SECRETARY

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

February 11, 2020

COMMISSION VOTING RECORD

DECISION ITEM: SECY-19-0121

TITLE: DENIAL OF PETITION FOR RULEMAKING ON POWER REACTORS IN EXTENDED SHUTDOWN (PRM-50-114; NRC-2016-0204)

The Commission acted on the subject paper as recorded in the Staff Requirements Memorandum (SRM) of February 11, 2020.

This Record contains a summary of voting on this matter together with the individual vote sheets, views and comments of the Commission.

Annette L. Vietti-Cook
Secretary of the Commission

Enclosures:
1. Voting Summary
2. Commissioner Vote Sheets

cc: Chairman Svinicki
Commissioner Baran
Commissioner Caputo
Commissioner Wright
OGC
EDO
PDR

VOTING SUMMARY – SECY-19-0121

RECORDED VOTES

	APPROVED	DISAPPROVED	ABSTAIN	NOT PARTICIPATING	COMMENTS	DATE
Chrm. Svinicki	X				X	01/23/20
Cmr. Baran	X				X	01/29/20
Cmr. Caputo	X				X	01/29/20
Cmr. Wright	X				X	01/29/20

POLICY ISSUE
NOTATION VOTE

RESPONSE SHEET

TO: Annette L. Vietti-Cook, Secretary

FROM: CHAIRMAN SVINICKI

SUBJECT: SECY-19-0121: Denial of Petition for Rulemaking on Power Reactors in Extended Shutdown (PRM-50-114;NRC-2016-0204)

Approved XX **Disapproved** ____ **Abstain** ____ **Not Participating** ____

COMMENTS: **Below** XX **Attached** XX **None** ____

I approve the staff's recommended denial of the petition. I approve the draft *Federal Register* notice (Enclosure 1) and draft letter to the petitioner (Enclosure 2), as edited in the attached versions.

SIGNATURE

01/23/2020
DATE

Entered on "STARS" Yes ✓ No ___

[7590-01-P]

KLS edits

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-114; NRC-2016-0204]

Power Reactors in Extended Shutdowns

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking dated September 1, 2016, submitted by Mr. David Lochbaum on behalf of the Union of Concerned Scientists and two co-petitioners (the petitioners). The petition was docketed by the NRC on September 14, 2016, and was assigned Docket No. PRM-50-114. The petitioners requested that the NRC amend its regulations to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage." The NRC is denying the petition because the NRC already has regulatory processes in place to address the issues identified in the petition.

DATES: The docket for the petition for rulemaking, PRM-50-114, is closed on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2016-0204, when contacting the NRC about the availability of information regarding this petition. You may obtain publicly-available information related to this petition by any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2016-0204. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select Begin Web-based ADAMS Search. For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Dennis Andrukat, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-3561; e-mail: Dennis.Andrukat@nrc.gov; U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

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I. The Petition

Section 2.802 of title 10 of the *Code of Federal Regulations* (10 CFR), "Petition for rulemaking—requirements for filing," provides an opportunity for any ~~interested~~ person to petition the Commission to issue, amend, or rescind any regulation. On September 1, 2016, Mr. David Lochbaum, on behalf of the Union of Concerned Scientists and two co-petitioners (petitioners), submitted a petition for rulemaking (PRM) to the NRC. The NRC docketed this petition and assigned it Docket No. PRM-50-114. The petitioners requested that the NRC amend 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage."

The petitioners described a scenario in which an operating commercial nuclear power plant (facility) could voluntarily be in an extended shutdown with no immediate plans to decommission. The petitioners stated that there are no regulations to prevent a licensee from changing its decision to cease operations by retracting its certification to do so, and that the current regulations were developed for operating reactor facilities and for reactor facilities in decommissioning, not for facilities "in limbo that will at some unspecified later date return to the operating reactor world or join the decommissioning community." The petitioners asserted that the current regulations are not intended, as

written, for an operating facility in an "extended shutdown."[1] The petitioners also stated that a licensee can place ~~a~~the facility in an extended shutdown without public participation or the NRC's review and approval~~, or public participation~~. The petitioners speculated that in the current economic climate, licensees may choose to place a facility in an extended shutdown until the marketplace becomes more favorable or the decision to proceed with decommissioning is made. The petitioners cited the Browns Ferry Nuclear Plant, Unit 1, as an example of a facility in an extended shutdown. In 1985, Tennessee Valley Authority (TVA) voluntarily shut down Unit 1 and did not restart it until 2007. Ultimately, the petitioners asserted that the current regulatory framework does not manage the risk of a facility in an extended shutdown that a licensee may someday seek to restart.

The NRC identified four main issues in the petition, as follows:

1) Define "extended shutdown" for power reactors.

2) Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR).

3) Establish requirements to exit and restart from an extended shutdown.

4) Conduct a decommissioning funding review(s) during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification.

II. Public Comments on the Petition

The NRC published a notice of docketing and request for comment in the *Federal Register* on December 9, 2016. The NRC also sought public comment on six specific questions. The public comment period closed on February 22, 2017. The NRC received

[1] The petition describes an "extended shutdown" as either an operating reactor that has been shut down for 2 years or more and is not actively pursuing restart under a formal NRC process or a when a licensee has voluntarily notified the NRC of its intent to place the facility in an "extended shutdown" condition.

two public comment submissions during the 75-day public comment period; both submissions, which were from industry representatives, were in favor of denying the petition and provided a basis for that position. The two comment submissions, from the Nuclear Energy Institute (NEI) and Entergy Nuclear Operations, Inc. (Entergy), raised five comments in total. Only NEI addressed the specific questions that were included in the *Federal Register* notice that requested public comments. The ADAMS Accession Nos. for the comment submissions can be found in the "Availability of Documents" section of this document.

Public Comments:

The NRC has considered the public comments received on the petition for rulemaking. The NRC response follows a short summary of each comment submission.

Comment Submission 1:

NEI recommended that the NRC deny the petition because the petition has not demonstrated that the existing regulations require rulemaking based on the criteria in § 2.802(c)(1)(iii). The commenter stated that PRM-50-114 should be denied because: (Comment 1) "the petition incorrectly asserts that the Commission's existing regulations are inadequate as applied to operating reactors that have entered an extended shutdown," (Comment 2) "the petition provides no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown," and (Comment 3) "the petition provides no basis for suggesting that the NRC should explicitly prohibit withdrawal of the certification of the permanent cessation of operations submitted pursuant to § 50.82(a)(1)(i)." The commenter noted that a facility in extended shutdown must continue to comply with its operating license and NRC regulations applicable to operating nuclear power plants. This ~~fact~~ contrasts

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with the petitioners' assertions that the Commission's existing regulations are inadequate as applied to operating reactors that have entered ~~into~~ an extended shutdown. The commenter noted that a licensee ~~may~~ would still meet all applicable safety and security requirements even if it defers a generic communication action during an extended shutdown scenario. This is because generic communications do not impose new or changed regulatory requirements on licensees.

The commenter further noted that the petition does not provide a basis to change the regulations to require licensees to submit preliminary decommissioning cost estimates every 5 years during an extended shutdown. Once a licensee permanently ceases operations, then the licensee would be required to submit site-specific cost estimates ~~as required~~ under § 50.82, "Termination of license." The commenter noted that PRM-50-114 acknowledge~~d~~ that the current regulations already require 10 CFR part 50 power reactor licensees to report decommissioning funding status every 2 years. The commenter continued that

> ...many NRC regulations applicable to operating nuclear power plants continue to apply even after a nuclear power reactor has permanently ceased operation and defueled. This includes several regulations that seem to be of specific concern to the petitioners (e.g., emergency planning and physical security).

The commenter asserted that the petitioners provide no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown.

In response to the petitioners' requested new regulations for reactors that are in an extended shutdown and not actively pursuing restart to be evaluated under a formal process such as Inspection Manual Chapter (IMC) 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," the commenter noted that existing NRC procedures in IMC 0375, "Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for

Reasons Other Than Performance," would achieve the petitioners' objective. As noted by the commenter, IMC 0375 is the NRC's ~~inspection~~ guidance for implementation of the reactor oversight process for plants in an extended shutdown condition for reasons not related to performance. The commenter points out that IMC 0375 ensures that the NRC "communicates unified and consistent oversight in a clear and predictable manner to the licensee, the public, and other stakeholders" and also ensures the documentation of the required regulatory and licensee actions taken; the resolved technical issues leading to approval for restart, if required; and the eventual return of the plant to the routine reactor oversight process. The commenter asserted that IMC 0375 will provide assurance that the plant will be operated in a manner that provides adequate protection of public health and safety following restart. The commenter stated that "the NRC oversight requested in the petition already exists" under the reactor oversight process. The commenter further stated that the resulting regulations sought in this petition would not result in significant improvements to reactor safety or security and would not improve regulatory efficiency.

NRC Response: The NRC generally agrees with the comments that were relayed in Comment Submission 1. Specifically, the NRC agrees that the Commission's existing regulations and guidance documents adequately address facilities that enter ~~any~~ potential extended shutdown period<u>s</u>.

Comment Submission 2:

Entergy recommended that the NRC deny the petition. The commenter endorsed (Comment 4) the comments provided in NEI's letter. In addition, the commenter stated that (Comment 5) making a § 50.82(a)(1)(i) certification irrevocable is directly contrary to the assumptions and conditions of a recent settlement agreement entered into by Entergy, the State of New York (among other related New York governmental entities), and Riverkeeper, Inc., regarding the continued operation of

Indian Point Units 2 and 3. The commenter noted that making a § 50.82(a)(1)(i) certification irrevocable would nullify key terms of this important agreement.

NRC Response: With respect to Entergy's ~~adoption~~ endorsement of the NEI comments as reflected in Comment Submission 1, the NRC's response is provided in response to Comment Submission 1. With respect to Entergy's Comment 5, the issue raised is outside the scope of the PRM.

Specific Questions:

The NRC has considered the responses received to the specific questions. Only NEI provided responses to the six specific questions on which the NRC sought comment. A summary of the responses provided in NEI's submission follows.

Question 1: The petition outlines a scenario where a reactor is in an extended shutdown condition due to economic or other reasons and would at some unspecified later date return to operation. The petition uses the Browns Ferry Nuclear Plant as an example, where the Tennessee Valley Authority voluntarily shut down one unit from 1985 to 2007. Are there any facilities or licensees who may be likely to use the petitioners' extended shutdown scenario in the future? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that it is not aware of a commercial power reactor likely to use the extended shutdown scenario. The commenter clarified that a licensee is not prohibited from entering into an extended shutdown voluntarily and references the letter from David A. Kraft of Nuclear Energy Information Service dated June 16, 2016.

