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October 22, 2018
L-18-254

10 CFR 50.90

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

SUBJECT:

Davis-Besse Nuclear Power Station, Unit No. 1
Docket No. 50-346, License No. NPF-3
License Amendment Request – Proposed Changes to Technical Specifications
Sections 1.1, “Definitions,” and 5.0, “Administrative Controls,” for Permanently
Defueled Condition

In accordance with 10 CFR 50.90, “Application for amendment of license or construction permit,” FirstEnergy Nuclear Operating Company (FENOC) requests amendments to Appendix A, Technical Specifications (TS), of Renewed Facility Operating License No. NPF-3 for Davis-Besse Nuclear Power Station, Unit No. 1 (DBNPS).

By letter dated April 25, 2018 (Accession No. ML18115A007), FENOC provided formal notification to the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.82(a)(1)(i) and 10 CFR 50.4(b)(8) of the intention to permanently cease power operations at DBNPS by May 31, 2020.

Once the certifications of permanent cessation of power operations and of permanent removal of fuel from the reactor vessel is docketed for DBNPS, in accordance with 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize reactor operation or emplacement or retention of fuel in the reactor vessel.

The basis for this proposed license amendment request (LAR) is that certain TS administrative controls may be revised or removed to reflect the permanently defueled condition. Specifically, this LAR proposes changes to the organization, staffing, and training requirements contained in Section 5.0, “Administrative Controls” of the DBNPS TS and defines two new positions for Certified Fuel Handler and Non-Certified Operator in Section 1.1, “Definitions.” The proposed amendment also supports implementation of the FENOC Certified Fuel Handler Training and Retraining Program that was submitted to the NRC for approval by letter dated August 15, 2018 (Accession No. ML18227A019).

The enclosure to this letter provides a detailed description and evaluation of the proposed changes to the TS, including a markup of the current TS pages depicting the proposed changes.

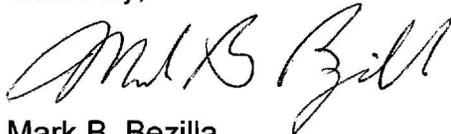
FENOC requests review and approval of this proposed amendment by November 30, 2019 to support the current schedule for the DBNPS transition to a permanently defueled facility. Once approved, the amendment shall be implemented within 60 days from the effective date of the amendment. FENOC requests that the approved amendment become effective following NRC approval of the FENOC Certified Fuel Handler Training and Retraining Program and docketing of the certifications required by 10 CFR 50.82(a)(1) that DBNPS has been permanently shutdown and defueled.

FENOC has concluded that the proposed changes present no significant hazards consideration under the standards set forth in 10 CFR 50.92, "Issuance of amendment."

There are no regulatory commitments contained in this submittal. If there are any questions, or if additional information is required, please contact Mr. Thomas Lentz, Manager, FENOC Nuclear Licensing & Regulatory Affairs, at (330) 315-6810.

I declare under penalty of perjury that the foregoing is true and correct. Executed on October 22, 2018.

Sincerely,



Mark B. Bezilla

Enclosure:

License Amendment Request Evaluation of Proposed Changes

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

Enclosure

License Amendment Request Evaluation of Proposed Changes
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Subject: Proposed Changes to Technical Specifications Sections 1.1 and 5.0

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1.0 SUMMARY DESCRIPTION

Pursuant to 10 CFR 50.90, "Application for amendment of license or construction permit," FirstEnergy Nuclear Operating Company (FENOC) proposes changes to Appendix A, Technical Specifications (TS) of Renewed Facility Operating License No. NPF-3 for Davis-Besse Nuclear Operating Station, Unit No. 1 (DBNPS).

By letter dated April 25, 2018 (Reference 1), FENOC provided formal notification to the U.S. Nuclear Regulatory Commission (NRC) pursuant to 10 CFR 50.82(a)(1)(i) and 10 CFR 50.4(b)(8) of the intention to permanently cease power operations at DBNPS by May 31, 2020.

Once the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel are submitted to the NRC pursuant to 10 CFR 50.82(a)(1)(i) and (ii), and pursuant to 10 CFR 50.82(a)(2), the 10 CFR 50 license will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel.

To support activities at DBNPS once the site is in a permanently shutdown and defueled condition, some administrative controls will no longer be applicable and can be deleted or revised. Therefore, this license amendment request (LAR) proposes changes that would delete or revise certain organization, staffing, and training requirements contained in Section 5.0, "Administrative Controls," of the DBNPS TS to further support plant activities and decommissioning efforts following permanent cessation of operations.

In addition, by letter dated August 15, 2018 (Reference 2), FENOC submitted the FENOC Certified Fuel Handler Training and Retraining Program for NRC approval. The proposed LAR will support implementation of this program once approved, since licensed reactor operators will no longer be required to support plant operations. The need for licensed reactor operators is specified in TS Section 5.0. The new terms that support implementation of this program, "Certified Fuel Handler" and "Non-Certified Operator," will be added to TS Section 1.1, "Definitions."

The proposed changes would not become effective until both of the following have occurred: (1) the NRC has approved the FENOC certified fuel handler training program, and (2) FENOC has submitted the required 10 CFR 50.82(a)(1)(ii) certification that DBNPS has been permanently defueled.

In the development of the proposed TS changes, FENOC reviewed the TS requirements from other plants that will or have permanently shutdown, primarily Three Mile Island Nuclear Station, Oyster Creek Nuclear Generating Station, Pilgrim Nuclear Power Station, Vermont Yankee Nuclear Power Station, and Zion Nuclear Power Station. FENOC also evaluated the applicable guidance in NUREG-1430, "Standard Technical Specifications, Babcock and Wilcox," Revision 4.0 (Reference 3).

This LAR provides a discussion and description of the proposed TS changes, a technical evaluation of the proposed TS changes, and information supporting a finding of no significant hazards consideration (NSHC).

2.0 DETAILED DESCRIPTION

Attachment 1 contains a markup of the current TS pages. The specific changes affecting TS Sections 1.1 and 5.0 are described in this section; the supporting technical evaluation is presented in Section 3.0 of this enclosure. Proposed revisions in this section are shown in ***Bold-Italics*** and deletions are shown using ~~strikethrough~~. All revised formatting, numbering, and wording in TS Section 5.0 is consistent with Section 5.0 of Reference 3, except where noted to make the specification germane with a permanently defueled reactor.

