



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

September 24, 2018

Vice President, Operations
Entergy Nuclear Operations, Inc.
Palisades Nuclear Plant
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR PLANT - ISSUANCE OF AMENDMENT RE: CHANGES
TO THE EMERGENCY PLAN FOR PERMANENTLY DEFUELED CONDITION
(CAC NO. MG0198; EPID L-2017-LLA-0305)

Dear Sir or Madam:

The U.S. Nuclear Regulatory Commission has issued the enclosed Amendment No. 267 to Renewed Facility Operating License No. DPR-20 for the Palisades Nuclear Plant, in response to your application dated August 31, 2017, as supplemented by letter dated April 16, 2018.

The amendment changes the site emergency plan to revise the on-shift staffing and the Emergency Response Organization staffing for the permanently defueled condition.

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

Sincerely,

A handwritten signature in black ink that reads "Scott P Wall".

Scott P. Wall, Senior Project Manager
Special Projects and Process Branch
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-255

Enclosures:

1. Amendment No. 267 to Renewed Facility Operating License DPR-20
2. Safety Evaluation

cc: Listserv



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

ENTERGY NUCLEAR OPERATIONS, INC.

DOCKET NO. 50-255

PALISADES NUCLEAR PLANT

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 267
Renewed License No. DPR-20

1. The Nuclear Regulatory Commission (NRC or Commission) has found that:
 - A. The application for amendment by Entergy Nuclear Operations, Inc. (the licensee), dated August 31, 2017, as supplemented by letter dated April 16, 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 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, by Amendment No. 267, Renewed Facility Operating License No. DPR-20 is hereby amended to authorize the revision to the Palisades Nuclear Plant Site Emergency Plan as set forth in the licensee's application August 31, 2017, as supplemented by letter dated April 16, 2018, and as evaluated in the NRC staff's safety evaluation issued with this amendment.
3. This license amendment becomes effective upon the licensee's submittal of the certifications required by 10 CFR 50.82(a)(1) and shall be implemented within 90 days from the amendment effective date.

FOR THE NUCLEAR REGULATORY COMMISSION



Ho K. Nieh, Director
Office of Nuclear Reactor Regulation

Date of Issuance: September 24, 2018



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 267

TO RENEWED FACILITY OPERATING LICENSE NO. DPR-20

ENERGY NUCLEAR OPERATIONS, INC.

PALISADES NUCLEAR PLANT

DOCKET NO. 50-255

1.0 INTRODUCTION

By letter dated January 4, 2017 (Reference 1), in accordance with sections 50.82(a)(1)(i) and 50.4(b)(8) to Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," Entergy Nuclear Operations, Inc. (ENO, or the licensee), informed the U.S. Nuclear Regulatory Commission (NRC or Commission) that the Palisades Nuclear Plant (PNP) would permanently cease power operations on October 1, 2018. In a letter dated September 28, 2017 (Reference 2), ENO notified the NRC that the date to permanently cease power operations at the PNP had been changed to the spring of 2022, and that the letter superseded the date provided in Reference 1. In a letter dated October 19, 2017 (Reference 3), ENO certified that it plans to permanently cease power operations at PNP no later than May 31, 2022. Upon the NRC's docketing of the ENO's certification that all fuel has been permanently removed from the reactor vessel and placed into the spent fuel pool (SFP), pursuant to 10 CFR 50.82(a)(2), the license for PNP will no longer authorize operation of the reactor, or emplacement or retention of fuel into the reactor vessel. The irradiated fuel will be stored in the SFP and in dry cask storage at the onsite independent spent fuel storage installation (ISFSI) until it is shipped offsite.

By application dated August 31, 2017 (Reference 4), and as supplemented by letter dated April 16, 2018 (Reference 5), ENO requested approval by the NRC of proposed changes to the PNP site emergency plan (SEP) as required under 10 CFR 50.54(q)(4), prior to implementation by the licensee, to support the planned permanent cessation of operations and permanent defueling of the PNP reactor. The proposed changes would revise the SEP emergency response organization (ERO) on-shift and augmented staffing commensurate with the reduced spectrum of credible accidents for a permanently shut down and defueled nuclear power reactor facility. As a result of the transition from an operating facility to a permanently defueled facility, the proposed changes will properly reflect the conditions of the facility while continuing to maintain effectiveness of the SEP.

The proposed changes would revise the SEP current staffing levels to eliminate the following on-shift ERO positions:

- One (1) Control Room Supervisor
- One (1) Shift Engineer/Shift Technical Advisor
- Two (2) Licensed Nuclear Control Operators
- Four (4) Non-Licensed Nuclear Plant Operators
- One (1) Communicator
- One (1) Radiation Protection (RP) Technician
- One (1) Chemistry Technician

Also, the following ERO augmented positions are proposed to be eliminated:

Technical Support Center (TSC)

- One (1) TSC Manager
- One (1) Operations Coordinator
- One (1) TSC Reactor Engineer
- TSC Engineers (Electrical, Instrument & Control (I&C), Mechanical)
- One (1) TSC Communicator
- One (1) Radiological Assessment Coordinator
- One (1) Maintenance Coordinator
- TSC Administrative Support
- One (1) TSC Log Keeper

Operations Support Center (OSC)

- One (1) OSC Operations Support
- One (1) Work Control Coordinator
- Mechanical and I&C / Electrical Coordinators
- OSC Staff (I&C, Chemistry)
- One (1) OSC Log Keeper
- One (1) OSC Radio Communicator
- OSC Administrative Support

Emergency Operations Facility (EOF)

- One (1) EOF Manager
- One (1) EOF Log Keeper
- Lead Offsite Liaison
- One (1) Administration and Logistics Coordinator
- One (1) Information Technology (IT) Specialist
- One (1) EOF Communicator
- One (1) State/County Communicator
- One (1) Security Coordinator
- Security Staff
- EOF Administrative Support

Joint Information Center (JIC)

- One (1) JIC Manager
- One (1) Technical Advisor
- One (1) JIC Logistics Coordinator
- One (1) Information Coordinator
- One (1) JIC Log Keeper
- One (1) JIC Technical Assistant
- One (1) Press Release Writer
- One (1) Inquiry Response Coordinator
- One (1) Public Inquiry Responder
- JIC Administrative Support

The supplemental letter, dated April 16, 2018, provided additional information that clarified the application but did not expand the scope of the application as originally noticed, and did not change the NRC staff's proposed no significant hazards consideration determination as published in the *Federal Register* on November 21, 2017 (82 FR 55403).

2.0 REGULATORY EVALUATION

An operating nuclear power reactor licensee's emergency plan is developed for a level of effectiveness commensurate with the potential consequences to public health and safety for a wide spectrum of accident scenarios. With the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at PNP, most of the accident scenarios postulated for an operating power reactor will no longer be possible. The irradiated fuel will be stored in the SFP and in the onsite ISFSI until the fuel can be moved offsite for long-term storage or disposal. The reactor coolant system (RCS) and reactor support systems are no longer in operation, and have no function related to the storage of the irradiated fuel. Therefore, postulated accidents involving a failure or malfunction of the reactor, reactor coolant system, or reactor support systems are no longer applicable.

Chapter 14, "Safety Analysis," of the PNP final safety analysis report (FSAR) describes the abnormal operational transients and design-basis accident (DBA) scenarios that are applicable during plant operations. The postulated DBAs that will remain applicable to PNP in its permanently shut down and defueled condition are the cask drop event in the SFP (FSAR Section 14.11) and a fuel handling accident (FHA) in the SFP area (FSAR Section 14.19). The licensee states that FSAR, Chapter 14, will be revised to eliminate the remaining DBAs that will no longer be applicable in the permanently defueled condition.

The regulatory requirements and guidance on which the NRC staff based its review of the license amendment request are addressed below.

2.1 Regulatory Requirements

Section 10 CFR 50.47(b)(1) requires, in part, that "each principal response organization has staff to respond and to augment its initial response on a continuous basis."

Section 50.47(b)(2) of 10 CFR requires, in part, that “adequate staffing to provide initial facility accident response in key functional areas [be] maintained at all times,” and that “timely augmentation of response capabilities is available”

Section 50.54(q)(4) of 10 CFR states, in part, that “[t]he changes to a licensee’s emergency plan that reduce the effectiveness of the plan...may not be implemented without prior approval by the NRC. A licensee desiring to make such a change...shall submit an application for an amendment to its license.”

Section 10 CFR 50.72(a)(3) states that “[t]he licensee shall notify the NRC immediately after notification of the appropriate State or local agencies and not later than one hour after the time the licensee declares one of the Emergency Classes.”

Section IV.A, “Organization,” of Appendix E, “Emergency Planning and Preparedness for Production and Utilization Facilities,” to 10 CFR Part 50, states, in part, that “[t]he 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....”