NRC's Response: The NRC agrees with the comment and notes the NRC's August 4, 2016 response to the David A. Kraft letter states that the NRC regulations do not prohibit

a licensee from voluntarily placing its facilities in an extended shutdown, while continuing to meet all safety and security requirements as outlined in the facility's operating license, without terminating the operating license.

Question 2: The petitioners contend that the NRC's existing regulations were promulgated for operating reactors, and that specific regulations are needed to address non-operating reactors in an "extended shutdown." Assuming the extended shutdown scenario is credible, in what specific ways are the existing regulations identified in the PRM ~~[petition for rulemaking]~~ insufficient to address the scenario described by the petitioners? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 3: Assuming that the existing regulations identified in the PRM are insufficient to address the extended shutdown scenario, what specific changes to those regulations are needed to facilitate the requested rulemaking? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 4: The petition describes a plant in an "extended shutdown," and proposes two criteria to enter into this non-operating state (submission of § 50.82(a)(1)(i) and § 50.4(b)(8) notifications; and a shutdown period of 2 years). Should the term "extended shutdown" be defined in § 50.2, "Definitions," and should the regulations specify the timeframe for this scenario? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that "extended shutdown" does not require a definition in the federal regulations because the regulations are sufficient to address the extended shutdown scenario.

NRC's Response: The NRC agrees with the comment.

Question 5: Given the NRC's long-standing, well-understood Reactor Oversight Program, what potential changes would need to be considered to ensure adequate oversight of a reactor during an extended shutdown? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 6: What additional reporting to the NRC should be required for a reactor in an extended shutdown, and with what level of detail and frequency (e.g., the potential changes to the submission of the decommissioning trust fund reports)? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security. The commenter does not agree that additional reporting requirements are warranted because the petitioners have not "demonstrated the need for any changes to the reporting requirements applicable to a reactor," in an extended shutdown. The commenter adds that both a facility that is actively operating and a facility that is in an extended shutdown would be restricted to using only 3 percent of the decommissioning trust funds for pre-planning activities, consistent with the regulations in § 50.82.

NRC's Response: The NRC agrees with the comment.

III. Reasons for Denial

The NRC is denying the petition because the petitioners did not present any significant new information or arguments that would support the requested changes for extended shutdown conditions. Furthermore, the NRC has determined that the issues raised by the petitioners are adequately addressed by existing NRC regulations, procedures, and guidance, and no amendments to the NRC's regulations are necessary. A discussion of the existing regulatory framework follows.

Issue No. 1: Define "extended shutdown" for power reactors

The NRC is denying Issue No. 1 because there is no need to define "extended shutdown" in the regulations. The holder of an operating license is required to maintain the facility and all of its security and operational programs in accordance with the conditions of its operating license. This remains true whether the facility is operating or shut down for any period ~~of time~~, including extended shutdowns. As discussed further

under Issue Nos. 2, 3, and 4, the licensee must maintain programs in effect to ensure the continued safety and security of the facility regardless of the mode of operation. Therefore, the issues raised by the petitioners associated with what could be defined as an extended shutdown are currently and adequately covered by the existing regulations and NRC processes.

Issue No. 2: Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR)

The NRC is denying Issue No. 2 because there is no need to require the licensee to submit a RESAR prior to entering an extended shutdown condition. This proposed report, as raised by the petitioners, would be similar to the post-shutdown decommissioning activities report ~~the~~ required~~ments in~~ by § 50.82(a)(4)(i) ~~for the post-shutdown decommissioning activities report~~ and would describe how certain activities are handled during an extended shutdown. The petitioners included items that should be included in the proposed report. Those items are listed below followed by the staff's evaluation of each item:

Operator License

Aging Management

Technical Specifications

In-service Inspections (and In-service Testing)

Quality Assurance

Irradiated Fuel Protection

Fitness for Duty

Operator License

An operator's license is not automatically terminated based solely on an extended plant shutdown. ~~In accordance with~~Under § 55.55, "Expiration," an operator's license expires ~~after~~ 6 years after the date of issuance, upon termination of employment, or upon determination by the facility licensee that the license is no longer needed. An operator's license can be renewed if the requirements of § 55.57, "Renewal of licenses," are met. Whether the facility is operating or is in extended shutdown, licensed operators and senior operators, as defined in § 55.4, "Definitions," are required to successfully complete requalification requirements established by § 55.59, "Requalification," to maintain their licenses. Further, licensed operators and senior operators are required to meet proficiency requirements established by § 55.53(e) to maintain an active status. Active status under § 55.53(e) is maintained by performing the functions of an operator or a senior operator, as defined in the facility's technical specifications, for a specified number of shifts per calendar quarter. For an operator or senior operator who does not meet the § 55.53(e) requirements resulting in an in-active status on his or her license, the requirements of § 55.53(f) apply to ensure proficiency before an operator can legally perform licensed duties. To maintain or restore active status on an operator's license, the facility would need to remain in a mode of operation that requires operators to actively perform the functions of an operator or senior operator, as defined by § 55.4. However, if the facility is in a mode of operation that does not allow for licensed duties to be performed, this may result in a licensed operator(s) becoming in-active. The licensee may find it acceptable to have a reduced number of licensed operators during an extended shutdown. Before restarting, however (as ~~stated later under~~discussed in Section III, "Reasons for Denial," Issue No. 3, "Establish requirements to exit and restart from extended shutdown," of this document), the licensee would ~~be required~~ need to have the required number of licensed operators in place ~~per~~under its licensing basis and the existing 10 CFR part 55 requirements.

Aging Management

A licensee with a facility in an extended shutdown must still perform the activities specified in its NRC-reviewed aging management programs, if its current licensing basis includes such programs. Any adjustments to aging management programs are considered changes to the facility's licensing basis and are controlled through current regulations under § 50.59, "Changes, tests, and experiments."

The scope of aging management activities does not change during an extended shutdown. Current regulations in 10 CFR part 54 establish the scope of aging management programs that are only for passive components, based on whether they perform a prescribed intended function "without moving parts or without a change in configuration or properties." The determination of whether a component is classified as either passive or active is not based on frequency of either operation or surveillance testing. The assurance of proper function for active components during an extended shutdown would not fall within established aging management activities. Active components are included in the surveillance requirements that are part of the technical specifications in the license, as well as inservice testing programs required by regulation.

Technical Specifications

Under § 50.36, "Technical specifications," each ~~A facility's technical specifications are a part of its~~ operating license under 10 CFR part 50 for a power reactor must include technical specifications. These technical specifications include limiting conditions for operation, as described in § 50.36(a)(2), that represent the lowest functional capability or performance levels of equipment required for safe operation of the facility. These technical specifications also include surveillance requirements, as described in § 50.36(a)(3), that are requirements relating to test calibration or inspection

to assure that the necessary quality of systems and components is maintained and that the limiting conditions for operation will be met. ~~A noncompliance with technical specifications is a noncompliance with a facility's operating license requirements and subject to enforcement action.~~

The usage rules contained in technical specifications are structured in such a manner as to provide reasonable assurance of continued adequate protection of public health and safety regardless of the amount of time a facility has been shut down. The requirements for performing and meeting the surveillance requirements in technical specifications are independent of the amount of time a facility has been shut down. Rather, requirements for performing surveillances and meeting surveillance requirements are dependent on the ~~facility~~ mode the facility is in, as defined in the technical specifications, or on other specified conditions in the applicability of a limiting condition for operation.

Before a licensee changes the mode a facility is in~~entering a new mode, (e.g.,~~ for example from a shutdown mode to Hot Standby or from Hot Standby to Startup~~restarting)~~, any ~~required~~ structures, systems, and components necessary for safe operation of the facility in the new mode must be operable, and the applicable surveillances must have been met as ~~defined~~ required by~~in~~ the facility's technical specifications. No additional "lay-up" program or testing/inspection is required.

The usage rules of technical specifications are independent of the amount of time a facility has been in a shutdown condition and a noncompliance with the usage rules is a noncompliance with the operating license requirements subject to enforcement action. Therefore, the NRC does not agree that a regulation is needed to require a licensee to explain whether testing and inspections per the technical specifications will be continued during a shutdown period.

The technical specifications set out different requirements for different modes of operation. The NRC agrees that fewer requirements within the technical specifications are applicable when a reactor is in cold shutdown, refueling or defueled. However, the technical specifications still provide reasonable assurance of adequate protection of public health and safety. The reason that fewer requirements within the technical specifications apply in cold shutdown, refueling, or defueled conditions is that there are fewer credible scenarios that could impact public health and safety when plants are in any mode where the reactor is shut down or defueled. Nonetheless, the licensee must evaluate the impact of degradation of required structures, systems, and components on the operability of those structures, systems, and components. If a licensee determines that a required system is inoperable, then the licensee must comply with the required actions in the technical specifications. Furthermore, the design features of the technical specifications apply at all times, regardless of mode or time since shutdown. The design features, for example, typically contain requirements for fuel storage that, if altered or not met, ~~w~~could have a significant impact on safety.

Inservice Inspection [and Inservice Testing]

~~In accordance with~~Under § 50.55a(g), Section XI of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* provides the requirements for inservice inspection of nuclear power plants. Section XI requires examinations to be scheduled in 10-year inspection intervals. Section XI has provisions that allow a licensee ~~inspection intervals~~ to ~~be~~ shorten~~ed~~ or lengthen~~ed~~ inspection intervals to conform to a facility's outage schedule. Section XI, IWA-2430(d) provides allowances for extended outages. It states, in part, that:

> ...for plants that are out of service continuously for 6 months or more, the inspection interval during which the outage occurred may be extended for

a period equivalent to the outage and the original pattern of intervals extended accordingly for successive intervals.

~~In accordance with~~Under § 50.55a(f), the ASME *Operation and Maintenance* of Nuclear Power Plants (OM Code) provides requirements for inservice testing of pumps and valves in nuclear power facilities. The OM Code requires testing to be scheduled periodically within the 10-year inservice testing program intervals. Licensees may extend ~~T~~the 10-year inservice testing program intervals ~~may be extended~~ for plants with extended outages, as discussed above for inservice inspection. Under the OM Code, licensees of~~For~~ plants that are continuously out-of-service~~, per the OM Code,~~ are not required to follow the test schedule for pumps and valves ~~need not be followed.~~ and do not need to submit ~~No~~ relief requests, which would otherwise be necessary ~~are required~~. The OM Code requires that, ~~W~~within the 3 months before ~~the~~ a plant is placed in operation, ~~per the OM Code,~~ the pumps must be tested, and the valves must be exercised.