TS Section 1.1 – Definitions	
Current TS	Proposed TS
[A term and definition for CERTIFIED FUEL HANDLER is not listed in the current TS.]	<p><u>Term</u></p> <p><i>CERTIFIED FUEL HANDLER</i></p> <p><u>Definition</u></p> <p><i>A CERTIFIED FUEL HANDLER is an individual who complies with provisions of the CERTIFIED FUEL HANDLER training and retraining program required by Specification 5.3.2.</i></p>
[A term and definition for NON-CERTIFIED OPERATOR is not listed in the current TS.]	<p><u>Term</u></p> <p><i>NON-CERTIFIED OPERATOR</i></p> <p><u>Definition</u></p> <p><i>A NON-CERTIFIED OPERATOR is a non-licensed operator who complies with the qualification requirements of Specification 5.3.1, but is not a CERTIFIED FUEL HANDLER.</i></p>

TS Section 5.1 – Responsibility	
Current TS	Proposed TS
<p>5.1.1 The plant manager shall be responsible for overall unit operation and shall delegate in writing the succession to this responsibility during his absence.</p> <p>The plant manager or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affects nuclear safety.</p>	<p>5.1.1 The plant manager shall be responsible for overall unitfacility operation and shall delegate in writing the succession to this responsibility during his absence.</p> <p>The plant manager or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affects nuclear safetysafe storage and maintenance of nuclear fuel.</p>
<p>5.1.2 The shift manager shall be responsible for the control room command function. During any absence of the shift manager from the control room while the unit is in MODE 1, 2, 3, or 4, an individual with an active Senior Operator license shall be designated to assume the control room command function. During any absence of the shift manager from the control room while the unit is in MODE 5 or 6, an individual with an active Senior Operator license or Operator license shall be designated to assume the control room function.</p>	<p>5.1.2 The shift manager shall be responsible for the control roomshift command function. During any absence of the shift manager from the control room while the unit is in MODE 1, 2, 3, or 4, an individual with an active Senior Operator license shall be designated to assume the control room command function. During any absence of the shift manager from the control room while the unit is in MODE 5 or 6, an individual with an active Senior Operator license or Operator license shall be designated to assume the control room function.</p>

TS Section 5.2 – Organization	
Current TS	Proposed TS
<p>5.2.1 <u>Onsite and Offsite Organization</u></p> <p>Onsite and offsite organizations shall be established for unit operation and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the nuclear power plant.</p> <p>a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operating organization positions. These relationships shall be documented and updated, as appropriate, in organization charts, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of</p>	<p>5.2.1 <u>Onsite and Offsite Organization</u></p> <p>Onsite and offsite organizations shall be established for unit operationfacility staff and corporate management, respectively. The onsite and offsite organizations shall include the positions for activities affecting safety of the nuclear power plantthe safe storage and handling of nuclear fuel.</p> <p>a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all operatingfacility organization positions. These relationships shall be documented and updated, as appropriate, in organization chartsdescriptions, functional descriptions of departmental responsibilities and relationships, and job</p>

TS Section 5.2 – Organization	
Current TS	Proposed TS
<p>documentation. These requirements, including the plant-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the UFSAR.</p> <p>b. The plant manager shall be responsible for overall safe operation of the plant and shall have control over those onsite activities necessary for safe operation and maintenance of the plant.</p> <p>c. A specified corporate officer shall have corporate responsibility for overall plant nuclear safety and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plant to ensure nuclear safety.</p> <p>d. The individuals who train the operating staff, carry out health physics, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressures.</p>	<p>descriptions for key personnel positions, or in equivalent forms of documentation. These requirements, including the plant-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the UFSAR.</p> <p>b. The plant manager shall be responsible for overall safe operation of the plantfacility and shall have control over those onsite activities necessary for safe operation and maintenancestorage and maintenance of the plantnuclear fuel.</p> <p>c. A specified corporate officer shall have corporate responsibility for overall plant nuclear safetythe safe storage and handling of nuclear fuel and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the plantfacility to ensure nuclear safetysafe management of nuclear fuel.</p> <p>d. The individuals who train the operating staffCERTIFIED FUEL HANDLERS, carry out health physics, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their independence from operating pressuresability to perform their assigned functions.</p>
<p>5.2.2 <u>Unit Staff</u></p> <p>The unit staff organization shall include the following:</p> <p>a. A non-licensed operator shall be assigned if the reactor contains fuel and an additional non-licensed operator shall be assigned if the reactor is operating in MODES 1, 2, 3, or 4;</p> <p>b. Shift crew composition may be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and</p>	<p>5.2.2 <u>Unit</u>Facility Staff</p> <p>The unitfacility staff organization shall include the following:</p> <p>a. A non-licensed operator shall be assigned if the reactor contains fuel and an additional non-licensed operator shall be assigned if the reactor is operating in MODES 1, 2, 3, or 4Each on duty shift shall be composed of at least one shift manager and one NON-CERTIFIED OPERATOR. The NON-CERTIFIED OPERATOR position may be filled by a CERTIFIED FUEL</p>

TS Section 5.2 – Organization	
Current TS	Proposed TS
<p>Specifications 5.2.2.a and 5.2.2.f for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements;</p> <p>c. A radiation protection technician shall be on site when fuel is in the reactor. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position;</p> <p>d. Deleted;</p> <p>e. The operations manager shall either hold or have held a Senior Operator license. The assistant operations manager shall hold a Senior Operator license for the Davis-Besse Nuclear Power Station; and</p> <p>f. When the reactor is operating in MODE 1, 2, 3, or 4 an individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift.</p>	<p>HANDLER.</p> <p>b. Shift crew composition may be less than the minimum requirement of 40 CFR 50.54(m)(2)(i) and Specifications 5.2.2.a and 5.2.2.f for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements and the following conditions are met:</p> <p>1) No nuclear fuel movements are in progress;</p> <p>2) No movement of loads over nuclear fuel is in progress; and</p> <p>3) No unmanned shift positions during shift turnover shall be permitted due to an incoming shift crew member being late or absent.</p> <p>c. A radiation protection technician shall be on site when fuel is in the reactorduring movement of nuclear fuel and during the movement of loads over nuclear fuel. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position;</p> <p>d. DeletedAt least one person qualified to stand watch in the control room (NON-CERTIFIED OPERATOR or CERTIFIED FUEL HANDLER) shall be present in the control room when nuclear fuel is stored in the spent fuel pool;</p> <p>e. The operations managershall either hold or have held a Senior Operator licenseshift manager be a CERTIFIED FUEL HANDLER. The assistant operations manager shall hold a Senior Operator license for the Davis-Besse Nuclear Power Station; and</p> <p>f. When the reactor is operating in MODE 1, 2, 3, or 4 an individual shall provide</p>

TS Section 5.2 – Organization	
Current TS	Proposed TS
	<p>advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on ShiftOversight of nuclear fuel handling operations shall be provided by a CERTIFIED FUEL HANDLER.</p>

TS Section 5.3 – Unit Facility Staff Qualifications	
Current TS	Proposed TS
<p>5.3.1 Each member of the unit staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for the radiation protection manager, the operations manager, and licensed operators. The radiation protection manager shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975. The operations manager shall be qualified as required by Specification 5.2.2.e. The licensed operators shall comply only with the requirements of 10 CFR 55.</p>	<p>5.3.1 Each member of the unitfacility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for the radiation protection manager, and the operationsshift manager, and licensed operators. The radiation protection manager shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975. The operationsshift manager shall be qualified as required by Specification 5.2.2.e. The licensed operators shall comply only with the requirements of 10 CFR 55.</p>
<p>5.3.2 For the purpose of 10 CFR 55.4, a licensed Senior Operator and a licensed Operator are those individuals who, in addition to meeting the requirements of Specification 5.3.1, perform the functions described in 10 CFR 50.54(m).</p>	<p>5.3.2 For the purpose of 10 CFR 55.4, a licensed Senior Operator and a licensed Operator are those individuals who, in addition to meeting the requirements of Specification 5.3.1, perform the functions described in 10 CFR 50.54(m).The NRC-approved training and retraining program for CERTIFIED FUEL HANDLERS shall be maintained.</p>

TS Section 5.4 – Procedures	
Current TS	Proposed TS
<p>5.4.1 Written procedures shall be established, implemented, and maintained covering the following activities:</p> <ul style="list-style-type: none"> a. The applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978; b. The emergency operating procedures required to implement the requirements of NUREG-0737 and to NUREG-0737, Supplement 1, as stated in Generic Letter 82-33; c. Quality assurance for effluent and environmental monitoring; d. Fire Protection Program implementation; and e. All programs specified in Specification 5.5. 	<p>5.4.1 Written procedures shall be established, implemented, and maintained covering the following activities:</p> <ul style="list-style-type: none"> a. The applicable procedures applicable to the safe storage of nuclear fuel recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978; b. The emergency operating procedures required to implement the requirements of NUREG-0737 and to NUREG-0737, Supplement 1, as stated in Generic Letter 82-33 Deleted; c. Quality assurance for effluent and environmental monitoring; d. Fire Protection Program implementation; and e. All programs specified in Specification 5.5.