Section IV.D.3, “Notification Procedures,” of Appendix E to 10 CFR Part 50, states, in part, that “[a] licensee shall have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency.”

2.2 Guidance

Regulatory Guide (RG) 1.101, Revision 2, “Emergency Planning and Preparedness for Nuclear Power Reactors,” October 1981 (Reference 6), provides guidance on methods acceptable to the NRC staff for implementing the planning standards of 10 CFR 50.47(b)(1) and (2), and the requirements of Sections IV.A and IV.D of Appendix E to 10 CFR Part 50. Revision 2 of RG 1.101 endorses Revision 1 to NUREG-0654/FEMA-REP-1 [Federal Emergency Management Agency – Radiological Emergency Preparedness], “Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants,” November 1980 (referred to hereafter as NUREG-0654) (Reference 7), which provides specific acceptance criteria for complying with the planning standards set forth in 10 CFR 50.47. These criteria provide a basis for NRC licensees, and State and local governments to develop acceptable radiological emergency plans.

In NUREG-0654, Section II, “Planning Standards and Evaluation Criterion,” Evaluation Criteria II.B.1 and II.B.5 address the 10 CFR 50.47(b)(2) planning standard. Evaluation Criterion II.B.1 specifies the onsite emergency organization of plant staff personnel for all shifts, and its relation to the responsibilities and duties of the normal shift complement. In addition, Evaluation Criterion II.B.5, states, in part, that:

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.

The NRC's Office of Nuclear Security and Incident Response (NSIR)/Division of Preparedness and Response (DPR) Interim Staff Guidance (ISG) document - NSIR/DPR-ISG-01, "Emergency Planning for Nuclear Power Plants," November 2011 (Reference 8), provides updated guidance information to address emergency planning requirements for nuclear power plants. Specifically, NSIR/DPR-ISG-01 was developed to address the assignment of tasks or responsibilities to on-shift ERO personnel that would potentially overburden them and prevent the timely performance of their emergency plan functions. The ISG also endorsed the Nuclear Energy Institute (NEI) document NEI 10-05, Revision 0, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," June 2011 (Reference 9), which was developed to establish a standard methodology for licensees to perform analyses of the ability of on-shift staff to perform all required functions and tasks necessary to respond to a declared emergency for an operating power reactor. Licensees are able to use this methodology as an acceptable method to meet the requirement of Section IV.A.9 to Appendix E of 10 CFR Part 50 for all accident scenarios that are applicable in a permanently defueled condition.

3.0 TECHNICAL EVALUATION

The NRC staff reviewed the licensee's regulatory and technical analyses in support of its proposed emergency plan changes, as described in the licensee's letter dated August 31, 2017, and as supplemented by letter dated April 16, 2018. The NRC staff reviewed the request using the evaluation criteria in Table B-1 of NUREG-0654, as well as the licensee's ability to promptly implement the SFP mitigation strategies, if required. The NRC staff's technical evaluation for each major functional area of Table B-1 to NUREG-0654 is detailed in Sections 3.1 through 3.7 of this safety evaluation.

In Section I of Attachment 5, "Analysis of Proposed Post-Shutdown On-Shift Staffing," to the letter dated August 31, 2017, the licensee stated, in part, that:

This analysis satisfies the requirements of 10 CFR Part 50, Appendix E Section IV.A.9, which states that nuclear power licensees shall perform "a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan." To support reduced staffing following permanent cessation of power operations and permanent removal of fuel from the reactor vessel, the proposed post-shutdown on-shift staffing was evaluated in conjunction with the postulated accidents that will be applicable in the permanently defueled condition and assumed corresponding changes to procedures. This analysis examined the capability of the proposed post-shutdown minimum staff to perform the actions for the key functional areas for events applicable in the permanently defueled condition until augmenting Emergency Response Organization (ERO) staff arrives in accordance with the PNP SEP.

Specifically, the licensee stated that the following accident scenarios were evaluated in the analysis of proposed post-shutdown on-shift staff:

- Design basis threat,
- Fuel handling accident,
- Aircraft potential threat,
- Control Room fire requiring evacuation and maintain SFP cooling, and
- General emergency (GE) with radioactive release and protective action recommendation (assumed for analysis purposes).

The spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. Operating power reactor licensees' emergency plans are developed for a level of effectiveness commensurate with the potential consequences to public health and safety for a wide spectrum of accident scenarios. When ENO certifies the permanent cessation of operations and the permanent removal of the fuel from the reactor vessel at PNP, most of the accident scenarios postulated for an operating power reactor will no longer be possible. The irradiated fuel will be stored in the SFP and ISFSI, and will remain on-site until it can be moved offsite for long-term storage or disposal. The reactor, RCS, and reactor support systems will no longer be in operation, and will have no functions related to the storage of the irradiated fuel. Therefore, postulated accidents involving failure or malfunction of the reactor, RCS, or reactor support systems will be no longer applicable. During reactor decommissioning, the principal public safety concerns involve the radiological risks associated with the storage of spent fuel on-site.

The licensee identified that the postulated DBAs that will remain applicable to PNP in its permanently shut down and defueled condition are the cask drop in the SFP (FSAR Section 14.11, "Postulated Cask Drop Accidents") and a FHA in the SFP area (FSAR Section 14.19, "Fuel Handling Incident"). The licensee stated that Section 14 of the FSAR will be revised to eliminate the DBAs that will not be applicable in the permanently shut down and defueled condition.

The licensee determined that the analyzed dropped cask events were identified as events that would only occur with the availability of additional station staff and were beyond those events represented by station minimum staff. Therefore, that event was not considered in the licensee's analysis of proposed post-shutdown on-shift staffing. Additionally, the station blackout (SBO) event was not considered in the licensee's analysis of proposed post-shutdown on-shift staffing. Once the certifications required by 10 CFR 50.82(a)(1)(i) and (ii) are docketed, PNP will no longer be licensed to operate and 10 CFR 50.63 (the SBO rule) will no longer be applicable pursuant to 10 CFR 50.63(a)(1).

In Section 3.1, "Accident Analysis," of Attachment 1, to the letter dated August 31, 2017, the licensee stated, in part, that:

In the permanently shut down and defueled condition, the PNP Fire Brigade will be responsible for implementing the SFP inventory makeup strategies required under 10 CFR 50.54(hh)(2). PNP will continue to maintain a trained and qualified Fire Brigade responsible for implementation of the SFP inventory makeup strategies. The Fire Brigade personnel identified in the PNP Post-Shutdown Emergency Plan (PSEP) are separate and distinct from those responsible for

implementing the major elements of the emergency plan including command and control, emergency classification, offsite notifications, and dose assessment/protective action recommendation development. Therefore, sufficient staffing is available to promptly implement SFP inventory makeup strategies required under 10 CFR 50.54(hh)(2) without impacting the performance of designated emergency plan functions.

In Section 3.2.2.2, "Operations Support Center," of Attachment 1 to the August 31, 2017 letter, the licensee stated, in part, that:

... Events involving a loss of SFP cooling and/or water inventory can be addressed by implementation of SFP inventory makeup strategies required under 10 CFR 50.54(hh)(2). These strategies will continue to be maintained [to satisfy applicable portions of Condition 2.C.(6).b of the PNP Renewed Facility Operating License].

3.1 Major Functional Area: Plant Operations and Assessment of Operational Aspects

The PNP SEP currently identifies the following Operations on-shift staffing:

- One (1) Shift Manager,
- One (1) Control Room Supervisor,
- One (1) Shift Engineer/Shift Technical Advisor,
- Two (2) Licensed Nuclear Control Operators, and
- Six (6) Non-Licensed Nuclear Plant Operators.

The licensee's post-shutdown On-Shift Staffing Analysis (OSA) concluded that in a permanently shut down and defueled condition, with the postulated accidents that would be applicable to that condition, the following on-shift complement would be able to perform all required PNP SEP actions in a timely manner and that there are no identified collateral duties that would prevent the timely performance of emergency plan functions:

- One Shift Manager (Certified Fuel Handler (CFH)), and
- Two Non-Certified Operators (NCOs).

In Section 3.2.1.1, "Major Functional Area: Plant Operations and Assessment of Operational Aspects," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

Because of the reduced number of possible events requiring mitigating actions in the permanently shut down and defueled condition and the limited number of actions to be performed by the Control Room positions in a permanently shut down and defueled condition, no Licensed Nuclear Control Operators or Shift Engineer/Shift Technical Advisor job tasks were noted as being required for any of the events analyzed in the analysis of proposed post-shutdown on-shift staffing. Therefore, the Licensed Nuclear Control Operator and Shift Engineer/Shift Technical Advisor positions can be eliminated without reducing the effectiveness of the PNP SEP.