Additionally, Section 06.02 of IMC 0375 directs inspectors to verify that the licensee has considered the latest vendor bulletins and other important information related to safety-related equipment, consistent with licensee procedures.

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Quality Assurance

There is no ~~specific~~ relaxation of ~~any of~~ the requirements of appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR part 50 (appendix B) for an operating facility that is in an extended outage. Appendix B establishes quality assurance requirements for the design, manufacture, construction, and operation of certain structures, systems, and components. The pertinent requirements of this appendix apply to all licensee activities affecting the safety-related functions of these structures, systems, and components, regardless of

whether the facility is producing power or in a shutdown condition. Such activities include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying these structures, systems, and components. Criterion II, "Quality Assurance Program," of appendix B, requires that the quality assurance program, be documented by written policies, procedures, or instructions and be carried out throughout the life of the facility. ~~Thus, a~~Appendix B requires compliance with the applicable portions of the regulations for covered activities regardless of whether or how long the facility has been in a shutdown period. Licensed operators and other licensee staff would still be required to be trained to perform activities affecting quality; to follow written procedures or instructions (where applicable); and to document, evaluate, and resolve issues through the implementation of the non-conformance and corrective action programs. In addition, ~~c~~Criterion XVIII, "Audits," of appendix B, requires licensee staff to continue to evaluate programs and processes through periodic auditing throughout the life of the facility and is applicable to facilities regardless of whether or how long a facility has been in a shutdown condition.

Irradiated Fuel[2]

The petitioners requested that the NRC require licensees to develop and submit a RESAR that includes a discussion of how the facility will ensure~~, during an extended shutdown period,~~ that any irradiated fuel will be protected and not be damaged during an extended shutdown period. In addition, the petitioners requested that the RESAR describe how the public and facility personnel will be protected~~,~~ should irradiated fuel

[2] As part of its review of the petition, the NRC reviewed other existing regulatory requirements. While not specifically mentioned by the petitioners, a discussion of emergency planning requirements and security design basis threats is included in this notice, as both topics relate to protecting the public and plant personnel, should irradiated fuel become damaged.

become damaged. The NRC determined that the existing regulations, guidance, and processes already discussed in this notice would prevent and mitigate such damage from a design and safety standpoint. The NRC also reviewed other existing regulatory requirements not specifically mentioned by the petitioners. Specifically, the NRC considered emergency planning requirements and security requirements (the design basis threat) in making this conclusion.

Irradiated Fuel: Emergency Planning

Emergency planning regulations and required licensee emergency plans already exist to protect workers and the public from damaged irradiated fuel ~~per § 50.54, "Conditions of licenses," to~~ includinge when the facility is in extended shutdown. Specifically, § 50.54(q)(2) requires that the licensee follow and maintain the effectiveness of an emergency plan that meets the requirements in appendix E to part 50 and, for a nuclear power reactor facility, the planning standards of § 50.47(b). ~~In accordance with~~ Under § 50.47(b)(14), a licensee must conduct periodic exercises to evaluate major portions of emergency response capabilities, while periodic drills are conducted to develop and maintain key skills. Any deficiencies identified as a result of exercises or drills must be corrected.

Irradiated Fuel: Design Basis Threat

Existing regulations in 10 CFR part 73, "Physical Protection of Plants and Materials," require security protection when irradiated fuel is onsite and stored inside the protected area, regardless of the reactor's operational mode, or conditions, including an extended shutdown condition.

Under~~Pursuant to~~ § ~~73.1(b)(1)(i)~~73.55, licensees who are authorized to operate ~~a~~ nuclear power reactors under ~~§ 50.57, as well as holders of a combined license under~~

10 CFR part 50 or 52 (after the Commission has made the finding under § 52.103(g)) ~~must comply with the requirements of § 73.55. These requirements include~~ must establish and maintain a security plan and the associated protective strategy with defined design basis threats, as described in §§ 73.1 and 73.2, to protect against acts of radiological sabotage ~~and the associated protective strategy~~. The security plan includes a physical security plan, a training and qualification plan, a safeguards contingency plan, and a cyber security plan. The specific design basis threat is safeguards information, which is protected under § 73.21 and is withheld from public access pursuant to the requirements of § 9.17.

Along with the security plan, § 73.55(k)(8) requires the licensee to establish and implement a protective strategy when irradiated fuel is onsite and stored in the protected area, regardless of the reactor's operational modes, or conditions.

Fitness for Duty

Existing regulations in 10 CFR part 26, "Fitness for Duty Programs," require that all persons who are granted unescorted access to nuclear power reactor protected areas by the licensees be subject to a fitness-for-duty program. Under~~Pursuant to~~ § 26.3(a), licensees who are authorized to operate a nuclear power reactor facility ~~under § 50.57, as well as holders of a combined license~~ under 10 CFR part 50 or part 52 (after the Commission has made the finding under § 52.103(g)) must comply with the requirements of 10 CFR part 26, except for subpart K, "FFD Program for Construction."

The fitness-for-duty program performance objectives required under § 26.23 provide reasonable assurance of an individual's ability to safely and competently perform his or her duty commensurate with maintaining public health and safety. These requirements apply regardless of the reactor's operational modes, or conditions, and include drug and alcohol testing, behavioral observation, and determinations of fitness.

Therefore, staff has determined that Issue No. 2, to require a licensee to develop and submit a RESAR, whether prior to or during an extended shutdown, is not necessary because the issues raised by the petitioners are currently and adequately covered by the existing regulations.

Issue No. 3: Establish requirements to exit and restart from extended shutdown

The NRC is denying Issue No. 3 because there is no need to amend the regulations to establish criteria for exiting an extended shutdown. The staff determined that existing reactor oversight process guidance provides for appropriate NRC oversight of a plant in an extended shutdown condition. Oversight of reactor facilities in extended shutdown for reasons not related to performance is governed by IMC 0375. One of the purposes of IMC 0375 is to provide assurance that the facility will be operated in a manner that provides adequate protection of public health and safety following restart. Section 06.02 of IMC 0375 discusses the inspection plan and indicates that a focus on operational readiness of the licensee for reactor restart may be necessary. Aspects that may be considered as potential areas for additional NRC inspection include equipment upgrades and maintenance, procedure updates, facilities maintenance, and the status of the corrective action program. In addition, a facility cannot restart without active licensed operators per § 55.53 and as described previously under Issue No. 2.

~~In addition, b~~Before a licensee changes the mode a facility is in, for example from a shutdown mode to Hot Standby or from Hot Standby to Startup, any structures, systems, and components necessary for safe operation of the facility in the new mode must be operable and the applicable surveillances must have been met as required by the facility's technical specifications.~~before entering a higher mode (e.g., restarting and increasing power) the licensee must ensure operability of the required equipment and pass the required surveillances for the next higher mode prior to entry~~.

David Kraft of the Nuclear Energy Information Service raised many of the same issues in a letter to the agency dated June 16, 2016. By letter dated August 4, 2016, John Giessner from the Division of Nuclear Materials Safety in NRC Region III responded to Mr. Kraft. In this response letter, referenced by the petitioners as "the Giessner letter," the NRC staff answered questions about the requirements for power reactor decommissioning and extended shutdown. As ~~recognized~~ discussed in the ~~NRC's response~~ letter of August 4, 2016, the NRC regulations do not prohibit a licensee from voluntarily entering the extended shutdown configuration described in the petition and ~~refers to~~ IMC 0375~~, which~~ provides for NRC oversight of a facility exiting from extended shutdown. If a licensee were to place~~s~~ a facility in extended shutdown and later decide~~s~~ to restart, the NRC ~~has determined that the agency~~ has sufficient regulations, processes, and procedures in place to ensure that the restart is conducted in a safe manner.

The example cited by the petitioners was the extended shutdown of Browns Ferry Nuclear Plant, Unit 1, which was shut down from March 1985 to June 2007, after operating for 10 years. During the ~~twenty-two~~22~~-~~year shutdown, the NRC continued to provide oversight ~~via~~ with multiple resident inspectors assigned to the Browns Ferry Nuclear Plants. Further, NRC staff from regional and headquarters offices routinely visited the Browns Ferry Nuclear Plant for oversight of the operating Unit 2 and 3 reactors. As part of the reactor oversight process, the NRC developed an inspection procedure to monitor the restart effort and to ensure that the plant was able to restart and operate in a safe manner. This procedure ~~eventually became~~formed the basis for the current IMC 0375. The NRC ~~was able to~~ use~~d~~ existing regulatory tools (e.g., inspectors, inspection procedures, enforcement of the operating license) during the startup of Browns Ferry Nuclear Plant, Unit 1, ~~startup~~ in 2007. As ~~evidenced~~ shown by the safe startup of Browns Ferry Nuclear Plant, Unit 1, the NRC ~~maintains~~ has the

regulatory tools necessary to ~~effectively~~ ensure that the public health and safety and common defense and security continue~~s~~ to be protected in the context of restart of a power reactor following an extended shutdown.

~~The NRC staff found additional~~Other examples of power reactor facilities experiencing extended shutdowns relevant to the petition includ~~eing~~: Crystal River Nuclear Generating Plant, Unit 3, which was shut down for an extended period of time before permanent~~ly ceasing~~ cessation of operations; Kewaunee Power Station, which had permanently shut down and defueled but later considered restarting and relicensing (~~it~~ ultimately the licensee chose ~~decided~~ not to seek authorization for restart); James A. FitzPatrick Nuclear Power Plant, Davis-Besse Nuclear Power Station, Unit 1, and Perry Nuclear Power Plant, Unit 1, for which the licensees had made a decision to permanently cease operations that was later reversed prior to the cessation of operations. The NRC staff's review of these additional examples found that the existing regulatory tools were effective and sufficient in addressing these different scenarios and ensured that the public health and safety and common defense and security continued to be protected.

Therefore, the potential safety and security issues associated with exit and restart from extended shutdown are currently and adequately covered by the existing regulations and NRC processes.

Issue No. 4: Conduct a decommissioning funding review(s) during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification

The NRC is denying Issue No. 4 because there is no need to prohibit withdrawal of a certification of permanent cessation of operations or to require additional ~~re-~~assessments~~ing~~ of decommissioning funding during an extended shutdown.

Certifications under § 50.82, "Termination of license"

The regulations in § 50.82 do not prohibit a power reactor licensee from voluntarily placing its facilities in an extended shutdown without terminating the operating license. The regulations do require a licensees with an operating license for a power reactor in an extended shutdown to continue to meet all safety and security requirements as outlined in the facility's operating license.