TS Section 5.6 – Reporting Requirements	
Current TS	Proposed TS
<p>The following reports shall be submitted in accordance with 10 CFR 50.4.</p> <p>5.6.1 <u>Annual Radiological Environmental Operating Report</u></p> <p>The Annual Radiological Environmental Operating Report covering the operation of the unit during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.</p> <p>The Annual Radiological Environmental Operating Report shall include the results</p>	<p>The following reports shall be submitted in accordance with 10 CFR 50.4.</p> <p>5.6.1 <u>Annual Radiological Environmental Operating Report</u></p> <p>The Annual Radiological Environmental Operating Report covering the operation of the unit facility during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.</p> <p>The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental</p>

TS Section 5.6 – Reporting Requirements	
Current TS	Proposed TS
<p>of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.</p>	<p>samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.</p>
<p>5.6.2 <u>Radioactive Effluent Release Report</u></p> <p>The Radioactive Effluent Release Report covering the operation of the unit in the previous year shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.</p>	<p>5.6.2 <u>Radioactive Effluent Release Report</u></p> <p>The Radioactive Effluent Release Report covering the operation of the unitfacility in the previous year shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unitfacility. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.</p>

3.0 TECHNICAL EVALUATION

This technical evaluation is for administrative changes to DBNPS TS Section 5.0, “Administrative Controls” and the addition of two new terms to TS Section 1.1, “Definitions.” All revised formatting, numbering, and wording is consistent with the Section 5.0 of Reference 3, except where noted to make the specification germane with a permanently defueled reactor. As a result, the TS should be more readily readable, and therefore understandable, by plant operators as well as other users. The reformatting, renumbering, repagination, and rewording process involves no technical changes to the existing TS, except where specifically noted.

TS Section 1.1 – Definitions

FENOC proposes to add two new terms, “CERTIFIED FUEL HANDLER” and “NON-CERTIFIED OPERATOR,” and associated definitions to the DBNPS TS to ensure consistent understanding and application throughout the TS. Further discussion of the CERTIFIED FUEL HANDLER and NON-CERTIFIED OPERATOR are included in several of the proposed TS Section 5.0 revisions below.

TS Section 5.1 – Responsibility

This section identifies the overall responsibility for the plant operation and the responsibilities for the control room command function associated with Modes of plant operation and is based on personnel positions and qualifications for an operating plant. It identifies the need for a delegation of authority for command in an operating plant when the principle assignee leaves the control room.

TS 5.1.1 – The proposed change is to replace “unit” with “facility.” This is an administrative change that reflects DBNPS will be permanently shutdown and defueled. The term “facility” is a more appropriate description of a site that is undergoing decommissioning. This change is proposed throughout this LAR. In all cases that this change is made, overall management and staff responsibilities and the description of the facility are unchanged.

The term “safe storage and maintenance of nuclear fuel” is considered analogous to the terms “nuclear safety” and “safety of the nuclear power plant” for a facility that will be in the permanently defueled condition. The proposed change in this TS serves to narrow the focus of nuclear safety concerns to those associated with safely maintaining spent nuclear fuel.

These changes are administrative in nature and remove the implication that DBNPS can return to operation once the certifications required by 10 CFR 50.82(a)(1) are submitted to the NRC.

TS 5.1.2 – The proposed change to this TS is to eliminate the Mode dependency for this function and personnel qualifications associated with an operating plant. The proposed change establishes the shift manager as having command of the shift. Delegation of command is unnecessary once DBNPS is in the permanently defueled condition with nuclear fuel in the spent fuel pool. It is expected that any event involving loss of spent fuel pool cooling would evolve slowly enough that no immediate response would be required to protect the health and safety of the public or facility personnel.

Associated activities (for example, spent fuel handling) do not necessarily rely on the control room. The control room will remain the physical center of the command function; however, since control of activities may be performed either remotely from the control room or locally in the plant, the location of the command center is functionally where the shift manager is located; therefore, the requirement to have a licensed operator in the control room is no longer necessary. The proposed TS changes

recognize that the delegation of authority for command and control aspects are different in a permanently shutdown and defueled plant from that for an operating plant when the shift manager leaves the control room. With DBNPS permanently shutdown and defueled, the number of relevant controls located in the control room and the gradual nature of abnormal or accident situations would not warrant that the command function remain in the control room. Adequate communications capability is provided to allow operators to appropriately safely manage storage and handling of irradiated fuel without reliance on the control room for the command function. This change is administrative in nature.

TS Section 5.2 – Organization

This section identifies overall organizational positions and responsibilities required to ensure nuclear power plant safety.

TS 5.2.1 – The introduction to this section identifies that organizational positions are established that are responsible for the safety of the nuclear power plant. The proposed change is to require that positions be established that are responsible for the safe handling and storage of nuclear fuel. This proposed change removes the implication that DBNPS can return to operation once the certifications required by 10 CFR 50.82(a)(1) are docketed.

The proposed change replaces “unit operation” with “facility staff.” In addition, the term “plant” is replaced with “facility” in several locations. These are administrative changes that reflect that DBNPS will be permanently shutdown and defueled. The term “facility” is a more appropriate description of a site that is undergoing decommissioning. This change is proposed throughout this LAR. In all cases that this change is made, overall management and staff responsibilities and the description of the facility remain unchanged.

The terms “safe storage and maintenance of nuclear fuel,” “safe management of nuclear fuel,” and “safe storage and handling of nuclear fuel” are considered analogous to the terms “nuclear safety” and “safety of the nuclear power plant” for a facility that will be in the permanently defueled condition. The proposed changes to replace “nuclear safety” with one of these analogues serves to narrow the focus of nuclear safety concerns to those associated with nuclear fuel.

TS 5.2.1.a – This TS identifies lines of authority, responsibility, and communication throughout the organization for the operating facility. The proposed change is to replace “operating” with “facility,” and to replace “charts” with “descriptions” for the documentation of the organization. The proposed changes reflect a permanently shutdown and defueled reactor and are administrative in nature.

TS 5.2.1.b – This TS identifies the organizational position responsible for the safe operation of the plant and for control of activities necessary for the safe operation and maintenance of the plant. To reflect the change in nuclear safety focus from an operating plant to a permanently shutdown and defueled facility, DBNPS proposes to

change the responsibility for control of activities necessary for the “safe operation and maintenance of the plant” to the “safe storage and maintenance of the nuclear fuel.” The proposed change includes replacing “plant” with “facility,” which is administrative.

TS 5.2.1.c – This TS identifies the organizational position responsible for overall nuclear plant safety. To reflect the change in nuclear safety focus from an operating plant to a permanently shutdown and defueled facility, DBNPS proposes to change the responsibility from “overall plant nuclear safety” to “the safe storage and handling of nuclear fuel,” and the responsibility for providing technical support to “the plant to ensure nuclear safety” is changed to “the facility to ensure safe management of nuclear fuel.”