The regulatory standard for minimum staffing requirements for NRC licensees is documented in NUREG-0654. The total minimum on-shift staffing expressed in NUREG-0654, Table B-1, is ten personnel. Plant Operations shift staffing, as implemented previously, was based on an operating philosophy that provided defense in depth. The analysis of proposed post-shutdown on-shift staffing concluded that in a permanently shut down and defueled condition, the on-shift Shift Manager and two Non-Certified Operators can perform all required PSEP actions in a timely manner and there are no collateral duties that would prevent the timely performance of emergency plan functions.

The licensee concluded that the proposed on-shift staffing changes do not impact the capabilities of the on-shift staff to respond to an emergency and continue to comply with the PNP SEP, site commitments, and applicable regulations.

The NRC staff reviewed the licensee's analysis of proposed post-shutdown on-shift staffing. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel, is reduced as compared to those at an operating plant. Based on this, the NRC staff determined the proposed level of on-site operations staffing will continue to provide for the direction and performance of actions to mitigate the remaining identified applicable events, and the prompt implementation of mitigating actions in response to an SFP accident.

Based on the NRC staff's review of the information provided in the ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of the on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b)(2), to have adequate staffing to provide initial facility response, and the requirements of Section IV.A of Appendix E to 10 CFR Part 50, to describe the organization for coping with radiological emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in on-shift staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the on-shift staffing to perform the required plant operations and assessment of operational aspects functions.

3.2 Major Functional Area: Notification/Communication

The PNP SEP currently identifies the Shift Manager and an on-shift Communicator as performing the function of on-shift notification/communication. Augmentation of the notification/communication capability is accomplished by the Offsite Communicator and the State/County Communicator in the EOF, and the ENS Communicator in the TSC within 60 minutes. PNP proposes to replace the on-shift Communicator with an NCO and eliminate the augmenting EOF State/County Communicator position. The augmentation of the notification/communication capability is proposed to be accomplished within 60 minutes by maintaining the Offsite Communicator in the EOF and the ENS Communicator in the TSC.

Section IV.D.3 of Appendix E to 10 CFR Part 50 requires that "[a] licensee shall have the capability to notify responsible State and local government agencies within 15 minutes after declaration of an emergency classification." 10 CFR 50.72(a)(3) requires that the licensee notify the NRC immediately after notification of the appropriate State or local agencies and not later than 60 minutes after the time the licensee declares one of the emergency classes. Section 6.1.1, "Control Room Personnel," of the Proposed Revision to the Palisades Nuclear

Plant Site Emergency Plan, provides that Emergency Implementing Procedure EI-3, "Communications and Notifications," will be used for notifying personnel and agencies of emergency conditions. Section 5.3.1, "Initial Notifications," of Emergency Implementing Procedure EI-3 states in part:

- b. Initial notifications to Van Buren County and the State of Michigan shall be initiated within 15 minutes of the time of declaration
- c. Initial notification to the NRC of an emergency classification shall be performed immediately after notifications to the county and state, but not later than one hour after the time of declaration.

For purposes of the OSA, NRC notifications were treated as a continuous action in accordance with 10 CFR 50.72(c)(3), meaning that once the initial NRC communications are established, it was assumed that the NRC will request an open line to be continuously maintained with the NRC Operations Center using the dedicated emergency notification system (ENS). The use of dedicated phone circuits and headsets facilitates the ability of the same on-shift Communicator to perform both the notifications to State and local agencies, and the NRC.

In Section 3.2.1.3, "Major Functional Area: Notification/Communication," of Attachment 1 of the letter dated August 31, 2017, the licensee stated, in part, that:

The elimination of the State/County Communicator position in the EOF does not impact the capabilities of the on-shift staffing or augmented response. The position can be eliminated without placing an undue burden on the remaining ERO positions in the EOF and without increasing the risk to public health and safety. Attachment 6 [Emergency Response Organization Task Analysis], contains an analysis of all ERO positions proposed for elimination and evaluates the transfer of tasks currently assigned to the State/County Communicator following permanent cessation of power operations and permanent removal of fuel from the reactor vessel. The EOF will continue to be activated at an Alert or higher declaration. Functional responsibilities of the State/County Communicator position are either currently performed by other positions or will be reassigned to remaining positions. The proposed ERO staffing reductions continue to address the risks to public health and safety, comply with the PNP SEP, site commitments, and applicable regulations.

The licensee also stated that it continues to maintain the same level of communications equipment capabilities from its emergency facilities to perform timely communications with the required offsite agencies. In the post-shutdown condition, however, the task of notifying and communicating with offsite authorities prior to EOF activation will be transferred to the on-shift NCOs at PNP.

The NRC staff reviewed the licensee's analysis of proposed post-shutdown on-shift staffing, including, the licensee's proposal to transfer the task of notifying and communicating with offsite authorities prior to EOF activation from an on-shift Communicator position to the on-shift NCOs at PNP. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to those at an operating plant. Because (1) of the reduced spectrum of activities, (2) no collateral duties were identified that would prevent the timely performance of this emergency plan function, and (3) the licensee continues to maintain the same level of communications

equipment capabilities from its emergency facilities to perform timely communications with the required offsite agencies, the NRC staff concludes that in a permanently defueled condition, the designated on-shift staffing could perform this required PNP SEP action in a timely manner.

Based on the NRC staff's review of the information provided in the ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of staffing continues to meet the planning standards of 10 CFR 50.47(b)(2) to have adequate staffing to provide initial facility response, and the requirements of Section IV.A, to describe the organization for coping with radiological emergencies, and Section IV.D of Appendix E to 10 CFR Part 50 and 10 CFR 50.72(a)(3) for having the capability to notify responsible Federal, State and local governmental agencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in on-shift staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the on-shift staffing to perform the required notification/communication functions.

3.3 Major Functional Area: Radiological Accident Assessment and Support of Operational Accident Assessment

The purpose of conducting accident assessment is to review radiological conditions using data from available instrumentation, assessing the impact of changing radiological conditions on emergency classification, assisting in accident assessments based upon those changing radiological conditions, and recommending appropriate off-site protective measures.

The PNP SEP currently identifies the following on-shift staffing:

- Senior RP Expertise (provided by shift personnel assigned other functions), and
- One Chemistry Technician (CT).

The licensee proposes to eliminate the Chemistry Technician, as well as one 60 minute augmenting Chemistry Technician.

In Section 3.2.1.4, "Major Functional Area: Radiological Accident Assessment and Support of Operational Accident Assessment," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

The elimination of the on-shift and augmenting Chemistry Technician positions does not impact the ability of the on-shift or augmented ERO to perform dose assessment. The analysis of proposed post-shutdown on-shift staffing concluded that in a permanently shut down and defueled condition, the on-shift Shift Manager and two Non-Certified Operators can perform all required PNP SEP actions in a timely manner and there are no collateral duties that would prevent the timely performance of emergency plan functions. Control Room personnel can perform initial dose assessment using existing EIPs.

Currently, the Chemistry Technician is an on-shift position per PNP SEP Figure 5-2 so that a technician is always available to immediately collect and analyze a liquid sample if the applicable radiation monitor is not available during a release, or as directed by the Shift Manager. When the on-shift Chemistry Technician position is eliminated, the on-shift Radiation Protection Technician will be able to perform sampling and analysis, so as not to delay information

potentially needed by the Shift Manager to determine if an emergency declaration is required. A gap analysis will be performed to determine any differences between current Radiation Protection Technician training requirements and any new specific knowledge requirements associated with emergency plan sampling and analysis. Such specific knowledge requirements would include how to obtain specific liquid samples.

The initial training requirements for any new Radiation Protection Technician will include all training modules to ensure they are equipped with the required skills and knowledge to perform the required liquid sampling and analysis. These training modules will be specifically identified in the training program description for the Radiation Protection Technician position. This document will be developed in accordance with the requirements of 10 CFR 50.120.

In Section 2.0, "Detailed Description," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

An individual qualified as a CFH will supervise fuel handling operations in the permanently shut down and defueled condition. Shift Managers will be qualified as CFHs.

In Section II.C.2 of Attachment 5 to the letter dated August 31, 2017, the licensee stated, in part, that:

During fuel movement, additional Operations and Radiation Protection personnel that are not part of the on-shift staff will be on site that, were a fuel handling accident to occur, will be able to respond to the event. Consequently, there are an adequate number of qualified personnel to perform plant surveys and dose assessment in the event of a fuel handling accident....

In Section 3.2.1.4 to Attachment 1 of the letter dated August 31, 2017, the licensee stated, in part, that:

For gaseous releases, the only credible scenario for releasing gas would be to mechanically damage spent fuel during handling or by impact of a heavy object. Activities that could cause mechanical damage will require that a Chemistry Technician be on-site or the radiation monitor listed in gaseous effluent Emergency Action Levels (EALs) is in service, thereby alleviating any reliance on a potentially delayed sample analysis to determine EAL applicability.