The regulations in § 50.82(a)(1) specify two actions that the licensee must take to permanently cease operations of a nuclear power facility. First, when the licensee decides to permanently cease operations, the licensee must provide submit a certification of this decision to the NRC in writing within 30 days, perunder § 50.82(a)(1)(i). In accordance with Under § 50.4(b)(8), this certification must contain the date on which the power generation operations have ceased or will cease. As a result, licensees typically submit an initial certification of the intended permanent cessation of operations providing a planned date and a certification of actual cessation of operations providing the actual date. Second, under § 50.82(a)(1)(ii), the licensee must submit to the NRC a certification of permanent removal of fuel from the reactor vessel. In accordance withUnder § 50.82(a)(2), after the licensee submits andonce the NRC dockets both the certifications submitted under § 50.82(a)(1), the licensee is no longer authorized to operate the reactor or place or retain fuel into the reactor vessel.

The Filingsubmittal and docketing of a certification under § 50.82(a)(1)(i) of a determination to permanently cease operations alone is not sufficient to result in permanent cessation of operationsremoval of a licensee's authority to operate the reactor. No existing regulation would prevent the a power reactor licensee from changing its decision to cease operations by retracting its certification under § 50.82(a)(1)(i).

~~The regulations do not specify a time limit for the permanent removal of fuel or the schedule for submitting the corresponding certification under § 50.82(a)(1)(ii) to the NRC. Additionally, after the NRC dockets the certifications required by § 50.82(a)(1), no existing regulations would explicitly prohibit the NRC from reauthorizing operation; however, the licensee would have to demonstrate that it meets all the requirements in 10 CFR part 50 and request approval from the NRC to authorize operation and. The NRC would then determine whether the licensee has met all requirements.~~

While the NRC cannot prevent the licensee from electing to cease operation and transition to decommissioning, the NRC can stop decommissioning activities in certain situations. The NRC's regulation at § 50.82(a)(6) states that the licensee must not perform any decommissioning activity that: (1) forecloses release of the site for possible unrestricted use, (2) results in any significant environmental impact not previously reviewed, or (3) results in there no longer being reasonable assurance that adequate funds will be available for decommissioning. If any decommissioning activity could not meet these conditions, the licensee is prohibited from undertaking the activity until it submits, and the NRC approves, a license amendment request that describes the proposed activity and the potential impact associated with that activity.

The petitioners provided no basis for requesting the NRC to ~~explicitly~~ prohibit withdrawal of a~~the~~ certification of ~~the~~ permanent cessation of operations submitted under~~pursuant to~~ § 50.82(a)(1)(i). There is no ~~fundamental~~ change in the ~~status~~ authority to operate granted by a~~of the~~ facility's operating license associated solely with the filing of the § 50.82(a)(1)(i) certification. ~~Further, t~~There is also no change in the regulatory treatment of a commercial nuclear power reactor based solely on the submittal of the certification of permanent cessation of operations required by § 50.82(a)(1)(i). Thus, withdrawal of this certification, in and of itself, regardless of

whether the licensee intends to enter ~~into~~ an extended shutdown or continue operating the facility, does not affect the status of the facility with respect to the NRC's requirements. Similar regulations are found ~~under~~ in § 52.110 for combined licenses. In addition, in its letter dated August 4, 2016, the NRC staff responded to similar questions from David Kraft of the Nuclear Energy Information Service regarding the certifications and license termination requirements under § 50.82.

Therefore, prohibiting ~~the~~ a licensee from withdrawing a certification of permanent cessation of operations that had been submitted under~~in accordance with~~ § 50.82(a)(1)(i) would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

Commented [A2]: Use a non-breaking space.

Decommissioning Funding

The petitioners asserted that a facility in an extended shutdown may eventually resume operation or enter decommissioning. The petitioners requested that the amended regulations clearly address whether decommissioning funding may be used for activities during a facility's extended shutdown and~~, if so,~~ include the criteria and conditions governing their use ~~of decommissioning funding should be included in the amended regulations~~.

The regulations ~~under~~ in § 50.82(a)(8)(ii) ~~do not allow~~limit the use of decommissioning trust funds by licensees prior to the submittal of the certifications required under § 50.82(a)(1) of permanent cessation of operations and permanent removal of fuel from the reactor vessel. ~~to be used for any activities (except decommissioning planning) while the licensee has an operating license including~~ These limitations allow the use of only a specified portion of the funds for decommissioning planning and would apply during an extended shutdown as well as during operation. In addition, the licensee in extended shutdown is not relieved of any existing

decommissioning trust fund regulations that are applicable to any facility with an operating license.

The petitioners also requested that the amended regulations require licensees to submit a preliminary decommissioning cost estimate to the NRC at 5-year intervals throughout the period of extended shutdown. The petitioners also and inquired whether the decommissioning funding amounts required by § 50.75(c) should be re-assessed during an extended shutdown.

The rRegulations inunder §§ 50.75(f)(1) and (f)(2) require licensees to report at least once every 2 years on the status of its decommissioning funding and related factors. In addition to these requirements for biennial reports, § 50.75(f)(3) requires that each power reactor licensee shall, at or about 5 years prior to the projected permanent cessation end of operations,[3] submit a preliminary decommissioning cost estimate, which that includes an up-to-date assessment of the major factors that could affect the cost to decommission. The An extended shutdown would haves no effect on the license expiration date, and all applicable decommissioning funding regulations remain in effect, including § 50.75.

Therefore, prohibiting withdrawal of a certification of permanent cessation of operations under § 50.82(a)(1)(i) or to requiringe additional re-assessmenting of decommissioning funding during an extended shutdown would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

IV. Availability of Documents

The documents identified in the following table are available to interested

[3] The "permanent cessationend of operations" in this context refers to when a licensee is no longer authorized to operate the reactor or place or retain fuel into the reactor vessel, underper § 50.82(a)(2).

persons through one or more of the methods, as indicated.

DOCUMENT	ADAMS ACCESSION NO. / *FEDERAL REGISTER* CITATION
Request for Petition for Rulemaking (PRM-50-114), dated September 1, 2016.	ML16258A486
Federal Register notice, "Power Reactors in Extended Shutdowns," dated December 9, 2016.	81 FR 89011
Comment Submission 1: Rodney McCullum of Nuclear Energy Institute (NEI), dated February 22, 2017.	ML17055B792
Comment Submission 2: Paul Bessette of Morgan, Lewis & Bockius, LLP (on behalf of Entergy Nuclear Operations, Inc.), dated February 23, 2017.	ML17055B953
IMC 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," dated March 1, 2018.	ML17116A273
IMC 0375, "Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Performance," dated November 13, 2015.	ML15247A274
~~NUREG/BR-0521, "Decommissioning Nuclear Power Plants," dated August 2014.~~	~~ML14210A472~~
~~NUREG-1700, Revision 1, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," dated April 2003.~~	~~ML031270391~~
~~Regulatory Guide (RG) 1.184, Revision 1, "Decommissioning of Nuclear Power Reactors," dated October 2013.~~	~~ML13144A840~~

~~RG 1.179, Revision 1, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors," dated June 2011.~~	~~ML110490419~~
Letter from Mr. David A. Kraft of Nuclear Energy Information Service, dated June 16, 2016.	ML16175A449
NRC Letter to Mr. David A. Kraft of Nuclear Energy Information Service, dated August 4, 2016.	ML16218A266
~~FirstEnergy Solutions Corp. Letter, "Withdrawal of Certification of Permanent Cessation of Power Operations for Davis-Besse Nuclear Power Station, Unit No. 1, and Perry Nuclear Power Plant, Unit No. 1," dated July 26, 2019.~~	~~ML19207A097~~
~~Draft regulatory issue summary, "Disposition of Information Related to the Time Period that Safety-Related Structures, Systems, or Components are Installed," dated May 17, 2016.~~	~~81 FR 30571~~

The NRC may post materials related to this document, including public comments, on the Federal Rulemaking Web site at http://www.regulations.gov under Docket ID NRC-2016-0204. The Federal Rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2016-0204); 2) click the "Sign up for E-mail Alerts" link; and 3) enter your e-mail address and select how frequently you would like to receive e-mails (daily, weekly, or monthly).

V. Conclusion

For the reasons cited in this document, the NRC is denying PRM-50-114. The NRC has concluded that the issues raised by the petitioners are adequately addressed

by existing NRC regulations, procedures, and guidance, and no amendments to the NRC's regulations are necessary.

Dated at Rockville, Maryland, this day of , 202~~19~~.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

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

KLS edits

Edwin Lyman ~~(on behalf of David A. Lochbaum)~~
Union of Concerned Scientists
1825 K Street, NW, Suite 800
Washington, DC 20006-1232

Dear ~~M~~Dr. Lyman:

I am responding to David Lochbaum's petition for rulemaking (PRM) dated September 1, 2016, submitted on behalf of the Union of Concerned Scientists and two co-petitioners, Greenpeace and National Resources Defense Council (Agencywide Documents Access and Management System Accession No. ML16258A486). The U.S. Nuclear Regulatory Commission (NRC) docketed the petition as PRM-50-114. The petition requested the NRC amend its regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage."

The NRC published a notice of docketing for PRM-50-114 in the *Federal Register* on December 9, 2016 (81 FR 89011). The staff received two public comment submissions during the 75-day public comment period; both submissions were in favor of denying the petition and provided a basis for that conclusion.

The NRC is denying PRM-50-114 because it has determined that the issues raised by the petitioners are adequately addressed by existing NRC regulations, procedures, and guidance, and therefore, no amendments to the NRC's regulations are necessary. The enclosed notice, which will be published in the *Federal Register*, explains the reasons for the denial. Upon publication of the enclosed notice, the NRC will close the docket for PRM-50-114.

You may direct any questions about this matter to Dennis Andrukat by calling 301-415-3561 or sending an e-mail to Dennis.Andrukat@nrc.gov.

Sincerely,

Annette L. Vietti-Cook
Secretary of the Commission

Enclosure:
Federal Register notice

POLICY ISSUE
NOTATION VOTE

RESPONSE SHEET

TO: Annette L. Vietti-Cook, Secretary

FROM: Commissioner Baran

SUBJECT: SECY-19-0121: Denial of Petition for Rulemaking on Power Reactors in Extended Shutdown (PRM-50-114;NRC-2016-0204)

Approved X **Disapproved** ____ **Abstain** ____ **Not Participating** ____

COMMENTS: **Below** X **Attached** X **None** ____

I appreciate the thoughtful petition for rulemaking submitted on behalf of the Union of Concerned Scientists, Greenpeace, and Natural Resources Defense Council focused on the requirements applicable to power reactors in extended shutdown. Because the conditions and technical specifications of a power reactor licensee's operating license remain in effect during an extended shutdown, along with a range of NRC safety and security requirements, I do not believe it is necessary to establish a set of regulatory requirements specifically tailored to plants in extended shutdown. Therefore, I approve the NRC staff's recommendation to deny the petition for rulemaking. I also approve publication of the *Federal Register* notice announcing this decision and the accompanying letter, subject to the attached edits.