TS 5.2.1.d – This TS addresses the requirement for organizational independence of the personnel who train the operating staff, carry out health physics, or perform quality assurance functions from operating pressures. “Operating staff” is replaced with “CERTIFIED FUEL HANDLERS” and “their independence from operating pressures” is changed to “their ability to perform their assigned functions.” These proposed changes reflect the changed function of the previous operating staff to a focus on safe handling and storage of nuclear fuel and removes the implication that DBNPS can return to operation once the certifications required by 10 CFR 50.82(a)(1) are docketed.

TS 5.2.2 – As discussed above, the proposed change from “unit” to “facility” in the title and introductory sentence is administrative.

TS 5.2.2.a – This TS stipulates when non-licensed operators must be assigned to the operating shift, based on status of fuel in the reactor or operational mode. Because this will not be applicable at DBNPS once the certifications required by 10 CFR 50.82(a)(1) are docketed, the minimum requirement is changed to a minimum crew complement of one shift manager and one non-certified operator. This proposed change reflects the reduced number of systems, compared to an operating reactor, required to provide and support spent fuel pool cooling and monitor spent fuel pool parameters, such as spent fuel pool level and temperature, while still maintaining the ability to ensure spent fuel handling operations are carried out in a safe manner. Moreover, the spectrum of credible accidents and operational events, and the quantity and complexity of activities required for safety will be greatly reduced from that at an operating plant. The shift manager will be qualified as a certified fuel handler in accordance with revised TS 5.2.2.e. In this position, this individual will retain command and control responsibility for operational decisions and will be responsible for the functions required for event reporting and emergency response.

TS 5.2.2.b – This TS addresses the conditions under which the minimum shift complement may be reduced. It allows for shift crew composition to be less than the minimum requirement of 10 CFR 50.54(m)(2)(i) and TS 5.2.2.a and TS 5.2.2.f for a period of time not to exceed two hours in order to accommodate unexpected absence of on-duty shift crew members, provided immediate action is taken to restore the shift crew composition to within the minimum requirements.

The proposed change is to remove the reference to 10 CFR 50.54(m)(2)(i) because DBNPS will not return to operation once the certifications required by 10 CFR 50.82(a)(1) are docketed, and the requirement for licensed operating personnel as stated in 10 CFR 50.54(m) will no longer be required to protect public health and safety. No exemption from 10 CFR 50.54(m)(2)(i) is needed or requested to support this change, based on the NRC response to a similar request from Vermont Yankee Nuclear Power Station in June 2014 (Reference 4).

The proposed TS 5.2.2.b revision addresses the conditions under which the minimum shift complement may be reduced, due to unforeseen circumstances. It allows for shift crew composition to be less than the minimum requirement of the proposed TS 5.2.2.a for a period of time, not to exceed two hours, in order to accommodate unexpected absence of on-duty shift crew members, provided immediate action is taken to restore the shift crew composition to within the minimum requirements. It also ensures that no nuclear fuel movement or movement of loads over the nuclear fuel occur during an absence. The proposed change does not permit shift positions to be unmanned during shift turnover due to an incoming shift crew member being late or absent. This prevents intentionally reducing crew composition below the minimum requirement. For example, the restriction would prevent an outgoing shift crew member from leaving the facility prior to an incoming shift crew member's arrival.

TS 5.2.2.c – This TS establishes the requirement for a radiation protection technician to be onsite when fuel is in the reactor. This TS also allows for the position to be vacant for not more than two hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position.

DBNPS proposes to revise the condition of this TS so that a radiation protection technician is present on-site during the movement of nuclear fuel and during the movement of loads over the nuclear fuel because fuel will not be allowed to be placed or stored in the reactor vessel once the certifications required by 10 CFR 50.82(a)(1) are docketed.

TS 5.2.2.d – This TS was previously deleted. FENOC proposes to add a requirement to TS 5.2.2.d that “At least one person qualified to stand watch in the control room (NON-CERTIFIED OPERATOR or CERTIFIED FUEL HANDLER) shall be present in the control room when nuclear fuel is stored in the spent fuel pool.” This reflects the reduced requirement for control room personnel training and qualification for a plant authorized for nuclear fuel storage only. The control room will remain the physical center of the command function. However, since control of activities may be performed either remotely from the control room or locally in the facility, the location of the command center is functionally where the shift manager is located in accordance with proposed TS 5.1.2.

Adding this requirement ensures that the primary functions of the control room at a permanently shutdown reactor, such as monitoring plant systems, response to abnormal conditions, communications with on-site personnel and offsite agencies, emergency response, and coordination of facility activities, will be maintained at all

times when nuclear fuel is stored in the spent fuel pool. The proposed wording is consistent with previously proposed and approved license amendments (References 5 through 8).

TS 5.2.2.e – This TS establishes the requirement for the operations manager to hold a senior reactor operation (SRO) license. The proposed change to TS 5.2.2.e is to reflect a permanently defueled reactor condition by replacing the requirement with a requirement that “The shift manager shall be a CERTIFIED FUEL HANDLER.” Once the certifications required by 10 CFR 50.82(a)(1) have been docketed, the requirements of 10 CFR 50.54(m) will no longer be applicable because the DBNPS 10 CFR 50 license will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel. These certifications also obviate the need for licensed operators, including a senior license holder, as specified in 10 CFR 55, “Operator’s Licenses.” Therefore, there is no longer a need for operations management staff to hold an SRO license. Replacing this with a requirement that the shift manager be a certified fuel handler ensures that the senior individual directing activities on shift is appropriately trained and qualified in accordance with an NRC-approved Certified Fuel Handler Training and Retraining Program. As discussed above, no exemption from 10 CFR 50.54(m) is needed or requested to support this change.

Once the plant is permanently shutdown and defueled, the time available to mitigate credible events is expected to be greater than that for current design basis events. As such, management oversight of the facility can be performed by individuals meeting the applicable requirements of American National Standards Institute (ANSI) / American Nuclear Society (ANS) 18.1-1971 (as required by TS 5.3.1) and need not be qualified as certified fuel handlers.

TS 5.2.2.f – This TS establishes the requirements for advisory technical support. FENOC proposes to replace the current wording for TS 5.2.2.f with a new requirement that “Oversight of nuclear fuel handling operations shall be provided by a CERTIFIED FUEL HANDLER.”

The advisory technical support position is only required for a plant authorized for power operations. Once the certifications required by 10 CFR 50.82(a)(1) have been docketed, the DBNPS license will no longer authorize operations of the reactor or emplacement or retention of fuel in the reactor vessel.

The new requirement ensures that movement of nuclear fuel is only performed under the oversight of an individual who has been trained and qualified on the procedures, processes, requirements and standards for safe movement of nuclear fuel. Oversight of fuel handling operations refers to the authorization from the shift manager/certified fuel handler to move fuel. This aligns with proposed TS 5.2.2.e, which requires the shift manager to be a certified fuel handler.

TS Section 5.3 – Unit Staff Qualifications

As discussed above, the change from “unit” to “facility” in the title of this section is administrative.

TS 5.3.1 – This TS specifies the minimum qualifications for the DBNPS staff. Each member of the unit staff meets or exceeds the minimum qualifications specified in ANSI/ANS 18.1-1971, except for the radiation protection manager, the operations manager, and licensed operators. The operations manager shall be qualified as required by current TS 5.2.2.e. The licensed operators shall comply only with the requirements of 10 CFR 55.