The NRC staff reviewed the licensee's analysis of proposed post-shutdown on-shift staffing, which provided that there were not any chemistry job tasks required for any of the analyzed events. As the licensee stated previously, one of the purposes of the CT is to collect and analyze gaseous and liquid samples if the applicable radiation monitor is not available during a release, or as directed by the Shift Manager. With the elimination of the CT, this function will now be performed by the on-shift RP Technician, if required. The RP Technician is capable of performing the reassigned duties that were previously performed by the eliminated CT position and the reassignment will not affect the capability of the RP Technician to perform its assigned functions associated with remaining applicable accidents. As such, the removal of CT position does not impact the ability of the on-shift or ERO staff to perform the Major Functional Area of

Radiological Accident Assessment and Support of Operational Accident Assessment. Therefore, the staff concludes that the change in staffing is acceptable.

Based on the NRC staff's review of the information provided in the ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of the on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b)(2), that adequate staffing to provide initial facility accident response is maintained, and the requirements of Section IV.A of Appendix E to 10 CFR Part 50, to describe the organization for coping with radiological emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in on-shift staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the on-shift staffing to perform the required radiological accident assessment and support of operational accident assessment functions.

3.4 Major Functional Area: Radiation Protection

The function of these resources is to provide radiation protection oversight of the on-shift complement of personnel and augmented personnel who are expected to respond to emergency events for damage repair, corrective actions, search and rescue, first aid, firefighting and personnel monitoring. They can also be expected to provide for access control and the issuance of dosimetry.

The PNP SEP currently identifies the following on-shift staffing:

- Two (2) on-shift RP Technicians

The licensee proposes to eliminate one on-shift RP Technician, as well as one 60-minute and three 90-minute augmenting RP Technicians.

In Section 3.2.1.5, "Major Functional Area: Radiation Protection," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

During a declared emergency, RWPs [Radiation Work Permits] and dose setpoints will change depending on the emergency situation and plant conditions. Both systems have been used by plant workers for several years. Worker dose margins and training qualifications are also automatically verified when the RWP access control system is used. If a worker's dose margin is inadequate or training is expired, the worker's access would be precluded and the access control system would not allow issuance of an electronic dosimeter. In an emergency situation, approval to exceed dose margins is required. During the log-in process, workers acknowledge their electronic dosimeter alarm setpoints and that they have read and understand their radiation work permit. Worker use of electronic dosimeters facilitates more efficient use of Radiation Protection (RP) Technicians to provide RP coverage while preserving the ALARA concept. Access control is maintained because the worker must obtain an electronic dosimeter and enter a radiation work permit number into the access control computer system prior to being allowed access into the Radiologically Controlled Area (RCA). No setup is required for the radiation work permit access control computers, which allows RP Technicians to be used for more critical tasks during emergency response.

During the initial stages of an accident, not all areas of the plant would be affected by releases of radioactive materials. Therefore, RP coverage would not be required for all areas. Because entry is expected to be limited to those areas where maintenance necessary to maintain SFP cooling is required and the areas potentially affected by an accident involving the SFP are limited, there is a significant decrease in areas potentially requiring RP coverage in a permanently shut down and defueled condition. If RP coverage is deemed necessary, multiple emergency teams can be covered by the on-shift RP Technician. If RP coverage is not provided (for entry into areas with low radiological risk or known radiological status), worker protection is ensured because emergency workers are required to wear electronic dosimeters (which will alarm at preset dose and dose rate setpoints) and because of the installed ARMs [area radiation monitors] (which alarm locally and remotely at preset dose rates) located throughout the plant.

Activities related to the conduct of surveys or radiological assessment of the area surrounding PNP are performed by the Field Team Technicians identified in the Field Monitoring Team (FMT) Major Functional Area....

As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to those at an operating plant. The NRC staff reviewed the licensee's analysis of proposed post-shutdown on-shift staffing. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to those at an operating plant. Because the designated on-shift RP Technician staffing can perform the required PNP SEP actions for multiple teams in a timely manner and workers will be protected by dosimeters and ARMs in areas where RP coverage is not provided, the NRC staff concludes that the level of on-shift staffing of one RP Technician will continue to provide for support of radiation protection oversight of the on-shift complement of personnel for damage repair, corrective actions, search and rescue, first aid, firefighting and personnel monitoring required for the remaining DBAs and for mitigative actions in response to an SFP accident.

Based on the NRC staff's review of the information provided in the ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of the on-shift staffing continues to meet the planning standards of 10 CFR 50.47(b)(2), to have adequate staffing to provide initial facility response, and the requirements of Section IV.A of Appendix E to 10 CFR Part 50, to describe the organization for coping with radiological emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in on-shift staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the on-shift staffing to perform the required plant operations and assessment of operational aspects functions.

3.5 Major Functional Area: Plant System Engineering, Repair and Corrective Actions

The licensee proposes to eliminate the Shift Engineer/Shift Technical Advisor position from the on-shift staffing. The licensee concluded that because of the permanent cessation of power operations and permanent removal of fuel from the reactor vessel, the Shift Engineer/Shift

Technical Advisor position would no longer be necessary for on-shift technical and analytical assistance.

In Section 3.2.1.6, "Major Functional Area: Plant System Engineering, Repair and Corrective Actions," to Attachment 1 of the letter dated August 31, 2017, the licensee stated, in part, that:

The Shift Engineer/Shift Technical Advisor performs independent assessments of plant operating concerns, technical support, appropriate corrective actions, analysis of events and their effects, effectiveness of response(s) to emergent conditions, classifications of emergencies, protection of the public, and any other actions related to critical safety functions and plant safety during abnormal and emergency situations. The Shift Engineer/Shift Technical Advisor also contributes to operations during normal plant Conditions. By routine monitoring of equipment and plant operations, the Shift Engineer/Shift Technical Advisor can focus on preventative actions to mitigate the consequences of an accident.

The analysis of proposed post-shutdown on-shift staffing concluded that the on-shift Shift Manager and two Non-Certified Operators can perform any required technical analysis, until augmented by the TSC, in a timely manner and there are no collateral duties that would prevent the timely performance of this task.

The ENO's analysis of proposed post-shutdown on-shift staffing concluded that the Shift Manager and two NCOs can perform any required technical analysis associated with the storage of spent fuel in a timely matter, until augmented by the TSC, and there are no collateral duties that would prevent the timely performance of this task.

The NRC staff reviewed the licensee's analysis of proposed post-shutdown on-shift staffing. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. Because of the permanent cessation of power operations, the removal of fuel from the reactor vessel, the reduced spectrum of accidents, and the reduction in the set of plant equipment required in the permanently defueled, the assessment and mitigation activities in the Control Room are reduced. The Shift Manager and two NCOs can perform any required technical analysis associated with the storage of spent fuel in a timely matter, until augmented by the TSC, and there are no collateral duties that would prevent the timely performance of this task. Therefore, the NRC staff concludes that the Shift Engineer/Shift Technical Advisor position is no longer necessary to provide on-shift technical and analytical assistance to Control Room personnel.

Based on the NRC staff's review of the information provided in the ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of the on-shift staffing continues to meet the planning standard of 10 CFR 50.47(b)(2) to have adequate staffing to provide initial facility response, and the requirements of Section IV.A of Appendix E to 10 CFR Part 50 to describe the organization for coping with radiological emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in on-shift staffing for the positions discussed above for this functional area are acceptable and do not impact the ability of the on-shift staffing to perform the required plant system engineering functions.

3.6 Licensee Augmented ERO Changes

The proposed changes to the PNP SEP will eliminate certain ERO positions currently identified in Section 5, "Organizational Control of Emergencies," of the proposed PNP SEP and emergency implementing procedures for the augmentation of the control room staff, and the activation and operation of the TSC, EOF, OSC, and JIC. Several of these positions are minimum positions currently required to declare the respective emergency response facility (ERF) operational.

Emergency implementing procedures state that TSC, OSC, and EOF are to be activated upon the declaration of an Alert, Site Area Emergency, or General Emergency. The facilities should be operational in approximately 60 minutes. The emergency implementing procedures directing activation of the TSC, OSC, and EOF used in the staff review are:

- EI-4.1, "Technical Support Center Activation," Revision 23, dated March 15, 2016;
- EI-4.2, "Operations Support Center Activation," Revision 24, dated March 15, 2016, and
- EI-4.3, "Emergency Operations Facility Activation," Revision 28, dated March 15, 2016.

These documents are docketed in ADAMS Accession No. ML16105A018.

