coordinator (OSC)	-----	1	-----
		Mechanical Personnel (OSC)	-----	1	-----
		Electrical Personnel (OSC)	-----	1	-----
		Instrument & Control Personnel (OSC)	-----	-----	1
<b>Total</b>			<b>5</b>	<b>18</b>	<b>9</b>

\*May be performed by someone filling another position having functional qualifications



FIGURE 5-2 - OSC AUGMENTED RESPONSE ORGANIZATION



- Shaded boxes indicate Minimum Staffing for Facility Activation
- Double lined boxes indicate 60 minute responders
- Single lined boxes indicate 90 minute responders
- Dotted lines indicate positions in other facilities

**Operations Support Center**

Revised PNPP Emergency Plan Page 5-5

Coordinator directs the assembly and dispatching of repair and assessment teams, as well as Radiation Protection personnel from the OSC to support emergency operations. If required, the Shift Manager can assign an interim OSC Coordinator from the personnel present in the facility until the designated OSC Coordinator arrives to aid in the timely activation of this facility.

The OSC may be activated when the minimum staff as outlined in Figure 5-2 is achieved. The following plant supervisory positions have also been identified as part of OSC staffing to assist the OSC Coordinator in directing facility operations:

- Mechanical Maintenance (MM) Coordinator - responsible for oversight of mechanical maintenance troubleshooting and corrective actions work in the plant.
- Electrical Maintenance (EM) Coordinator - responsible for oversight of electrical maintenance troubleshooting and corrective actions work in the plant.
- Instrument and Control (I&C) Coordinator - responsible for oversight of I&C maintenance troubleshooting and corrective actions work in the plant.
- Health Physics (HP) Coordinator - coordinates dispatch of RP personnel for performance of in-plant surveys and job coverage of personnel dispatched into the plant.

Field Monitoring Teams (FMTs) are composed of two members each - an FMT Leader and Helper. The FMT Leader will be trained to perform plume monitoring and sample collection, and to oversee contamination control measures. The FMT Helper will be primarily responsible for driving the FMT vehicle, team communications, and to assist in sample collection and recordkeeping. At an Alert, one(1) FMTs will respond to perform monitoring within 60 minutes and a second FMT will respond within 90 minutes of an Alert or higher classification. Additional teams may be organized as the situation warrants. Radio-equipped, four-wheel drive vehicles will be obtained from ERS for FMT use. FMTs are equipped to perform direct radiation measurements, airborne radioactivity sampling (capable of measuring radioiodine concentrations in air as low as  $1.0\text{E-}7$  uCi/cc), and environmental sample collection.

3. Technical Support Center (TSC)

The TSC Emergency Coordinator is the head of onsite ERO activities and is responsible for command and control functions of classification, state/local notification and emergency exposure controls. Additionally, the TSC Emergency Coordinator will:

- a. Manage onsite ERO activities.