However, I agree with the petitioners that NRC's current inspection guidance does not explicitly direct inspectors to confirm that licensees have addressed any deferred actions on applicable NRC bulletins, generic letters, and licensing correspondence prior to plant startup from an extended shutdown. The NRC staff should update Inspection Manual Chapter 0375 to ensure that NRC inspectors verify that licensees have addressed any related commitments prior to restart.

Entered in "STARS"
Yes X
No ____


SIGNATURE

1/29/20
DATE

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-114; NRC-2016-0204]

Power Reactors in Extended Shutdowns

JMB edits

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking dated September 1, 2016, submitted by Mr. David Lochbaum on behalf of the Union of Concerned Scientists and two co-petitioners (the petitioners). The petition was docketed by the NRC on September 14, 2016, and was assigned Docket No. PRM-50-114. The petitioners requested that the NRC amend its regulations to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage." The NRC is denying the petition because the NRC already has regulatory processes in place to address the issues identified in the petition.

DATES: The docket for the petition for rulemaking, PRM-50-114, is closed on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2016-0204, when contacting the NRC about the availability of information regarding this petition. You may obtain publicly-available information related to this petition by any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2016-0204. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select Begin Web-based ADAMS Search. For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Dennis Andrukat, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-3561; e-mail: Dennis.Andrukat@nrc.gov; U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

TABLE OF CONTENTS:

I. The Petition

Section 2.802 of title 10 of the *Code of Federal Regulations* (10 CFR), "Petition for rulemaking—requirements for filing," provides an opportunity for any ~~interested~~ person to petition the Commission to issue, amend, or rescind any regulation. On September 1, 2016, Mr. David Lochbaum, on behalf of the Union of Concerned Scientists~~,~~ and co-petitioners Greenpeace and Natural Resources Defense Council ~~and two co-petitioners~~ (petitioners), submitted a petition for rulemaking (PRM) to the NRC. The NRC docketed this petition and assigned it Docket No. PRM-50-114. The petitioners requested that the NRC amend 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage."

The petitioners described a scenario in which an operating commercial nuclear power plant ~~(facility)~~ could voluntarily be in an extended shutdown with no immediate plans to decommission. The petitioners stated that there are no regulations to prevent a licensee from changing its decision to cease operations by retracting its certification to do so, and that the current regulations were developed for operating reactor facilities and for reactor facilities in decommissioning, not for facilities "in limbo that will at some unspecified later date return to the operating reactor world or join the decommissioning

community." The petitioners asserted that the current regulations are not intended, as written, for an operating facility in an "extended shutdown.[1]" The petitioners also stated that a licensee can place the facility in an extended shutdown without the NRC's review and approval, or public participation. The petitioners contended~~speculated~~ that in the current economic climate, licensees may choose to place a facility in an extended shutdown until the marketplace becomes more favorable or the decision to proceed with decommissioning is made. The petitioners cited the Browns Ferry Nuclear Plant Unit 1 as an example of a facility in an extended shutdown. In 1985, Tennessee Valley Authority (TVA) voluntarily shut down Unit 1 and did not restart it until 2007. Ultimately, the petitioners asserted that the current regulatory framework does not manage the risk of a facility in an extended shutdown that a licensee may someday seek to restart.

The NRC identified four main issues in the petition, as follows:

1) Define "extended shutdown" for power reactors.

2) Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR).

3) Establish requirements to exit and restart from an extended shutdown.

4) Conduct a decommissioning funding review~~(s)~~ during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification.

II. Public Comments on the Petition

The NRC published a notice of docketing and request for comment in the *Federal Register* on December 9, 2016. The NRC also sought public comment on six specific

[1] The petition describes an "extended shutdown" as either an operating reactor that has been shut down for 2 years or more and is not actively pursuing restart under a formal NRC process or a when a licensee has voluntarily notified the NRC of its intent to place the facility in an "extended shutdown" condition.

questions. The public comment period closed on February 22, 2017. The NRC received two public comment submissions during the 75-day public comment period; both submissions, which were from industry representatives, were in favor of denying the petition and provided a basis for that position. The two comment submissions, from the Nuclear Energy Institute (NEI) and Entergy Nuclear Operations, Inc. (Entergy), raised five comments in total. Only NEI addressed the specific questions that were included in the *Federal Register* notice that requested public comments. The ADAMS Accession Nos. for the comment submissions can be found in the "Availability of Documents" section of this document.

Public Comments:

The NRC has considered the public comments received on the petition for rulemaking. The NRC response follows a short summary of each comment submission.

Comment Submission 1:

NEI recommended that the NRC deny the petition because the petition has not demonstrated that the existing regulations require rulemaking based on the criteria in § 2.802(c)(1)(iii). The commenter stated that PRM-50-114 should be denied because: (Comment 1) "the petition incorrectly asserts that the Commission's existing regulations are inadequate as applied to operating reactors that have entered an extended shutdown," (Comment 2) "the petition provides no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown," and (Comment 3) "the petition provides no basis for suggesting that the NRC should explicitly prohibit withdrawal of the certification of the permanent cessation of operations submitted pursuant to § 50.82(a)(1)(i)." The commenter noted

that a facility in extended shutdown must continue to comply with its operating license and NRC regulations applicable to operating nuclear power plants. ~~This fact contrasts with the petitioners' assertions that the Commission's existing regulations are inadequate as applied to operating reactors that have entered into an extended shutdown.~~ The commenter noted that a licensee may still meet all applicable safety and security requirements even if it defers a generic communication action during an extended shutdown scenario. This is because generic communications do not impose new or changed regulatory requirements on licensees.

The commenter further noted that the petition does not provide a basis to change the regulations to require licensees to submit preliminary decommissioning cost estimates every 5 years during an extended shutdown. Once a licensee permanently ceases operations, then the licensee would be required to submit site-specific cost estimates as required under § 50.82, "Termination of license." The commenter acknowledged that the current regulations already require 10 CFR part 50 power reactor licensees to report decommissioning funding status every 2 years. The commenter stated~~continued~~ that

> ...many NRC regulations applicable to operating nuclear power plants continue to apply even after a nuclear power reactor has permanently ceased operation and defueled. This includes several regulations that seem to be of specific concern to the petitioners (e.g., emergency planning and physical security).

The commenter asserted that the petitioners provide no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown.

In response to the petitioners' requested new regulations for reactors that are in an extended shutdown and not actively pursuing restart to be evaluated under a formal process such as Inspection Manual Chapter (IMC) 0350, "Oversight of Reactor Facilities

in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," the commenter noted that existing NRC procedures in IMC 0375, "Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Performance," would achieve the petitioners' objective. ~~As noted by the commenter, IMC 0375~~ This Inspection Manual Chapter is the NRC's inspection guidance for implementation of the reactor oversight process for plants in an extended shutdown condition for reasons not related to performance. The commenter arguespoints out that IMC 0375 ensures that the NRC "communicates unified and consistent oversight in a clear and predictable manner to the licensee, the public, and other stakeholders" and also addressesensures the documentation of the required regulatory and licensee actions taken; the resolved technical issues leading to approval for restart, if required; and the eventual return of the plant to the routine reactor oversight process. The commenter asserted that IMC 0375 will provide assurance that the plant will be operated in a manner that provides adequate protection of public health and safety following restart. The commenter stated that "the NRC oversight requested in the petition already exists" under the reactor oversight process. The commenter further stated that the resulting regulations sought in this petition would not result in significant improvements to reactor safety or security and would not improve regulatory efficiency.

NRC Response: The NRC generally agrees with the comments that were relayed in Comment Submission 1. Specifically, the NRC agrees that the Commission's existing regulations ~~and guidance documents~~ adequately address facilities that enter anny ~~potential~~ extended shutdown period.

Comment Submission 2:

Entergy recommended that the NRC deny the petition. The commenter

endorsed (Comment 4) the comments provided in NEI's letter. In addition, the commenter stated that (Comment 5) making a § 50.82(a)(1)(i) certification irrevocable is directly contrary to the assumptions and conditions of a recent settlement agreement entered into by Entergy, the State of New York (among other related New York governmental entities), and Riverkeeper, Inc. regarding the continued operation of Indian Point Units 2 and 3. The commenter stated~~noted~~ that making a § 50.82(a)(1)(i) certification irrevocable would nullify key terms of this important agreement.

NRC Response: With respect to Entergy's ~~adoption~~ endorsement of the NEI comments as reflected in Comment Submission 1, the NRC's response is provided in response to Comment Submission 1. With respect to Entergy's Comment 5, the issue raised is outside the scope of the PRM.

Specific Questions:

The NRC has considered the responses received to the specific questions. Only NEI provided responses to the six specific questions on which the NRC sought comment. A summary of the responses provided in NEI's submission follows.

Question 1: The petition outlines a scenario where a reactor is in an extended shutdown condition due to economic or other reasons and would at some unspecified later date return to operation. The petition uses the Browns Ferry Nuclear Plant as an example, where the Tennessee Valley Authority voluntarily shut down one unit from 1985 to 2007. Are there any facilities or licensees who may be likely to use the petitioners' extended shutdown scenario in the future? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that it is not aware of a commercial power

reactor likely to use the extended shutdown scenario. The commenter stated~~clarified~~ that a licensee is not prohibited from entering into an extended shutdown voluntarily and references the NRC's response to a letter from David A. Kraft of Nuclear Energy Information Service dated June 16, 2016.

NRC's Response: The NRC agrees with the comment and notes the NRC's August 4, 2016 response to the David A. Kraft letter states that ~~the~~ NRC regulations do not prohibit a licensee from voluntarily placing its facilities in an extended shutdown, while continuing to meet all safety and security requirements as outlined in the facility's operating license, without terminating the operating license.

Question 2: The petitioners contend that the NRC's existing regulations were promulgated for operating reactors, and that specific regulations are needed to address non-operating reactors in an "extended shutdown." Assuming the extended shutdown scenario is credible, in what specific ways are the existing regulations identified in the PRM ~~[petition for rulemaking]~~ insufficient to address the scenario described by the petitioners? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 3: Assuming that the existing regulations identified in the PRM are insufficient to address the extended shutdown scenario, what specific changes to those regulations

are needed to facilitate the requested rulemaking? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 4: The petition describes a plant in an "extended shutdown," and proposes two criteria to enter into this non-operating state (submission of § 50.82(a)(1)(i) and § 50.4(b)(8) notifications; and a shutdown period of 2 years). Should the term "extended shutdown" be defined in § 50.2, "Definitions," and should the regulations specify the timeframe for this scenario? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that "extended shutdown" does not require a definition in the federal regulations because the regulations are sufficient to address the extended shutdown scenario.