In Section 3.2.2, "Augmented ERO Staffing," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

In the permanently shutdown and defueled condition, PNP will continue to maintain ERO teams to respond to an emergency declaration. When the Shift Manager directs the activation of the ERO call out system, ERO members are notified to ensure adequate coverage of ERO positions at each ERF. ERO members not on-call are expected to respond unless they are unavailable.

PNP requires ERO personnel to act promptly in reporting to their assigned ERF even when not on duty. During duty periods, procedures further require that team members respond within the required response time for their ERF (unless a longer time frame is specified for their specific ERO position) and that they remain fit for duty throughout the duty assignment. Individuals are trained to respond to their ERF even if they are not on duty. Excess personnel that respond may be assigned support responsibilities or be designated as a relief shift. This conservative policy ensures timely activation because some off-duty personnel may respond sooner than the on-duty personnel.

The proposed revisions to the PNP SEP will not change the requirements described above. Management's continued expectation is that duty and support ERO members report to their respective ERF as quickly as possible. ERO personnel are expected to respond when notified by the ERO notification system. Each of the positions proposed for elimination were analyzed to identify the key duties associated with the position and the duties were then evaluated against the planning standards in NUREG-0654.

In Section 3.2.2 to Attachment 1 of the letter dated August 31, 2017, the licensee further states, in part, that minimum staff are those "augmented ERO positions identified in procedures as typical minimum staffing positions to declare the ERFs operational."

Additionally, in Section 3.2.2 to Attachment 1 of the letter dated August 31, 2017, the licensee stated, in part, that:

To validate the results of the proposed changes to the augmented ERO described within, and the analysis presented in Attachment 6, one or more drills will be developed and conducted prior to implementation of the changes described within this LAR. The drills will be conducted to confirm the ability of the post-shutdown augmented ERO to perform the necessary functions of each ERF and will utilize the post-shutdown procedures that will be developed depicting the revised assignment of duties. The drills will be used to train and qualify post-shutdown augmented ERO members, evaluate and validate the ability to accomplish the stated mission of each ERF, and ensure that the planning standard functions are preserved with no degradation in time-sensitive activities or in the ability to communicate with OROs [offsite response organization]. The drills will also validate that the post-shutdown augmented ERO continues to address the risks to public health and safety and comply with the PNP SEP, site commitments, and applicable regulations. Implementing procedures will be revised to address the permanently shut down and defueled conditions. The revised procedures will be used to support training of augmented ERO staff and the conduct of the drills described above.

The elimination of the minimum staffing positions: TSC Reactor Engineer, TSC Engineers (Electrical, I&C, and Mechanical), and Radiological Assessment Coordinator is evaluated below, in addition to other requested changes to the PNP ERO.

3.6.1 Operations Support Center

Following permanent cessation of power operations and permanent removal of fuel from the reactor vessel, the OSC will continue to be located near the men's locker room in the service building. The proposed changes to the PNP SEP do not involve any physical modifications to, layout/configuration changes in, or the current functions of the OSC.

In the permanently shut down and defueled condition, the primary functions of the OSC will remain dispatching of, and accounting for, repair and corrective action teams and the dispatching of onsite and offsite field monitoring teams. The OSC craft functions will continue to be performed by augmenting qualified resources. The OSC Manager will continue to continuously evaluate the need for resources and coordinate with the EOF Technical Advisor to call in additional assistance. OSC resources will continue to be augmented positions with specific training and qualification requirements for assigned personnel in accordance with the site training program. The required training courses and requalification frequencies will be unchanged in the post-shutdown condition.

In Section 3.2.2.2, "Operation Support Center," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

The proposed staffing changes do not eliminate any ERO positions in the OSC described in the licensee's application as typical minimum staffing that could be considered necessary to declare the OSC operational.

Additionally, the proposed staffing changes eliminate the augmenting Radwaste Operator, one augmenting electrical technician, and the augmenting I&C Technician. These positions are included in PNP SEP Figure 5-2 as 60-minute augmenting responders. Electrical Maintenance Technician duties include providing repairs and corrective actions for plant electrical equipment, as directed. I&C Technician duties include providing repairs and corrective actions to plant instrumentation, as directed. The spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant. Therefore, the duties and coverage required for these positions are reduced.

The following table illustrates the NRC Staff's summary of the proposed changes to the OSC staffing:

PNP OSC Minimum Staff Positions	
Current Minimum Staff Positions	Proposed Minimum Staff Positions (response times are approximately 60 minutes from an Alert, or higher, declaration)
OSC Manager	OSC Manager
Rad/Chem Coordinator	Rad/Chem Coordinator
PNP OSC Augmented Staff Positions	
Current Positions	Proposed Positions
Work Control Coordinator	<i>Position Eliminated</i>
OSC Log Keeper	<i>Position Eliminated</i>
Mechanical Coordinator	<i>Position Eliminated</i>
I&C/Electrical Coordinator	<i>Position Eliminated</i>
Operations Support	<i>Position Eliminated</i>
OSC Teams/Technicians	OSC Teams/Technicians
OSC Radio Communicator	<i>Position Eliminated</i>
OSC Admin Support	<i>Position Eliminated</i>

In Section 3.2.2.2 of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

In the permanently shut down and defueled condition, the spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant. The primary events of concern in the immediate post-shutdown and defueled condition will be a dropped cask in the SFP, a FHA, and a loss of SFP cooling and/or water inventory. Events involving a loss of SFP cooling and/or water inventory can be addressed by implementation of SFP inventory makeup strategies required under 10 CFR 50.54(hh)(2). These strategies will continue to be maintained as a license condition. OSC staff is not relied upon to implement SFP inventory makeup.

Restoration of equipment supporting SFP cooling and inventory will be the primary focus of emergency mitigation actions for the TSC and OSC in a permanently shut down and defueled condition. Although ERO activation/response time requirements will be unchanged, the elimination of credible accidents involving an operating reactor provides additional time to plan and execute assessment and mitigation actions. The proposed changes do not impact the capability to assess and monitor actual or potential offsite consequences of a radiological emergency or provide information to offsite authorities in a timely manner. Therefore, the OSC Operations Support, Work Control Coordinator, Mechanical and I&C/Electrical Coordinators, OSC Log Keeper, OSC Radio Communicator, and OSC Admin Support positions can be eliminated without placing an undue burden on the remaining ERO positions in the OSC and without increasing the risk to public health and safety.

Attachment 6, "Emergency Response Organization Task Analysis," of the licensee's letter dated August 31, 2017, contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of power operations.

The NRC staff reviewed the licensee's analysis of proposed ERO staffing for the permanently shut down and defueled condition, and considered the postulated accidents that would be applicable to that condition. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to those at an operating plant. The duties being reassigned can be adequately performed by the remaining ERO staff in the OSC and the assumption of duties previously done by eliminated positions will not affect the capability of the remaining ERO positions or the OSC to perform their designated functions with respect to the reduced spectrum of accidents. Therefore, the NRC staff concludes that the proposed level of OSC staffing remaining after elimination of the OSC Operations Support, Work Control Coordinator, Mechanical and I&C/Electrical Coordinators, Radwaste Operator, One Electrical Technician, One I&C Technician, OSC Log Keeper, OSC Radio Communicator, and OSC Admin Support, will continue to provide the level of support required for the remaining DBA and for mitigative actions in response to an SFP accident.

Based on the NRC staff's review of the information, as provided in ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed

level of staffing for the OSC, as described above, continues to meet the planning standard of 10 CFR 50.47(b)(2) for timely augmentation of response capabilities, and the requirements of Sections IV.A and IV.D of Appendix E to 10 CFR Part 50, to describe the organization for coping with emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in OSC staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the ERO to perform the required functions.

3.6.2 Technical Support Center

In Section 3.6.2, "Technical Support Center," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

Following permanent cessation of power operations and permanent removal of fuel from the reactor vessel, the TSC will continue to be located in the area immediately adjacent to the Control Room. The changes proposed to the PNP SEP do not involve any physical modifications to, layout/configuration changes in, or functions of the TSC.

The following table illustrates the NRC staff's summary of proposed changes to the TSC staffing:

PNP TSC Minimum Staff Positions	
Current Minimum Staff Positions	Proposed Minimum Staff Positions (response times are approximately 60 minutes from an Alert, or higher, declaration)
Emergency Plant Manager	Emergency Plant Manager
Radiological Coordinator	<i>Position Eliminated</i>
ENS Communicator	ENS Communicator
Reactor Engineer	<i>Position Eliminated</i>
TSC Engineer – Mechanical	<i>Position Eliminated</i>
TSC Engineer – Electrical/I&C	<i>Position Eliminated</i>
PNP TSC Augmented Staff Positions	
Current Positions	Proposed Positions
TSC Manager	<i>Position Eliminated</i>
Operations Coordinator	<i>Position Eliminated</i>
Engineering Coordinator	Engineering Coordinator
Maintenance Coordinator	<i>Position Eliminated</i>
TSC Communicator	<i>Position Eliminated</i>
Security Coordinator	Security Coordinator
TSC Log Keeper	<i>Position Eliminated</i>
TSC Admin Support	<i>Position Eliminated</i>

The licensee stated that the current PNP SEP is intended to address the risks to public health and safety inherent in an operating reactor. The risk in the permanently defueled condition is significantly reduced because many of the potential initiating conditions that would lead to an emergency declaration will no longer be possible.