The proposed change to this TS includes replacing “unit” with “facility” and replacing “operations manager” with “shift manager” to reflect the permanently shutdown and defueled condition consistent with the proposed TS 5.2.2.e. These changes are administrative.

Once the certifications required by 10 CFR 50.82(a)(1) have been docketed, the requirements of 10 CFR 50.54(m) will no longer be applicable because the DBNPS 10 CFR 50 license will no longer authorize operation of the reactor or emplacement or retention of fuel in the reactor vessel. These certifications also obviate the need for licensed operators as specified in 10 CFR 55. Therefore, this exception no longer applies, and the requirement is being removed.

TS 5.3.2 – This TS defines licensed senior operators and licensed operators as the individuals who perform the functions described in 10 CFR 50.54(m). FENOC proposes to replace TS 5.3.2 with a new requirement to maintain an NRC-approved training and retraining program for certified fuel handlers.

Once the certifications required by 10 CFR 50.82(a)(1) have been docketed, the requirements of 10 CFR 50.54(m) will no longer be applicable nor will there be a need for licensed operators as specified in 10 CFR 55. Therefore, this requirement is being removed. As discussed above, no exemption from 10 CFR 50.54(m) is needed or requested to support this change.

FENOC proposes to replace TS 5.3.2 with “The NRC-approved training and retraining program for CERTIFIED FUEL HANDLERS shall be maintained.” The FENOC Certified Fuel Handler Training and Retraining Program ensures that certified fuel handler qualifications are commensurate with the tasks to be performed and the conditions requiring response actions. Regulation 10 CFR 50.120, “Training and qualification of nuclear power plant personnel,” requires training programs to be derived using a systems approach to training (SAT) as defined in 10 CFR 55.4. Although the requirements of 10 CFR 50.120 apply to holders of an operating license issued under 10 CFR 50, and the DBNPS license will no longer authorize operation following docketing of the certifications required by 10 CFR 50.82(a)(1), the FENOC Certified Fuel Handler Training and Retraining Program nonetheless aligns with those requirements. The Certified Fuel Handler Training and Retraining Program provides

confidence that appropriate SAT-based training of personnel who will perform the duties of a certified fuel handler is conducted to ensure the facility is maintained in a safe and stable condition.

To support implementation of this proposed change, the FENOC Certified Fuel Handler Training and Retraining Program was submitted to the NRC for approval by letter dated August 15, 2018 (Reference 2).

TS Section 5.4 – Procedures

This TS provides a description and requirements regarding administration of written procedures. TS 5.4 will remain applicable with the reactor permanently defueled. As such, it is retained and revised to reflect a permanently defueled condition. Relevant procedures will continue to be controlled per 10 CFR 50, Appendix B, Criterion VI, “Document Control.” Activities involving security and emergency planning and preparedness will continue to be controlled by procedure.

TS 5.4.1.a – FENOC proposes to revise the applicability for this TS to procedures applicable to the safe storage of nuclear fuel recommended in Regulatory Guide 1.33, Revision 2, Appendix A. Because operating and refueling the reactor will both be prohibited by the 10 CFR 50 license once the certifications required by 10 CFR 50.82(a)(1) have been docketed, procedures associated with these activities will no longer need to be maintained. Procedures governing fuel handling operations will provide the guidance necessary to ensure safe handling of nuclear fuel in the spent fuel pool and transfer from the spent fuel pool to dry fuel storage casks. Procedures governing responses to fuel handling accidents, personnel injuries, spent fuel pool events, and external events provide the necessary guidance to mitigate the consequences of such events. No change to the DBNPS actions in response to a fuel handling accident is proposed.

TS 5.4.1.b – This TS requires emergency operating procedures that implement the requirements of NUREG-0737 and NUREG-0737, Supplement 1, as stated in Generic Letter (GL) 82-33. This TS is proposed to be deleted as GL 82-33 was only addressed to licensees of operating reactors, applicants for operating licenses, and holders of construction permits, none of which would apply to DBNPS in the permanently defueled condition. As discussed above, procedures governing the site response to accidents, events, and injuries will provide the necessary guidance to mitigate the consequences of such events.

TS Section 5.6 – Reporting Requirements

TS 5.6.1 – As discussed above, the term “unit” is changed to “facility.” This is an administrative change that reflects DBNPS will be permanently shutdown and defueled.

TS 5.6.2 – The term “unit” is changed to “facility.” This is an administrative change that reflects DBNPS will be permanently shutdown and defueled.

4.0 REGULATORY EVALUATION

4.1 Applicable Regulatory Requirements/Criteria

The proposed changes have been evaluated to determine whether applicable regulations and requirements continue to be met. FENOC has determined that the proposed changes do not require any exemptions or relief from regulatory requirements.

10 CFR 50.82(a)(1) requires that when a licensee has determined to permanently cease operations, the licensee shall, within 30 days, submit a written certification to the NRC, consistent with the requirements of 10 CFR 50.4(b)(8), and once fuel has been permanently removed from the reactor vessel, the licensee shall submit a written certification to the NRC that meets the requirements of 10 CFR 50.4(b)(9). By letter dated April 25, 2018 (Reference 1), FENOC provided formal notification to the NRC of FENOC's intention to permanently cease power operations at DBNPS by May 31, 2020. FENOC recognizes that approval of these proposed changes is contingent upon the submittal of the certifications required by 10 CFR 50.82(a)(1).

10 CFR 50.82(a)(2) states: "Upon docketing of the certifications for permanent cessation of operations and permanent removal of fuel from the reactor vessel, or when a final legally effective order to permanently cease operations has come into effect, the 10 CFR Part 50 license no longer authorizes operation of the reactor or emplacement or retention of fuel into the reactor vessel."

10 CFR 50.36 establishes the requirements for TS. 10 CFR 50.36(c)(5), Administrative Controls, identifies that an Administrative Controls section shall be included in the TS and shall include provisions relating to organization and management, procedures, recordkeeping, review and audit, and reporting necessary to assure operation of the facility in a safe manner. This request is proposing changes to the Administrative Controls section, with conforming changes proposed to additional sections, consistent with the pending decommissioning status of the plant. This request applies the principles identified in 10 CFR 50.36(c)(6), Decommissioning, for a facility that has submitted certifications required by 10 CFR 50.82(a)(1) and proposes changes to the Administrative Controls appropriate for the DBNPS permanently defueled condition. As 10 CFR 50.36(c)(6) states, this type of change should be considered on a case-by-case basis.

10 CFR 50.54(m) establishes the requirements for having reactor operators and senior reactor operators licensed in accordance with 10 CFR 55 based on plant conditions. Given the impending permanent cessation of operation for DBNPS, the requirements of this section will no longer apply once the certifications required by 10 CFR 50.82(a)(1) have been docketed, and it will be permissible to remove those positions from the TS.

4.2 Precedent

The proposed changes are consistent with the existing TS administrative control requirements currently approved at Oyster Creek Nuclear Generating Station (DPR-16), for which an amendment was issued on March 7, 2017 (Reference 5), and Pilgrim Nuclear Power Station (DPR-35), for which an amendment was issued on July 10, 2017 (Reference 6); and which are in effect for the permanently shutdown and defueled Vermont Yankee Nuclear Power Station (DPR-28), for which an amendment was issued on December 22, 2014 (Reference 7).