NRC's Response: The NRC agrees with the comment.

Question 5: Given the NRC's long-standing, well-understood Reactor Oversight Program, what potential changes would need to be considered to ensure adequate oversight of a reactor during an extended shutdown? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 6: What additional reporting to the NRC should be required for a reactor in an extended shutdown, and with what level of detail and frequency (e.g., the potential changes to the submission of the decommissioning trust fund reports)? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security. The commenter does not agree that additional reporting requirements are warranted because the petitioners have not "demonstrated the need for any changes to the reporting requirements applicable to a reactor," in an extended shutdown. The commenter adds that both a facility that is actively operating and a facility that is in an extended shutdown would be restricted to using only 3 percent of the decommissioning trust funds for pre-planning activities, consistent with the regulations in § 50.82.

NRC's Response: The NRC agrees with the comment.

III. Reasons for Denial

The NRC is denying the petition because the petitioners did not present any significant new information or arguments that would support the requested changes for extended shutdown conditions. Furthermore, the NRC has determined that the issues raised by the petitioners are adequately addressed by existing NRC regulations.

procedures, and guidance, and no amendments to the NRC's regulations are necessary. A discussion of the existing regulatory framework follows.

Issue No. 1: Define "extended shutdown" for power reactors

The NRC is denying requested changeIssue No. 1 because there is no need to define "extended shutdown" in the regulations. The holder of an operating license is required to maintain the facility and all of its security and operational programs in accordance with the conditions of its operating license. This remains true whether the facility is operating or shut down for any period of time, including extended shutdowns. As discussed further under Issue Nos. 2, 3, and 4, the licensee must maintain programs in effect to ensure the continued safety and security of the facility regardless of the mode of operation. Therefore, the issues raised by the petitioners associated with what could be defined as an extended shutdown are currently and adequately covered by the existing regulations and NRC processes.

Issue No. 2: Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR)

The NRC is denying requested changeIssue No. 2 because there is no need to require the licensee to submit a RESAR prior to entering an extended shutdown condition. This proposed report, as soughtraised by the petitioners, would be similar to the post-shutdown decommissioning activities reportthe requiredments in by § 50.82(a)(4)(i) for the post-shutdown decommissioning activities report and would describe how certain activities are handled during an extended shutdown. The petitioners identified topics they believe included items that should be

addressed~~included~~ in the RESAR~~proposed report~~. Those items are listed below followed by the staff's evaluation of each item:

Operator License

Aging Management

Technical Specifications

In-service Inspections (and In-service Testing)

Quality Assurance

Irradiated Fuel Protection

Fitness for Duty

Operator License

An operator's license is not automatically terminated based solely on an extended plant shutdown. In accordance with § 55.55, an operator's license expires ~~after~~ 6 years after the date of issuance, upon termination of employment, or upon determination by the facility licensee that the license is no longer needed. An operator's license can be renewed if the requirements of § 55.57 are met. Whether the facility is operating or is in extended shutdown, licensed operators and senior operators, as defined in § 55.4, are required to successfully complete requalification requirements established by § 55.59 to maintain their licenses. Further, licensed operators and senior operators are required to meet proficiency requirements established by § 55.53(e) to maintain an active status. Active status under § 55.53(e) is maintained by performing the functions of an operator or a senior operator, as defined in the facility's technical specifications, for a specified number of shifts per calendar quarter. For an operator or senior operator who does not meet the § 55.53(e) requirements resulting in an in-active status on his or her license, the requirements of § 55.53(f) apply to ensure proficiency before an operator can legally

perform licensed duties. To maintain or restore active status on an operator's license, the facility would need to remain in a mode of operation that requires operators to actively perform the functions of an operator or senior operator, as defined by § 55.4. However, if the facility is in a mode of operation that does not allow for licensed duties to be performed, this may result in a licensed operator(s) becoming in-active. The licensee may find it appropriate~~acceptable~~ to have a reduced number of active licensed operators during an extended shutdown. Before restarting, however ~~(as stated later under Issue No. 3)~~, the licensee would be required to have the required number of active licensed operators in place ~~per~~ in accordance with its licensing basis and the existing 10 CFR part 55 requirements.

Aging Management

A licensee with a facility in an extended shutdown must still perform the activities specified in its NRC-reviewed aging management programs, if its current licensing basis includes such programs. Any adjustments to aging management programs are considered changes to the facility's licensing basis and are controlled through current regulations under § 50.59, "Changes, tests, and experiments~~,~~." which outlines a process to determine whether a change can be made by the licensee or whether the change requires prior NRC approval.

The scope of aging management activities does not change during an extended shutdown. Current regulations in 10 CFR part 54 establish the scope of aging management programs that are only for passive components, based on whether they perform a prescribed intended function "without moving parts or without a change in configuration or properties." The determination of whether a component is classified as either passive or active is not based on frequency of either operation or surveillance

testing. The assurance of proper function for active components during an extended shutdown would not fall within established aging management activities. Active components are included in the surveillance requirements that are part of the technical specifications in the license, as well as inservice testing programs required by regulation.

Technical Specifications

A facility's technical specifications are a part of its operating license. A noncompliance with technical specifications is a noncompliance with a facility's operating license requirements and subject to enforcement action.

The usage rules contained in technical specifications are structured in such a manner as to provide reasonable assurance of continued adequate protection of public health and safety regardless of the amount of time a facility has been shut down. The requirements for performing and meeting the surveillance requirements in technical specifications are independent of the amount of time a facility has been shut down. Rather, requirements for performing surveillances and meeting surveillance requirements are dependent on the ~~facility~~ mode the facility is in, as defined in the technical specifications, or on other specified conditions in the applicability of a limiting condition for operation.

Before a licensee changes the ~~entering a new~~ mode ~~(e.g., restarting), the~~a facility is in (for example, from cold shutdown to hot shutdown or from startup to power operation) ~~must demonstrate operability. Therefore~~, any ~~required~~ structures, systems, and components necessary for safe operation of the facility in the new mode must be operable, and the applicable surveillances must have been conducted as ~~defined in~~required by the facility's technical specifications~~, before transition can occur~~. No additional "lay-up" program or testing/inspection is required.

The usage rules of technical specifications are independent of the amount of time a facility has been in a shutdown condition and a noncompliance with the usage rules is a noncompliance with the operating license requirements subject to enforcement action. Therefore, the NRC does not agree that a new regulation is needed to require a licensee to explain whether testing and inspections per the technical specifications will be continued during a shutdown period.

The technical specifications set out different requirements for different modes of operation. The NRC agrees that fewer requirements within the technical specifications are applicable when a reactor is in cold shutdown, refueling or defueled. However, the technical specifications still provide reasonable assurance of adequate protection of public health and safety. The reason that fewer requirements within the technical specifications apply in cold shutdown, refueling, or defueled conditions is that there are fewer credible scenarios that could impact public health and safety when plants are in a~~ny~~ mode where the reactor is shut down or defueled. Nonetheless, the licensee must evaluate the impact of degradation of required structures, systems, and components on the operability of those structures, systems, and components. If a licensee determines that a required system is inoperable, then the licensee must comply with the required actions in the technical specifications. Furthermore, the design features of the technical specifications apply at all times, regardless of mode or time since shutdown. For example, t~~T~~he design features~~, for example,~~ typically contain requirements for fuel storage that, if altered or not met, would have a significant impact on safety.

Inservice Inspection ~~[~~and Inservice Testing~~]~~

In accordance with § 50.55a(g), Section XI of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* provides the

requirements for inservice inspection of nuclear power plants. Section XI requires examinations to be scheduled in 10-year inspection intervals. Section XI has provisions that allow a licensee ~~inspection intervals~~ to ~~be~~ shorten~~ed~~ or lengthen~~ed~~ inspection intervals to conform to a facility's outage schedule. Section XI, IWA-2430(d) provides allowances for extended outages. It states, in part, that:

> ...for plants that are out of service continuously for 6 months or more, the inspection interval during which the outage occurred may be extended for a period equivalent to the outage and the original pattern of intervals extended accordingly for successive intervals.

In accordance with § 50.55a(f), the ASME *Operation and Maintenance* of Nuclear Power Plants (OM Code) provides requirements for inservice testing of pumps and valves in nuclear power facilities. The OM Code requires testing to be scheduled periodically within the 10-year inservice testing program intervals. Licensees may extend ~~T~~the 10-year inservice testing program intervals ~~may be extended~~ for plants with extended outages, as discussed above for inservice inspection. For plants that are continuously out-of-service, ~~per~~ the OM Code provides that, the test schedule for pumps and valves may not be necessary~~need not be followed~~. ~~No relief requests are required.~~ Within 3 months before the plant is placed back in operation, ~~per~~ the OM Code requires that, the pumps must be tested, and the valves must be exercised. Additionally, Section 06.02 of IMC 0375 directs inspectors to verify that the licensee has considered the latest vendor bulletins and other important information related to safety-related equipment, consistent with licensee procedures.

Quality Assurance

~~There is no specific relaxation of any of~~ The requirements of appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to

10 CFR part 50 (appendix B) continue to apply to~~for~~ an operating facility that is in an extended outage. Appendix B establishes quality assurance requirements for the design, manufacture, construction, and operation of certain structures, systems, and components. The pertinent requirements of this appendix apply to all licensee activities affecting the safety-related functions of these structures, systems, and components, regardless of whether the facility is producing power or in a shutdown condition. Such activities include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying these structures, systems, and components. Criterion II, "Quality Assurance Program," of appendix B, requires that the quality assurance program, be documented by written policies, procedures, or instructions and be carried out throughout the life of the facility. Thus, appendix B requires compliance with the applicable portions of the regulations for covered activities regardless of whether or how long the facility has been in a shutdown period. Licensed operators and other licensee staff would still be required to be trained to perform activities affecting quality; to follow written procedures or instructions (where applicable); and to document, evaluate, and resolve issues through the implementation of the non-conformance and corrective action programs. In addition, criterion XVIII, "Audits," of appendix B, requires licensee staff to continue to evaluate programs and processes through periodic auditing throughout the life of the facility and is applicable to facilities regardless of whether or how long a facility has been in a shutdown condition.