The licensee stated that the spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant. The set of plant equipment required in the permanently shut down and defueled condition is also greatly reduced, which reduces the assessment and mitigation activities the TSC must perform. As a result, the licensee concluded that the positions, as listed in the table above, can be eliminated without placing an undue burden on the remaining positions in the TSC and without increasing the risk to public health and safety.

The licensee's conclusion is based on its evaluation documented in Section 3.2.2.1, "Technical Support Center," of Attachment 1 to the letter dated August 31, 2017, which stated, in part, that:

The proposed staffing changes eliminate the following ERO positions in the TSC described in procedure as typical minimum staffing that could be considered necessary to declare the TSC operational: the Reactor Engineer (Technical Support - Core/Thermal Hydraulics), TSC Engineers (Electrical, I&C, and Mechanical), and the Radiological Assessment Coordinator.

TSC Reactor Engineer

The primary duties of the TSC Reactor Engineer include: monitoring plant conditions for any indication of core damage, assisting in clarifying core parameter information to the Engineering Team, and assisting in the implementation of Severe Accident Management Guidelines. In a permanently shut down and defueled condition, responsibilities associated with a reactor core no longer need to be maintained. Elimination of the TSC Reactor Engineer position will have no effect on emergency response in a permanently shut down and defueled condition because the position is not required to assess the condition of fuel in the SFP during an emergency. The TSC Reactor Engineer position can be eliminated without increasing the risk to public health and safety because the major task of evaluating core/thermal hydraulics is not necessary or possible in a permanently shut down and defueled condition.

TSC Engineers (Electrical, I&C, and Mechanical)

The primary duties of the TSC Engineer positions include responding to engineering requests from the Engineering Coordinator, evaluating the implementation of Severe Accident Management Guidelines, and assisting the OSC in preparing to send repair teams into the plant. These duties are either no longer necessary in a permanently shut down and defueled condition or will be performed by the Engineering Coordinator. The Engineering Coordinator is tasked with performing an engineering assessment of plant conditions and/or actions needed to mitigate damage to the plant.

With respect to responding to engineering requests from the Engineering Coordinator, this function will continue to be performed by augmenting qualified engineering resources. The Engineering Coordinator will continuously evaluate the need for engineering resources and coordinate with the EOF Technical Advisor to call in qualified engineering personnel. These individuals may be tasked with activities to be completed at engineering offices external to the TSC, called to report to the TSC, or directed to other facilities. Engineering resources

will continue to be available as augmenting positions with specific training and qualification requirements for assigned personnel in accordance with the site training program. The required training courses and requalification frequencies will be unchanged in the permanently shut down and defueled condition. However, these positions will no longer be identified as on-call positions. The elimination of the TSC Engineer positions is justified because the spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant. The set of plant equipment required in the permanently shut down and defueled condition is also greatly reduced, which reduces the assessment and mitigation activities the TSC must perform. Attachment 6 contains an analysis of the TSC Engineer positions and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of power operations and permanent removal of fuel from the reactor vessel.

Radiological Assessment Coordinator

The primary duties of the Radiological Assessment Coordinator is to coordinate Radiation Protection activities, including onsite radiological assessment, personnel exposure control and radiation protection programs. The Radiological Assessment Coordinator functions overlap with those of the Rad/Chem Coordinator in the OSC (position maintained in the post-shutdown ERO). In an operating plant, the number and type of Radiation Protection activities supports this redundancy and overlap in function. In the permanently shut down and defueled condition, the spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant and redundant functions is no longer necessary to ensure performance. The Radiological Assessment Coordinator position can be eliminated without increasing the risk to public health and safety because the major task of coordinating Radiation Protection activities is provided by the Rad/Chem Coordinator in the OSC.

In response to a request for additional information provided in ENO's supplemental letter dated April 16, 2018, the licensee stated, that:

In the permanently shut down and defueled condition, the TSC Engineering Coordinator would have the necessary qualifications, expertise, and capabilities to perform an engineering assessment of plant conditions and/or actions needed to mitigate damage to the plant in response to a fuel handling accident or an event resulting in damage to the SFP integrity or the loss of a SFP cooling or inventory.

In addition, the following TSC positions are also proposed for elimination following permanent cessation of power operations and permanent removal of fuel from the reactor vessel:

- TSC Manager,
- Operations Coordinator,
- TSC Maintenance Coordinator,
- TSC Communicator,
- TSC Administrative Support, and

- TSC Log Keeper.

In Section 3.2.2.1 of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

The TSC Manager is currently responsible for ensuring the TSC is activated in accordance with applicable procedures and ensuring notification of the ERO has been made. This position also advises the Emergency Plant Manager on proposed corrective actions and emergency classification from a technical standpoint (i.e., plant system damage, core damage, etc.). Functional responsibilities of the TSC Manager position that remain applicable in a permanently shut down and defueled condition will be reassigned to remaining positions in the TSC.

The primary duties of the Operations Coordinator are to monitor plant data communications between the Control Room and other ERFs, inform the TSC of the overall plant condition and significant changes to system and equipment status, provide technical assistance to the Shift Manager, monitor fission product barrier and plant status, and coordinate TSC efforts in support of Control Room actions. These duties are either no longer necessary in a permanently shut down and defueled condition, or they will be performed by other members of the post shutdown ERO, including the Emergency Plant Manager and the Engineering Coordinator.

The primary duties of the TSC Maintenance Coordinator are to communicate requests for repair and corrective action teams to the OSC, and assist the OSC in prioritizing the requests. These duties are reduced in a permanently shut down and defueled condition and can be performed by other members of the post shutdown ERO, specifically the OSC Manager and TSC Emergency Plant Manager.

The elimination of the TSC Administrative Support, TSC Communicator, and TSC Log Keeper positions does not impact the capabilities of the on-shift staffing or augmented response. The TSC will continue to be activated at an Alert or higher declaration. Functional responsibilities of the positions eliminated as a result of the changes will be reassigned to remaining positions, as necessary. The proposed augmented ERO staffing reductions continue to address the risks to public health and safety, comply with the PNP Emergency Plan, site commitments, and applicable regulations.

The risk in the permanently shut down and defueled condition is significantly reduced because many of the potential initiating conditions that would lead to an emergency declaration will no longer be possible. The spectrum of credible accidents and operational events, and the quantity and complexity of activities required for the safe storage of spent nuclear fuel is reduced as compared to an operating plant. The set of plant equipment required in the permanently shut down and defueled condition is also greatly reduced, which reduces the assessment and mitigation activities the TSC must perform. Therefore, the TSC Manager, Operations Coordinator, TSC Reactor Engineer, TSC Engineers, TSC Communicator, Radiological Assessment Coordinator, Maintenance Coordinator, TSC Admin Support, and TSC Log Keeper positions can be eliminated without

placing an undue burden on the remaining ERO positions in the TSC and without increasing the risk to public health and safety. Attachment 6 contains an analysis of all augmented ERO positions being eliminated and evaluates the transfer of tasks to remaining augmented ERO positions following permanent cessation of power operations. The proposed augmented ERO staffing reductions continue to address the risks to public health and safety, comply with the PNP SEP, site commitments, and applicable regulations.

Attachment 6 of the licensee's letter dated August 31, 2017, contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of power operations.

The NRC staff reviewed the licensee's analysis of proposed post-shutdown ERO staffing. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to those at an operating plant. These proposed changes eliminate positions that are no longer needed due to the permanently defueled condition of the reactor and reassign some functional and administrative responsibilities. The reassigned tasks can be performed by the remaining positions without adversely impacting their previously assigned duties given the limited activities required for the post-shutdown condition. Therefore, the NRC staff concludes that the proposed level of TSC staffing remaining after elimination of the TSC Manager, Operations Coordinator, TSC Reactor Engineer, TSC Engineers, TSC Communicator, Radiological Assessment Coordinator, Maintenance Coordinator, TSC Admin Support, and TSC Log Keeper positions, will continue to provide plant management and technical support to the operating personnel located in the control room for the level of support required for the remaining DBAs and for mitigative actions in response to an SFP accident.