The proposed changes are also consistent with the TS administrative control requirements currently in effect for the permanently shutdown and defueled Zion Nuclear Power Station, for which an amendment was issued for each unit on December 30, 1999 (Reference 8).

4.3 No Significant Hazards Consideration Analysis

The proposed changes would add, revise and remove certain requirements contained within the Davis-Besse Nuclear Power Station, Unit No. 1 (DBNPS), Technical Specifications (TS), Section 1.1, "Definitions," and Section 5.0, "Administrative Controls." The TS requirements being changed would be applicable once the certifications required by 10 CFR 50.82(a)(1) have been docketed and the FENOC Certified Fuel Handler Training and Retraining Program is approved by the NRC. Once the certifications for permanent cessation of operations and permanent fuel removal are made, the 10 CFR 50 license for DBNPS will no longer authorize operation of the reactor or placement of fuel in the reactor vessel, in accordance with 10 CFR 50.82(a)(2).

FirstEnergy Nuclear Operating Company (FENOC) has evaluated whether or not a significant hazards consideration is involved with the proposed amendment by focusing on the three standards set forth in 10 CFR 50.92, "*Issuance of amendment*," as discussed below:

The discussion below addresses each of these criteria and demonstrates that the proposed amendment does not constitute a significant hazard.

1. Does the proposed amendment involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

The proposed amendment would not take effect until DBNPS has permanently ceased operation and entered a permanently defueled condition and the FENOC Certified Fuel Handler Training and Retraining Program is approved by the NRC. The proposed amendment would

revise the DBNPS TS by deleting or modifying certain portions of the TS administrative controls described in Section 5.0 that are no longer applicable to a permanently shutdown and defueled facility. In addition, the terms CERTIFIED FUEL HANDLER and NON-CERTIFIED OPERATOR would be added to Section 1.1 to define these positions that are applicable to permanently shutdown and defueled facility.

The deletion and modification of provisions of the administrative controls do not directly affect the design of structures, systems, and components (SSCs) necessary for safe storage of irradiated fuel or the methods used for handling and storage of such fuel in the spent fuel pool. The changes to the administrative controls are administrative in nature and do not affect any accidents applicable to the safe management of irradiated fuel or the permanently shutdown and defueled condition of the reactor. Thus, the consequences of an accident previously evaluated are not increased.

In a permanently defueled condition, it is expected that the only credible accidents are the fuel handling accident (FHA) and those involving radioactive waste systems remaining in service. The probability of occurrence of previously evaluated accidents is not increased because extended operation in a defueled condition will be the only operation allowed. This mode of operation is bounded by the existing analyses. In addition, the occurrence of postulated accidents associated with reactor operation is no longer credible in a permanently defueled reactor. This significantly reduces the scope of applicable accidents.

Therefore, the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed amendment create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

The proposed amendment has no impact on facility SSCs affecting the safe storage of irradiated fuel, or on the methods of operation of such SSCs, or on the handling and storage of irradiated fuel itself. The administrative removal or modifications of the TS that are related only to administration of the facility cannot result in different or more adverse failure modes or accidents than previously evaluated because the reactor will be permanently shutdown and defueled, and DBNPS will no longer be authorized to operate the reactor or retain or place fuel in the reactor vessel.

The proposed amendment to the DBNPS TS does not affect systems credited in the accident analysis for the FHA or radioactive waste system

upsets at DBNPS. The proposed TS will continue to require proper control and monitoring of safety significant parameters and activities.

The proposed amendment does not result in any new mechanisms that could initiate damage to the remaining relevant safety barriers for defueled plants (fuel cladding and spent fuel pool cooling). Extended operation in a defueled condition will be the only operation allowed, and it is bounded by the existing analyses, therefore such a condition does not create the possibility of a new or different kind of accident.

The proposed amendment does not involve any physical alterations to the facility.

Therefore, the proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed amendment involve a significant reduction in a margin of safety?

Response: No.

Because the 10 CFR 50 license for DBNPS will no longer authorize operation of the reactor or emplacement or retention of fuel into the reactor vessel once the certifications required by 10 CFR 50.82(a)(1) are docketed, as specified in 10 CFR 50.82(a)(2), the occurrence of postulated accidents associated with reactor operation is no longer credible. The only remaining credible accidents are a FHA and those involving radioactive waste systems remaining in service. The proposed amendment does not adversely affect the inputs or assumptions of any of the design basis analyses that impact these analyzed conditions.

The proposed changes are limited to those portions of the TS that are not related to the SSCs that are important to the safe storage of spent nuclear fuel. The requirements that are proposed to be added, revised, or deleted from the DBNPS TS are not credited in the existing accident analysis for the remaining applicable postulated accidents; and, therefore, do not contribute to the margin of safety associated with the accident analysis. Postulated design basis accidents involving the reactor are no longer possible because the reactor will be permanently shutdown and defueled, and DBNPS will no longer be authorized to operate the reactor or retain or place fuel in the reactor vessel.

Therefore, the proposed change does not involve a significant reduction in the margin of safety.

Based on the above, FENOC concludes that the proposed amendment does not involve a significant hazards consideration under the standards set forth in

10 CFR 50.92(c), and, accordingly, a finding of “no significant hazards consideration” is justified.

4.4 Conclusions

In conclusion, based on the considerations discussed above: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) 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.

5.0 ENVIRONMENTAL CONSIDERATION

The proposed amendment involves adding, deleting, or modifying certain TS administrative controls in support of proposed decommissioning efforts to reflect the permanently shutdown and defueled condition at DBNPS. The proposed amendment does not involve (i) a significant hazards consideration, (ii) a significant change in the types or significant increase in the amounts of any effluents that may be released offsite, or (iii) a significant increase in individual or cumulative occupational radiation exposure. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(9).

In addition, the proposed changes involve changes to recordkeeping, reporting, or administrative procedures or requirements. Accordingly, the proposed amendment meets the eligibility criterion for categorical exclusion set forth in 10 CFR 51.22(c)(10).

Therefore, pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the proposed amendment.

6.0 REFERENCES

1. FENOC Letter to NRC, “Certification of Permanent Cessation of Power Operations for Beaver Valley Power Station, Unit Nos. 1 and 2, Davis-Besse Nuclear Power Station, Unit No. 1, and Perry Nuclear Power Plant, Unit No. 1,” dated April 25, 2018 (Accession No. ML18115A007)
2. FENOC Letter to NRC, “Request for Approval of Certified Fuel Handler Training Program,” dated August 15, 2018 (Accession No. ML18227A019)
3. NUREG-1430, “Standard Technical Specifications, Babcock and Wilcox Plants,” Revision 4.0, Published April 2012
4. NRC Letter to Entergy Nuclear Operations, Inc., “Vermont Yankee Nuclear Power Station – Request for Exemption from the Requirements of

10 CFR 50.54(m) (TAC No. MF2990),” dated June 18, 2014
(ML14147A216)

5. NRC Safety Evaluation for Oyster Creek Nuclear Generating Station, License Amendment 290, License No. DPR-16, Date of Issuance March 7, 2017 (Accession No. ML16235A413)
6. NRC Safety Evaluation for Pilgrim Nuclear Power Station, Amendment No. 246, License No. DPR-35, Date of Issuance July 10, 2017 (Accession No. ML17066A130)
7. NRC Safety Evaluation for Vermont Yankee Nuclear Power Station, Amendment 260, License No. DPR-28, Date of Issuance December 22, 2014 (Accession No. ML14217A072)
8. NRC Safety Evaluation for Zion Nuclear Station, Amendment Nos. 180 and 167 (for Unit Nos. 1 and 2, respectively), License Nos. DPR-39 and DPR-48, dated December 30, 1999 (Accession Nos. ML003672704 and ML003672696)

7.0 ATTACHMENTS

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Attachment 1

Technical Specification Page Markups
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1.0 USE AND APPLICATION

1.1 Definitions

NOTE

The defined terms of this section appear in capitalized type and are applicable throughout these Technical Specifications and Bases.