Irradiated Fuel[2]

The petitioners requested that the NRC require licensees to develop and submit a RESAR that includes a discussion of how the facility will ensure~~, during an extended shutdown period,~~ that any irradiated fuel will be protected and not be damaged during an extended shutdown period. In addition, the petitioners requested that the RESAR describe how the public and facility personnel will be protected, should irradiated fuel become damaged. The NRC determined that the existing regulations, guidance, and processes already discussed in this notice would prevent and mitigate such damage from a design and safety standpoint. The NRC also reviewed other existing regulatory requirements not specifically mentioned by the petitioners. Specifically, the NRC considered emergency planning requirements and security requirements ~~(the design basis threat)~~ in making this conclusion.

Irradiated Fuel: Emergency Planning

Emergency planning regulations and required licensee emergency plans are in place~~already exist~~ to protect workers and the public from damaged irradiated fuel per § 50.54, "Conditions of licenses," ~~to~~ including when the facility is in extended shutdown. Specifically, § 50.54(q)(2) requires that the licensee follow and maintain the effectiveness of an emergency plan that meets the requirements in appendix E to part 50 and, for a nuclear power reactor facility, the planning standards of § 50.47(b). In accordance with § 50.47(b)(14), a licensee must conduct periodic exercises to evaluate major portions of emergency response capabilities, while periodic drills are conducted to

[2] As part of its review of the petition, the NRC reviewed other existing regulatory requirements. While not specifically mentioned by the petitioners, a discussion of emergency planning requirements and security design basis threats is included in this notice, as both topics relate to protecting the public and plant personnel, should irradiated fuel become damaged.

develop and maintain key skills. Any deficiencies identified as a result of exercises or drills must be corrected.

Irradiated Fuel: Design Basis Threat

Existing regulations in 10 CFR part 73, "Physical Protection of Plants and Materials," require security protection when irradiated fuel is onsite and stored inside the protected area, regardless of the reactor's operational mode, or conditions, including an extended shutdown condition.

Pursuant to § 73.1(b)(1)(i) licensees who are authorized to operate a nuclear power reactor under § 50.57, as well as holders of a combined license under 10 CFR part 52 (after the Commission has made the finding under § 52.103(g)) must comply with the requirements of § 73.55. These requirements include a security plan with defined design basis threats, as described in §§ 73.1 and 73.2, to protect against acts of radiological sabotage and the associated protective strategy. The security plan includes a physical security plan, a training and qualification plan, a safeguards contingency plan, and a cyber security plan. ~~The specific design basis threat is safeguards information, which is protected under § 73.21 and is withheld from public access pursuant to the requirements of § 9.17.~~

Along with the security plan, § 73.55(k)(8) requires the licensee to establish and implement a protective strategy when irradiated fuel is onsite and stored in the protected area, regardless of the reactor's operational modes, or conditions.

Fitness for Duty

Existing regulations in 10 CFR part 26, "Fitness for Duty Programs," require that all persons who are granted unescorted access to nuclear power reactor protected areas

by the licensees be subject to a fitness-for-duty program. Pursuant to § 26.3(a), licensees who are authorized to operate a nuclear power reactor facility under § 50.57, as well as holders of a combined license under 10 CFR part 52 (after the Commission has made the finding under § 52.103(g)) must comply with the requirements of 10 CFR part 26, except for subpart K, "FFD Program for Construction."

The fitness-for-duty program ~~performance objectives required under § 26.23 provide reasonable assurance of an individual's ability to safely and competently perform his or her duty commensurate with maintaining public health and safety. These~~ requirements apply regardless of the reactor's operational modes, or conditions, and include drug and alcohol testing, behavioral observation, and determinations of fitness.

Therefore, staff has determined that requested change~~Issue~~ No. 2, to require a licensee to develop and submit a RESAR, whether prior to or during an extended shutdown, is not necessary because the issues raised by the petitioners are currently and adequately covered by the existing regulations.

Issue No. 3: Establish requirements to exit and restart from extended shutdown

The NRC is denying requested change~~Issue~~ No. 3 because there is no need to amend the regulations to establish criteria for exiting an extended shutdown. The staff determined that existing reactor oversight process guidance provides for appropriate NRC oversight of a plant during~~in~~ an extended shutdown ~~condition~~. Oversight of reactor facilities in extended shutdown for reasons not related to performance is governed by IMC 0375. One of the purposes of IMC 0375 is to provide assurance that the facility will be operated in a manner that provides adequate protection of public health and safety following restart. Section 06.02 of IMC 0375 discusses the inspection plan and indicates that a focus on operational readiness of the licensee for reactor restart may be

necessary. Aspects that may be considered as potential areas for additional NRC inspection include equipment upgrades and maintenance, procedure updates, facilities maintenance, and the status of the corrective action program. Also, licensees must continue to implement the Maintenance Rule in accordance with § 50.65, which mandates (1) an evaluation every 24 months that takes into account, where practical, industry-wide operating experience and (2) performance monitoring, condition monitoring, and preventative maintenance activities for all equipment covered by the rule. In addition, a facility cannot restart without active licensed operators per § 55.53 and as described previously under Issue No. 2.

~~In addition, b~~Before a licensee changes ~~entering a higher~~the mode a facility is in, any structures, systems, and components necessary for the safe operation of the facility in the new mode must be operable and the applicable ~~(e.g., restarting and increasing power) the licensee must ensure operability of the required equipment and pass the required~~ surveillances must have been conducted as required by the facility's technical specifications.~~for the next higher mode prior to entry.~~

David Kraft of the Nuclear Energy Information Service raised many of the same issues in a letter to the agency dated June 16, 2016. By letter dated August 4, 2016, John Giessner from the Division of Nuclear Materials Safety in NRC Region III responded to Mr. Kraft. In this response letter, referenced by the petitioners as "the Giessner letter," the NRC staff answered questions about the requirements for power reactor decommissioning and extended shutdown. ~~As recognized in t~~The NRC's response letter noted that~~,~~ the regulations do not prohibit a licensee from voluntarily entering the extended shutdown configuration described in the petition and refers to IMC 0375, which provides for NRC oversight of a facility exiting from extended shutdown. If a licensee were to place~~s~~ a facility in extended shutdown and later decide~~s~~

to restart, the NRC ~~has determined that the agency~~ has sufficient regulations, processes, and procedures in place to ensure that the restart is conducted in a safe manner.

The example cited by the petitioners was the extended shutdown of Browns Ferry Nuclear Plant, Unit 1, which was shut down from March 1985 to June 2007, after operating for 10 years. During the ~~twenty-two~~22-year shutdown, the NRC continued to provide oversight ~~via~~ with multiple resident inspectors assigned to the Browns Ferry Nuclear Plant~~s~~. Further, NRC staff from regional and headquarters offices routinely visited the Browns Ferry Nuclear Plant for oversight of the operating Unit 2 and 3 reactors. As part of the reactor oversight process, the NRC developed an inspection procedure to monitor the restart effort and ~~to~~ ensure that the plant was able to restart and operate in a safe manner. This procedure ~~eventually became~~formed the basis for the current IMC 0375. The NRC ~~was able to~~ used existing regulatory tools, including ~~(e.g.,~~ inspectors, inspection procedures, and enforcement of the operating license,~~)~~ during the startup of Browns Ferry Nuclear Plant, Unit 1, ~~startup~~ in 2007. ~~As evidenced by the startup of Browns Ferry Nuclear Plant, Unit 1, the NRC maintains the regulatory tools necessary to effectively ensure that the public health and safety and common defense and security continues to be protected.~~

The NRC staff found ~~additional~~ other examples of power reactor facilities experiencing extended shutdowns relevant to the petition including: Crystal River Nuclear Generating Plant, Unit 3, which was shut down for an extended period of time before permanently ceasing operations; Kewaunee Power Station, which had permanently shut down and defueled but later considered restarting and relicensing (it ultimately decided not to restart); and James A. FitzPatrick Nuclear Power Plant, Davis-Besse Nuclear Power Station, Unit 1, and Perry Nuclear Power Plant, Unit 1 for which a

decision to permanently cease operations was reversed. The NRC staff's review of these additional examples found that the existing regulatory tools were effective and sufficient in addressing these different scenarios and ensured that the public health and safety and common defense and security continued to be protected.

Therefore, the NRC finds that the potential safety and security issues associated with exit and restart from extended shutdown are currently and adequately covered by the existing regulations ~~and NRC processes~~. While the current regulations provide for appropriate NRC oversight, the NRC agrees that Section 06.02 of IMC 0375 could be improved to explicitly direct inspectors to confirm that licensees have addressed any deferred actions on applicable NRC bulletins, generic letters, and licensing correspondence prior to plant startup from an extended shutdown.

Issue No. 4: Conduct a decommissioning funding review(s) during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification

The NRC is denying requested change~~Issue~~ No. 4 because there is no need to prohibit withdrawal of a certification of permanent cessation of operations or to require additional re-assessment~~ing~~ of decommissioning funding during an extended shutdown.

Certifications under § 50.82, "Termination of license"

The regulations in § 50.82 do not prohibit a power reactor licensee from voluntarily placing its facilities in an extended shutdown without terminating the operating license. The regulations ~~do~~ require licensees with an operating license for a power reactor in an extended shutdown to continue to meet all safety and security requirements as outlined in the facility's operating license.

The regulations in § 50.82(a)(1) specify two actions that the licensee must take to permanently cease operations of a nuclear power facility. First, when the licensee decides to permanently cease operations, the licensee must ~~provide~~submit a certification of this decision to the NRC in writing within 30 days, per § 50.82(a)(1)(i). In accordance with § 50.4(b)(8), this certification must contain the date on which the power generation operations have ceased or will cease. Second, under § 50.82(a)(1)(ii), the licensee must submit to the NRC a certification of permanent removal of fuel from the reactor vessel. In accordance with § 50.82(a)(2), after the licensee submits and the NRC dockets both certifications, the licensee is no longer authorized to operate the reactor or place or retain fuel in the reactor vessel.

Filing of a certification under § 50.82(a)(1)(i) of a determination to cease operations alone is not sufficient to result in permanent cessation of operations. No existing regulation would prevent the licensee from changing its decision to cease operations by retracting its certification under § 50.82(a)(1)(i).

The regulations do not specify a time limit for the permanent removal of fuel or the schedule for submitting the corresponding certification under § 50.82(a)(1)(ii) to the NRC. ~~Additionally, after the NRC dockets the certifications required by § 50.82(a)(1), no existing regulations would explicitly prohibit the NRC from reauthorizing operation; however, the licensee would have to demonstrate that it meets all the requirements in 10 CFR part 50 and request approval from the NRC to authorize operation and. The NRC would then determine whether the licensee has met all requirements.~~

Commented [BJ1]: Join this sentence with the prior paragraph.