Based on the NRC staff's review of the information, as provided in ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of augmented TSC staffing, as described above, continues to meet the planning standards of 10 CFR 50.47(b)(2) for timely augmentation of response capabilities, and the requirements of Section IV.A of Appendix E to 10 CFR Part 50, to describe the organization for coping with emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in TSC staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the ERO to perform the required functions.

3.6.3 Emergency Operations Facility (EOF)

Following permanent cessation of power operations, the EOF will continue to be located in downtown Benton Harbor, Michigan, approximately 16 miles south southwest from the plant site. The proposed changes to the PNP SEP do not involve any physical modifications to, layout/configuration changes in, or functions of the EOF.

The proposed staffing changes do not eliminate any ERO positions in the EOF identified in the licensee's application as typical minimum staffing that could be considered necessary to declare the EOF operational.

The following table illustrates the proposed changes to the EOF staffing:

PNP EOF Minimum Staff Positions	
Current Minimum Staff Positions	Proposed Minimum Staff Positions (response times are approximately 60 minutes from an Alert, or higher, declaration)
Emergency Director	Emergency Director
Radiological Assessment Coordinator	Radiological Assessment Coordinator
Offsite Communicator	Offsite Communicator
Dose Assessor	Dose Assessor
PNP EOF Augmented Staff Positions	
Current Positions	Proposed Positions
Technical Advisor	Technical Advisor
EOF Manager	<i>Position Eliminated</i>
EOF Communicator	<i>Position Eliminated</i>
EOF Log Keeper	<i>Position Eliminated</i>
Lead Offsite Liaison	<i>Position Eliminated</i>
Admin & Logistics Coordinator	<i>Position Eliminated</i>
IT Specialist	<i>Position Eliminated</i>
Offsite Team Coordinator	Offsite Team Coordinator
Offsite Liaisons	Offsite Liaisons
Monitoring Team No. 1	Monitoring Team No. 1
Monitoring Team No. 2	Monitoring Team No. 2
State/County Communicator	<i>Position Eliminated</i>
Security Coordinator	<i>Position Eliminated</i>
Security Staff	<i>Position Eliminated</i>
EOF Admin Support	<i>Position Eliminated</i>

In Section 3.2.2.3, "Emergency Operations Facility," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part that:

The EOF maintains extensive communications capability with all ERFs and direct links are established between the EOF, the State and County Emergency Operations Centers (EOCs), and the JIC to provide up-to-date emergency status reports. The proposed changes to the PNP SEP do not involve changes to the ability of offsite authorities to report to the EOF or the JIC, and as a result, do not impact the ability of the offsite authorities to mobilize to, or operate from, the EOF and JIC.

The Emergency Director, or a designated alternate, issues periodic status reports of the event to offsite representatives located in the EOF. The Radiological Assessment Coordinator and Technical Advisor will provide and interpret plant information to the offsite representatives in the EOF. Additionally, technical support staff are dispatched to the State and County EOCs when requested and appropriate, or generally, during an Alert or higher declaration to act as a liaison with the plant technical staff so the magnitude of the emergency can be more clearly conveyed to the EOCs staff. The proposed changes do not reduce the ability of PNP to provide the necessary information regarding the status and progression of an event or in the frequency at which event information updates

are provided. Nor do the changes impact the ability to dispatch additional technical support to the EOCs. As a result, the proposed changes do not impact the ability of PNP to communicate with the OROs.

Centralized coordination of the offsite radiological assessment effort with all organizations interested in, and/or performing, assessments is necessary to ensure that the data and its interpretation are reviewed by PNP and OROs with monitoring and assessment responsibilities. The number and type of organizations performing this effort vary with time and following emergency declarations and offsite notification. Initially, plant emergency response personnel are the only organization performing this function and they are directed from, and their results evaluated, at the EOF. State and Federal response agencies would augment plant assessment efforts. The proposed changes to the PNP SEP do not impact the ability of OROs to monitor and assess a potential release and effectively implement their emergency plans.

The licensee will continue to maintain the capability to display plant and meteorological data in the EOF, maintain offsite monitoring equipment at the EOF and maintain the current dose assessment capabilities at the EOF. Additionally, PNP will maintain a goal of sixty (60) minutes after declaration of an emergency to activate the EOF.

The proposed staffing changes do not eliminate any ERO positions in the EOF described in procedure as typical minimum staffing that could be considered necessary to declare the EOF operational

The proposed elimination of the EOF staffing listed above does not impact the capabilities of the on-shift staffing or augmented response. The positions can be eliminated without placing an undue burden on the remaining ERO positions in the EOF and without increasing the risk to public health and safety. The EOF will continue to be activated at an Alert or higher declaration. Functional responsibilities of the positions proposed for elimination will be reassigned to remaining positions. The proposed augmented ERO staffing continue to address the risks to public health and safety, comply with the PNP SEP, site commitments, and applicable regulations. The proposed changes to the ERO staffing in the EOF do not impact the ability of the State and County response organizations to effectively implement their FEMA-approved REP. Additional discussion of the potential impact on OROs is included in Section 3.2.3, "Impact on Off-Site Response Organizations."

Attachment 6 of the licensee's letter dated August 31, 2017, contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of power operations.

The NRC staff reviewed the licensee's analysis of proposed post-shutdown ERO staffing. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to an operating plant. The remaining ERO positions will assume duties from the eliminated positions. The licensee's analysis of proposed post-shutdown ERO staffing indicates that the eliminated positions are not needed, the tasks being transferred can be adequately performed by the

remaining ERO positions, and the reassigned duties and administrative responsibilities will not adversely affect the capability of the EOF to perform its functions given the limited activities required for post-shutdown condition. Therefore the NRC staff concludes that the proposed level of EOF staffing will continue to provide management of overall licensee emergency response (including coordination with Federal, State, and local officials), coordination of radiological and environmental assessments, and determination of recommended public protective actions for the level of support required for the remaining DBA and for mitigative actions in response to an SFP accident.

Based on the NRC staff's review of the information, as provided in ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of on-shift and augmented EOF staffing, as described above, continues to meet the planning standards of 10 CFR 50.47(b)(2) for timely augmentation of response capabilities and the requirements of Sections IV.A of Appendix E to 10 CFR Part 50, to describe the organization for coping with radiological emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in EOF staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the ERO to perform the required functions.

3.6.4 Joint Information Center (JIC)

The JIC provides a location for the news media to receive information from all involved agencies and companies during an emergency and provide it to the public. The JIC is equipped to accommodate the news media for large briefings and conferences and contains extensive communications systems. Media monitoring and rumor control are also accomplished at the JIC, allowing Entergy and State representatives to address incorrect information or rumors. Responses to media telephone inquiries are also addressed at the JIC.

Following permanent cessation of operations and permanent removal of fuel from the reactor vessel, the JIC will continue to be located in Benton Harbor, Michigan. The proposed changes to the PNP SEP do not involve any physical modifications to, layout/configuration changes in, or functions of the JIC.

The following tables illustrate the NRC staff's summary of the proposed changes to the JIC staffing:

PNP JIC Augmented Staff Positions	
Current Positions	Proposed Positions
Corporate Spokesperson	Corporate Spokesperson
JIC Manager	<i>Position Eliminated</i>
Technical Advisor	<i>Position Eliminated</i>
Logistics Coordinator	<i>Position Eliminated</i>
Information Coordinator	<i>Position Eliminated</i>
Media Liaison	Media Liaison
JIC Log Keeper	<i>Position Eliminated</i>
Technical Assistant	<i>Position Eliminated</i>
Press Release Writer	<i>Position Eliminated</i>
Media Monitor	Media Monitor
Inquiry Response Coordinator	<i>Position Eliminated</i>

Public Inquiry Responders (2)	Public Inquiry Responder
JIC Admin Support	<i>Position Eliminated</i>

In Section 3.2.2.4, "Joint Information Center," of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

In the permanently shut down and defueled condition, media briefings and rumor control will continue to be conducted regularly during an emergency to provide accurate and timely information to the public. The proposed JIC staffing changes described above do not impact the capabilities of the on-shift staffing or augmented response. The positions can be eliminated without placing an undue burden on the remaining ERO positions in the JIC and without increasing the risk to public health and safety. Functional responsibilities of the positions proposed for elimination will be reassigned to remaining positions. The proposed augmented ERO staffing reductions continue to address the risks to public health and safety, comply with the PNP SEP, site commitments, and applicable regulations.

Attachment 6 of the licensee's letter dated August 31, 2017, contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of power operations.