<u>Term</u>	<u>Definition</u>
ACTIONS	ACTIONS shall be that part of a Specification that prescribes Required Actions to be taken under designated Conditions within specified Completion Times.
ALLOWABLE THERMAL POWER	ALLOWABLE THERMAL POWER shall be the maximum reactor core heat transfer rate to the reactor coolant permitted by consideration of the number and configuration of reactor coolant pumps (RCPs) in operation.
AXIAL POWER IMBALANCE	AXIAL POWER IMBALANCE shall be the power in the top half of the core, expressed as a percentage of RATED THERMAL POWER (RTP), minus the power in the bottom half of the core, expressed as a percentage of RTP.
AXIAL POWER SHAPING RODS (APSRs)	APSRs shall be control components used to control the axial power distribution of the reactor core. The APSRs are positioned manually by the operator and are not trippable.
<u>CERTIFIED FUEL HANDLER</u>	<u>A CERTIFIED FUEL HANDLER is an individual who complies with provisions of the CERTIFIED FUEL HANDLER training and retraining program required by Specification 5.3.2.</u>
CHANNEL CALIBRATION	A CHANNEL CALIBRATION shall be the adjustment, as necessary, of the channel output such that it responds within the necessary range and accuracy to known values of the parameter that the channel monitors. The CHANNEL CALIBRATION shall encompass all devices in the channel required for channel OPERABILITY and the CHANNEL FUNCTIONAL TEST. Calibration of instrument channels with resistance temperature detector (RTD) or thermocouple sensors may consist of an in-place qualitative assessment of sensor behavior and normal calibration of the remaining adjustable devices in the channel. The CHANNEL CALIBRATION may be performed by means of any series of sequential, overlapping, or total channel steps.

CHANNEL CHECK

A CHANNEL CHECK shall be the qualitative assessment, by observation, of channel behavior during operation. This determination shall include, where possible, comparison of

For Information Only:
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For Information Only:
The complete CHANNEL CHECK definition is to be on this page.

1.1 Definitions

CHANNEL CHECK ~~(continued)~~



the channel indication and status to other indications or status derived from independent instrument channels measuring the same parameter.

CHANNEL FUNCTIONAL TEST A CHANNEL FUNCTIONAL TEST shall be the injection of a simulated or actual signal into the channel as close to the sensor as practicable to verify OPERABILITY of all devices in the channel required for channel OPERABILITY. The CHANNEL FUNCTIONAL TEST may be performed by means of any series of sequential, overlapping, or total steps.

CONTROL RODS CONTROL RODS shall be all full length safety and regulating rods that are used to shut down the reactor and control power level during maneuvering operations.

CORE OPERATING LIMITS REPORT (COLR) The COLR is the unit specific document that provides cycle specific parameter limits for the current reload cycle. These cycle specific limits shall be determined for each reload cycle in accordance with Specification 5.6.3. Plant operation within these limits is addressed in individual Specifications.

DOSE EQUIVALENT I-131 DOSE EQUIVALENT I-131 shall be that concentration of I-131 (microcuries/gram) that alone would produce the same thyroid dose as the quantity and isotopic mixture of I-131, I-132, I-133, I-134, and I-135 actually present. The thyroid dose conversion factors used for this calculation shall be those listed in Table III of TID-14844, AEC, 1962, "Calculation of Distance Factors for Power and Test Reactor Sites," or those listed in Table E-7 of Regulatory Guide 1.109, Rev. 1, NRC, 1977, or those listed in ICRP 30, Supplement to Part 1, page 192-212, table titled, "Committed Dose Equivalent in Target Organs or Tissues per Intake of Unit Activity".

Ē - AVERAGE DISINTEGRATION ENERGY Ē shall be the average (weighted in proportion to the concentration of each radionuclide in the reactor coolant at the time of sampling) of the sum of the average beta and gamma energies per disintegration (in MeV) for isotopes, other than iodines, with half lives > 15 minutes, making up at least 95% of the total noniodine activity in the coolant.

INSERVICE TESTING PROGRAM The INSERVICE TESTING PROGRAM is the licensee program that fulfills the requirements of 10 CFR 50.55a(f).

1.1 Definitions

LEAKAGE

LEAKAGE shall be:

a. Identified LEAKAGE

1. LEAKAGE, such as that from pump seals or valve packing (except RCP seal return flow), that is captured and conducted to collection systems or a sump or collecting tank;
2. LEAKAGE into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of leakage detection systems or not to be pressure boundary LEAKAGE; or
3. Reactor Coolant System (RCS) LEAKAGE through a steam generator to the Secondary System (primary to secondary LEAKAGE),

b. Unidentified LEAKAGE

All LEAKAGE (except RCP seal return flow) that is not identified LEAKAGE; and

c. Pressure Boundary LEAKAGE

LEAKAGE (except primary to secondary LEAKAGE) through a nonisolable fault in an RCS component body, pipe wall, or vessel wall.

MODE

A MODE shall correspond to any one inclusive combination of core reactivity condition, power level, average reactor coolant temperature, and reactor vessel head closure bolt tensioning specified in Table 1.1-1 with fuel in the reactor vessel.

NON-CERTIFIED OPERATOR A NON-CERTIFIED OPERATOR is a non-licensed operator who complies with the qualification requirements of Specification 5.3.1, but is not a CERTIFIED FUEL HANDLER.

NUCLEAR HEAT FLUX HOT CHANNEL FACTOR (F_Q)

F_Q shall be the maximum local linear power density in the core divided by the core average fuel rod linear power density, assuming nominal fuel pellet and fuel rod dimensions.

NUCLEAR ENTHALPY RISE HOT CHANNEL FACTOR ($F_{\Delta H}^N$)

$F_{\Delta H}^N$ shall be the ratio of the integral of linear power along the fuel rod on which minimum departure from nucleate boiling ratio occurs, to the average fuel rod power.

5.0 ADMINISTRATIVE CONTROLS

5.1 Responsibility

- 5.1.1 The plant manager shall be responsible for overall unit/facility operation and shall delegate in writing the succession to this responsibility during his absence.
- The plant manager or his designee shall approve, prior to implementation, each proposed test, experiment or modification to systems or equipment that affects nuclear safety safe storage and maintenance of nuclear fuel.
- 5.1.2 The shift manager shall be responsible for the control room/shift command function. ~~During any absence of the shift manager from the control room while the unit is in MODE 1, 2, 3, or 4, an individual with an active Senior Operator license shall be designated to assume the control room command function. During any absence of the shift manager from the control room while the unit is in MODE 5 or 6, an individual with an active Senior Operator license or Operator license shall be designated to assume the control room command function.~~
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5.0 ADMINISTRATIVE CONTROLS

5.2 Organization

5.2.1 Onsite and Offsite Organizations

Onsite and offsite organizations shall be established for ~~unit operation~~facility staff and corporate management, ~~respectively~~. The onsite and offsite organizations shall include the positions for activities affecting ~~safety of the nuclear power plant~~the safe storage and handling of nuclear fuel.