The NRC staff reviewed the licensee's analysis of proposed post-shutdown ERO staffing. As discussed previously in Section 3.0, the spectrum of credible accidents and operational events for a permanently shut down and defueled reactor, and the number and complexity of activities required for the safe storage of spent nuclear fuel is reduced, as compared to those at an operating plant. The licensee's analysis of proposed post-shutdown ERO staffing indicates that the eliminated positions are not needed, the tasks being transferred can be adequately performed the remaining ERO positions, and the reassigned duties and administrative responsibilities will not adversely affect the capability of the JIC to perform its functions given the limited activities required for post-shutdown condition. Therefore, the NRC staff concludes that the proposed level of staffing at the JIC will continue to disseminate information to the public for the level of support required for the remaining DBAs and for mitigative actions in response to an SFP accident.

Based on its review of the information, as provided in ENO letter dated August 31, 2017, as supplemented by letter dated April 16, 2018, the NRC staff finds that the proposed level of augmented JIC staffing, as described above, continues to meet the planning standards of 10 CFR 50.47(b)(2) for timely augmentation of response capabilities and the requirements of Sections IV.A of Appendix E to 10 CFR Part 50 to describe the organization for coping with radiological emergencies, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition of the PNP facility. As such, the proposed changes in JIC staffing for the positions listed above for this functional area are acceptable and do not impact the ability of the JIC to perform the required functions.

3.7 Potential Impact of Staff Changes on Off-site Emergency Response Organizational Interfaces

In Section 3.2.3 of Attachment 1 to the letter dated August 31, 2017, the licensee stated, in part, that:

Because of the location of PNP, the planning and responsibilities at the State and County level involve coordination with the State of Michigan, Berrien County, Allegan County, and Van Buren County. Table 7-1 [Palisades PSEP Communications Matrix] of the SEP describes the extensive communications network maintained between PNP, Federal, State, and County agencies as a means of promptly notifying and maintaining communications with appropriate authorities. The coordination effort with offsite authorities is initiated by notifying the State of Michigan and Van Buren County and providing them with key information regarding an emergency. The proposed changes to the PNP SEP do not involve changes to this communications network, and as a result, do not impact the ability of PNP to promptly notify and initiate coordination with the offsite authorities.

Because the changes proposed by ENO, specifically in regards to ERO staffing of the EOF and JIC, have the potential to adversely impact the effective implementation of the State and County REP plans, the proposed changes to the PNP SEP were evaluated for impacts on the ability of the State and County response organizations to effectively implement their FEMA-approved REP Plans. This evaluation included a review of the State of Michigan Radiological Emergency Response Plan, the Berrien County Radiological Emergency Response Plan, the Allegan County Radiological Emergency Response Plan, and the Van Buren County Emergency Preparedness Plan. The review of the State and County REPs did not identify any specific references to PNP ERO positions proposed for elimination. Therefore, the conclusion was made that the proposed changes have no effect on the State or counties' ability to implement their FEMA-approved REP plans. On June 6, 2017, a meeting with these various Federal, State, and local agencies was conducted to discuss the proposed changes. Feedback from the State and local agencies is provided in Attachment 8, "State and Local Agency Correspondence on Post-Shutdown Emergency Plan License Amendment Request Meeting."

PNP technical support staff is dispatched to the State and County EOCs when requested and appropriate, or generally, during a SAE [site are emergency] or GE to act as a liaison with the plant technical staff to clearly convey the magnitude of the emergency to the EOC's staff. These positions are retained in the Post-Shutdown ERO. The proposed changes do not reduce the ability of PNP to provide the necessary information regarding the status and progression of an event or in the frequency at which event information updates are provided. Nor do the changes impact the ability to dispatch additional technical support to the EOCs. As a result, the proposed changes do not impact the ability of PNP to communicate with the OROs or the ability of the State and County response organizations to effectively implement their FEMA-approved REP Plans.

Attachment 6 of the licensee's letter dated August 31, 2017, contains an analysis of all ERO positions being eliminated and evaluates the transfer of tasks to remaining ERO positions following permanent cessation of power operations.

By letter dated September 27, 2017 (Reference 10), the NRC staff requested FEMA's review of the proposed licensee staffing changes against the current FEMA-approved State and local REP plans to verify that no potential adverse impacts exist that would preclude the effective implementation of State and local REP plans. In a letter dated January 23, 2018, (Reference 11), FEMA responded that the FEMA REP staff reviewed the proposed licensee staffing changes to the PNP EOF and JIC against the current FEMA approved State of Michigan, Berrien County, Allegan County, and Van Buren County REP Plans and confirmed that no adverse impacts exist that would preclude the effective implementation of state and local REP Plans or impact FEMA's finding of reasonable assurance for PNP.

In Attachment 8 of the licensee's letter dated August 31, 2017, the State of Michigan and three affected counties affirmed that the proposed changes included in the PNP Post-Shutdown Emergency Plan will not impact their ability to "effectively implement" their respective FEMA-approved REP Plans.

Based on the NRC staff's review of the information addressed above, as confirmed by the FEMA evaluation of potential, unintended impacts on offsite ERO Interface REP plans, the staff finds that the proposed changes to the PNP SEP staffing are acceptable and continue to meet the planning standards of 10 CFR 50.47(b)(1) and (2), commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition at the PNP facility.

3.8 Summary

Based on the evaluation above, the NRC staff finds that the proposed emergency plan changes meet the planning standard in 10 CFR 50.47(b)(2), and the requirements in Sections IV.A and IV.D of Appendix E to 10 CFR Part 50, and 10 CFR 50.72(a)(3), and provide reasonable assurance that adequate protective measures can and will continue to be taken in the event of a radiological emergency, commensurate with the reduced spectrum of credible accidents in the permanently shut down and defueled condition.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Michigan State official was notified of the proposed issuance of the amendment on June 18, 2018. The Michigan State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment relates to changes in recordkeeping, reporting, or administrative procedures or requirements. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding (82 FR 55403; November 21, 2017). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(10). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

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 amendment will not be inimical to the common defense and security or to the health and safety of the public.

7.0 REFERENCES

1. Arnone, Charles F., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Certification of Permanent Cessation of Power Operations," dated January 4, 2017 (ADAMS Accession No. ML17004A062).
2. Arnone, Charles F., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Certification of Permanent Cessation of Power Operations," dated September 28, 2017 (ADAMS Accession No. ML17271A233).
3. Arnone, Charles F., Entergy Nuclear Operations, Inc. letter to U.S. Nuclear Regulatory Commission, "Supplement to Certification of Permanent Cessation of Power Operations," dated October 19, 2017 (ADAMS Accession No. ML17292A032).
4. Arnone, Charles F., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "License Amendment Request – Emergency Plan Revision to Reflect a Permanently Shut Down and Defueled Reactor Vessel," dated August 31, 2017 (ADAMS Accession No. ML17248A389).
5. Arnone, Charles F., Entergy Nuclear Operations, Inc., letter to U.S. Nuclear Regulatory Commission, "Response to Request for Additional Information – Proposed Changes to the Emergency Plan to Reflect a Permanently Shutdown and Defueled Reactor Vessel, Palisades Nuclear Plant, Docket 50-255, Renewed Facility Operating License No. DPR-20," dated April 16, 2018 (ADAMS Accession No. ML18107A004).
6. U.S. Nuclear Regulatory Commission, Regulatory Guide 1.101, Revision 2, "Emergency Planning and Preparedness for Nuclear Power Reactors," dated October 1981 (ADAMS Accession No. ML090440294).
7. U.S. Nuclear Regulatory Commission, Federal Emergency Management Agency, NUREG-0654/FEMA-REP-1, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," dated November 1980 (ADAMS Accession No. ML040420012).
8. U.S. Nuclear Regulatory Commission, NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants," dated November 20, 2011 (ADAMS Accession No. ML113010523).
9. NEI 10-05, Revision 0, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," dated June 2011 (ADAMS Accession No. ML111751698).

10. Anderson, Joseph D., U.S. Nuclear Regulatory Commission, letter to Vanessa Quinn, Federal Emergency Management Agency, "Federal Emergency Management Agency Review Requested of Proposed Changes to the Palisades Nuclear Plant Emergency Plan for Permanently Defueled Condition," dated September 27, 2017 (ADAMS Accession No. ML17270A205).
11. Quinn, Vanessa E., Federal Emergency Management Agency, letter to Joseph Anderson, U.S. Nuclear Regulatory Commission, "Federal Emergency Management Agency Review Requested of Proposed Changes to the Palisades Nuclear Plant Emergency Plan for Permanently Defueled Condition," dated January 23, 2018 (ADAMS Accession No. ML18025B256).

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Date: September 24, 2018

SUBJECT: PALISADES NUCLEAR PLANT - ISSUANCE OF AMENDMENT RE: CHANGES TO THE EMERGENCY PLAN FOR PERMANENTLY DEFUELED CONDITION (CAC NO. MG0198; EPID L-2017-LLA-0305) DATED SEPTEMBER 24, 2018

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