- a. Lines of authority, responsibility, and communication shall be defined and established throughout highest management levels, intermediate levels, and all ~~operating facility~~ organization positions. These relationships shall be documented and updated, as appropriate, in organization ~~charts~~descriptions, functional descriptions of departmental responsibilities and relationships, and job descriptions for key personnel positions, or in equivalent forms of documentation. These requirements, including the plant-specific titles of those personnel fulfilling the responsibilities of the positions delineated in these Technical Specifications, shall be documented in the UFSAR.
- b. The plant manager shall be responsible for overall safe operation of the ~~plant facility~~ and shall have control over those onsite activities necessary for safe ~~operation and maintenance~~storage and maintenance of the ~~plant nuclear fuel~~.
- c. A specified corporate officer shall have corporate responsibility for ~~overall plant nuclear safety~~the safe storage and handling of nuclear fuel and shall take any measures needed to ensure acceptable performance of the staff in operating, maintaining, and providing technical support to the ~~plant facility~~ to ensure ~~nuclear safety~~safe management of nuclear fuel.
- d. The individuals who train the ~~operating staff~~CERTIFIED FUEL HANDLERS, carry out health physics, or perform quality assurance functions may report to the appropriate onsite manager; however, these individuals shall have sufficient organizational freedom to ensure their ~~independence from operating pressures~~ability to perform their assigned functions.

5.2.2 Unit Facility Staff

The ~~unit facility~~ staff organization shall include the following:

- a. ~~A non-licensed operator shall be assigned if the reactor contains fuel and an additional non-licensed operator shall be assigned if the reactor is operating in MODES 1, 2, 3, or 4;~~Each on duty shift shall be composed of at least one shift manager and one NON-CERTIFIED OPERATOR. The NON-CERTIFIED OPERATOR position may be filled by a CERTIFIED FUEL HANDLER.

- b. Shift crew composition may be less than the minimum requirement of ~~10 CFR 50.54(m)(2)(i) and~~ Specifications 5.2.2.a ~~and 5.2.2.f~~ for a period of time not to exceed 2 hours in order to accommodate unexpected absence of on-duty shift crew members provided immediate action is taken to restore the shift crew composition to within the minimum requirements; and the following conditions are met:

- 1) No nuclear fuel movements are in progress;
- 2) No movement of loads over nuclear fuel is in progress; and
- 3) No unmanned shift positions during shift turnover shall be permitted due to an incoming shift crew member being late or absent.

5.2 Organization

5.2.2 Unit/Facility Staff (continued)

- c. A radiation protection technician shall be on site ~~when fuel is in the reactor~~during movement of nuclear fuel and during the movement of loads over the nuclear fuel. The position may be vacant for not more than 2 hours, in order to provide for unexpected absence, provided immediate action is taken to fill the required position;
 - d. ~~Deleted~~At least one person qualified to stand watch in the control room (NON-CERTIFIED OPERATOR or CERTIFIED FUEL HANDLER) shall be present in the control room when nuclear fuel is stored in the spent fuel pool;
 - e. ~~The operations manager/shift manager shall either hold or have held a Senior Operator license~~be a CERTIFIED FUEL HANDLER. ~~The assistant operations manager shall hold a Senior Operator license for the Davis-Besse Nuclear Power Station; and~~
 - f. ~~When the reactor is operating in MODE 1, 2, 3, or 4 an individual shall provide advisory technical support to the unit operations shift crew in the areas of thermal hydraulics, reactor engineering, and plant analysis with regard to the safe operation of the unit. This individual shall meet the qualifications specified by the Commission Policy Statement on Engineering Expertise on Shift~~Oversight of nuclear fuel handling operations shall be provided by a CERTIFIED FUEL HANDLER.
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5.0 ADMINISTRATIVE CONTROLS

5.3 UnitFacility Staff Qualifications

- 5.3.1 Each member of the unitfacility staff shall meet or exceed the minimum qualifications of ANSI N18.1-1971 for comparable positions, except for the radiation protection manager, and the operationsshift manager, ~~and licensed operators~~. The radiation protection manager shall meet or exceed the qualifications of Regulatory Guide 1.8, September 1975. The operationsshift manager shall be qualified as required by Specification 5.2.2.e. ~~The licensed operators shall comply only with the requirements of 10 CFR 55.~~
- 5.3.2 ~~For the purpose of 10 CFR 55.4, a licensed Senior Operator and a licensed Operator are those individuals who, in addition to meeting the requirements of Specification 5.3.1, perform the functions described in 10 CFR 50.54(m). The NRC-approved training and retraining program for CERTIFIED FUEL HANDLERS shall be maintained.~~
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5.0 ADMINISTRATIVE CONTROLS

5.4 Procedures

- 5.4.1 Written procedures shall be established, implemented, and maintained covering the following activities:
- a. The ~~applicable~~ procedures applicable to the safe storage of nuclear fuel recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978;
 - b. ~~The emergency operating procedures required to implement the requirements of NUREG-0737 and to NUREG-0737, Supplement 1, as stated in Generic Letter 82-33 Deleted;~~
 - c. Quality assurance for effluent and environmental monitoring;
 - d. Fire Protection Program implementation; and
 - e. All programs specified in Specification 5.5.
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5.0 ADMINISTRATIVE CONTROLS

5.6 Reporting Requirements

The following reports shall be submitted in accordance with 10 CFR 50.4.

5.6.1 Annual Radiological Environmental Operating Report

The Annual Radiological Environmental Operating Report covering the operation of the unit/facility during the previous calendar year shall be submitted by May 15 of each year. The report shall include summaries, interpretations, and analyses of trends of the results of the Radiological Environmental Monitoring Program for the reporting period. The material provided shall be consistent with the objectives outlined in the Offsite Dose Calculation Manual (ODCM), and in 10 CFR 50, Appendix I, Sections IV.B.2, IV.B.3, and IV.C.

The Annual Radiological Environmental Operating Report shall include the results of analyses of all radiological environmental samples and of all environmental radiation measurements taken during the period pursuant to the locations specified in the table and figures in the ODCM, as well as summarized and tabulated results of these analyses and measurements in the format of the table in the Radiological Assessment Branch Technical Position, Revision 1, November 1979. In the event that some individual results are not available for inclusion with the report, the report shall be submitted noting and explaining the reasons for the missing results. The missing data shall be submitted in a supplementary report as soon as possible.

5.6.2 Radioactive Effluent Release Report

The Radioactive Effluent Release Report covering the operation of the unit/facility in the previous year shall be submitted in accordance with 10 CFR 50.36a. The report shall include a summary of the quantities of radioactive liquid and gaseous effluents and solid waste released from the unit/facility. The material provided shall be consistent with the objectives outlined in the ODCM and Process Control Program and in conformance with 10 CFR 50.36a and 10 CFR Part 50, Appendix I, Section IV.B.1.

5.6.3 CORE OPERATING LIMITS REPORT (COLR)

- a. Core operating limits shall be established prior to each reload cycle, or prior to any remaining portion of a reload cycle, and shall be documented in the COLR for the following:
 1. SL 2.1.1.1, "Reactor Core Safety Limits";
 2. LCO 3.1.1, "SHUTDOWN MARGIN (SDM)";
 3. LCO 3.1.3, "Moderator Temperature Coefficient (MTC)";
 4. LCO 3.1.7, "Position Indicator Channels," (SR 3.1.7.1 limits);