~~While the NRC cannot prevent the licensee from electing to cease operation and transition to decommissioning, the NRC can stop decommissioning activities in certain situations.~~ However, t~~T~~he NRC's regulation at § 50.82(a)(6) states that the licensee

must not perform any decommissioning activity that: (1) forecloses release of the site for possible unrestricted use, (2) results in any significant environmental impact not previously reviewed, or (3) results in there no longer being reasonable assurance that adequate funds will be available for decommissioning. If any decommissioning activity could not meet these conditions, the licensee is prohibited from undertaking the activity until it submits, and the NRC approves, a license amendment request that describes the proposed activity and the potential impact associated with that activity.

The petitioners provided no basis for requesting the NRC to ~~explicitly~~ prohibit withdrawal of a~~the~~ certification of ~~the~~ permanent cessation of operations submitted pursuant to § 50.82(a)(1)(i). There is no ~~fundamental~~ change in the ~~status~~authority to operate granted by a ~~of the~~ facility's operating license associated solely with the filing of the § 50.82(a)(1)(i) certification. Further, there is no change in the regulatory treatment of a commercial nuclear power reactor based solely on the submittal of the certification of permanent cessation of operations required by § 50.82(a)(1)(i). Thus, withdrawal of this certification, in and of itself, regardless of whether the licensee intends to enter into an extended shutdown or continue operating the facility, does not affect the status of the facility with respect to the NRC's requirements. Similar regulations are found under § 52.110 for combined licenses. ~~In addition, in its letter dated August 4, 2016, the NRC staff responded to similar questions from David Kraft of the Nuclear Energy Information Service regarding the certifications and license termination requirements under § 50.82.~~

Therefore, the NRC concludes that prohibiting the licensee from withdrawing a certification of permanent cessation of operations in accordance with § 50.82(a)(1)(i) would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

Decommissioning Funding

~~The petitioners asserted that a facility in an extended shutdown may eventually resume operation or enter decommissioning.~~ The petitioners requested that the amended regulations clearly address whether decommissioning funding may be used for activities during a facility's extended shutdown and, if so, the criteria and conditions governing use of decommissioning funding should be included in the amended regulations.

The regulations under § 50.82(a)(8)(ii) do not allow decommissioning trust funds to be used for any activities (except decommissioning planning) while the licensee has an operating license including during an extended shutdown. In addition, the licensee in extended shutdown is not relieved of any existing decommissioning trust fund regulations that are applicable to any facility with an operating license.

The petitioners also requested that the amended regulations require licensees to submit a preliminary decommissioning cost estimate to the NRC at 5-year intervals throughout the period of extended shutdown. The petitioners also inquired whether the decommissioning funding amounts required by § 50.75(c) should be re-assessed during an extended shutdown.

Regulations under §§ 50.75(f)(1) and (f)(2) require licensees to report at least once every 2 years on the status of its decommissioning funding and related factors. In addition to these requirements for biennial reports, § 50.75(f)(3) requires that each power reactor licensee shall, at or about 5 years prior to the projected permanent cessation of operations,[3] submit a preliminary decommissioning cost estimate, which includes an up-to-date assessment of the major factors that could affect the cost to

[3] The "permanent cessation of operations" in this context refers to when a licensee is no longer authorized to operate the reactor or place or retain fuel in the reactor vessel, per § 50.82(a)(2).

decommission. The extended shutdown has no effect on the license expiration date, and all applicable decommissioning funding regulations remain in effect, including § 50.75.

Therefore, the NRC finds that prohibiting withdrawal of a certification of permanent cessation of operations under § 50.82(a)(1)(i) or ~~to~~ requiringe additional re-assessmenting~~ing~~ of decommissioning funding during an extended shutdown would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

IV. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the methods, as indicated.

DOCUMENT	ADAMS ACCESSION NO. / *FEDERAL REGISTER* CITATION
Request for Petition for Rulemaking (PRM-50-114), dated September 1, 2016.	ML16258A486
Federal Register notice, "Power Reactors in Extended Shutdowns," dated December 9, 2016.	81 FR 89011
Comment Submission 1: Rodney McCullum of Nuclear Energy Institute (NEI), dated February 22, 2017.	ML17055B792
Comment Submission 2: Paul Bessette of Morgan, Lewis & Bockius, LLP (on behalf of Entergy Nuclear Operations, Inc.), dated February 23, 2017.	ML17055B953
IMC 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," dated March 1, 2018.	ML17116A273

IMC 0375, "Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Performance," dated November 13, 2015.	ML15247A274
NUREG/BR-0521, "Decommissioning Nuclear Power Plants," dated August 2014.	ML14210A472
NUREG-1700, Revision 1, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," dated April 2003.	ML031270391
Regulatory Guide (RG) 1.184, Revision 1, "Decommissioning of Nuclear Power Reactors," dated October 2013.	ML13144A840
RG 1.179, Revision 1, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors," dated June 2011.	ML110490419
Letter from Mr. David A. Kraft of Nuclear Energy Information Service, dated June 16, 2016.	ML16175A449
NRC Letter to Mr. David A. Kraft of Nuclear Energy Information Service, dated August 4, 2016.	ML16218A266
FirstEnergy Solutions Corp. Letter, "Withdrawal of Certification of Permanent Cessation of Power Operations for Davis-Besse Nuclear Power Station. Unit No. 1, and Perry Nuclear Power Plant, Unit No. 1," dated July 26, 2019.	ML19207A097
Draft regulatory issue summary, "Disposition of Information Related to the Time Period that Safety-Related Structures, Systems, or Components are Installed," dated May 17, 2016.	81 FR 30571

The NRC may post materials related to this document, including public comments, on the Federal Rulemaking Web site at http://www.regulations.gov under Docket ID NRC-2016-0204. The Federal Rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2016-0204); 2) click the "Sign up for E-mail Alerts" link; and 3) enter your e-mail address and select how frequently you would like to receive e-mails (daily, weekly, or monthly).

V. Conclusion

For these reasons ~~cited in this document~~, the NRC is denying PRM-50-114. The NRC has concluded that the issues raised by the petitioners are adequately addressed by existing NRC regulations~~, procedures, and guidance,~~ and no amendments to the NRC's regulations are necessary.

Dated at Rockville, Maryland, this day of , ~~2019~~2020.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

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

JMB edits

Edwin Lyman ~~(on behalf of David A. Lochbaum)~~
Director, Nuclear Safety Project
Union of Concerned Scientists
1825 K Street, NW, Suite 800
Washington, DC 20006-1232

Dear ~~M~~Dr. Lyman:

I am responding to the ~~David Lochbaum's~~ petition for rulemaking (PRM) submitted on behalf of the Union of Concerned Scientists, Greenpeace, and Natural Resources Defense Council on~~dated~~ September 1, 2016~~, submitted on behalf of the Union of Concerned Scientists and two co-petitioners, Greenpeace and National Resources Defense Council~~ (Agencywide Documents Access and Management System Accession No. ML16258A486). The U.S. Nuclear Regulatory Commission (NRC) docketed the petition as PRM-50-114. The petition requested the NRC amend its regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage."

The NRC published a notice of docketing for PRM-50-114 in the *Federal Register* on December 9, 2016 (81 FR 89011). The staff received two public comment submissions during the 75-day public comment period; both submissions were in favor of denying the petition and provided a basis for that conclusion.

The NRC is denying PRM-50-114 because it has determined that the issues raised by the petitioners are adequately addressed by existing NRC regulations~~, procedures, and guidance,~~ and therefore, no amendments to the NRC's regulations are necessary. While the staff determined that the existing regulations provide for appropriate NRC oversight, the agency agrees that Inspection Manual Chapter 0375 could be improved to direct inspectors to confirm that licensees have addressed any deferred actions on applicable NRC bulletins, generic letters, and licensing correspondence prior to plant startup from an extended shutdown. The enclosed notice, which will be published in the *Federal Register*, explains the reasons for the denial. Upon publication of the enclosed notice, the NRC will close the docket for PRM-50-114.

You may direct any questions about this matter to Dennis Andrukat by calling 301-415-3561 or sending an e-mail to Dennis.Andrukat@nrc.gov.

Sincerely,

Annette L. Vietti-Cook
Secretary of the Commission

Enclosure:
Federal Register notice

POLICY ISSUE
NOTATION VOTE

RESPONSE SHEET

TO: Annette L. Vietti-Cook, Secretary

FROM: Commissioner Caputo

SUBJECT: SECY-19-0121: Denial of Petition for Rulemaking on Power Reactors in Extended Shutdown (PRM-50-114;NRC-2016-0204)

Approved X **Disapproved** ____ **Abstain** ____ **Not Participating** ____

COMMENTS: **Below** X **Attached** X **None** ____

I approve the staff's recommended denial of the petition. I approve the draft Federal Register notice (Enclosure 1) and draft letter to the petitioner (Enclosure 2), as edited in the attached versions.

Entered in STARS
Yes X
No ____

Signature

1/29/2020
DATE

[7590-01-P]

AXC edits

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-114; NRC-2016-0204]

Power Reactors in Extended Shutdowns

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking dated September 1, 2016, submitted by Mr. David Lochbaum on behalf of the Union of Concerned Scientists and two co-petitioners (the petitioners). The petition was docketed by the NRC on September 14, 2016, and was assigned Docket No. PRM-50-114. The petitioners requested that the NRC amend its regulations to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage." The NRC is denying the petition because the NRC already has regulatory processes in place to address the issues identified in the petition.

DATES: The docket for the petition for rulemaking, PRM-50-114, is closed on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2016-0204, when contacting the NRC about the availability of information regarding this petition. You may obtain publicly-available information related to this petition by any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2016-0204. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select Begin Web-based ADAMS Search. For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Dennis Andrukat, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-3561; e-mail: Dennis.Andrukat@nrc.gov; U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

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I. The Petition

Section 2.802 of title 10 of the *Code of Federal Regulations* (10 CFR), "Petition for rulemaking—requirements for filing," provides an opportunity for any ~~interested~~ person to petition the Commission to issue, amend, or rescind any regulation. On September 1, 2016, Mr. David Lochbaum, on behalf of the Union of Concerned Scientists and two co-petitioners (petitioners), submitted a petition for rulemaking (PRM) to the NRC. The NRC docketed this petition and assigned it Docket No. PRM-50-114. The petitioners requested that the NRC amend 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage."

The petitioners described a scenario in which an operating commercial nuclear power plant (facility) could voluntarily be in an extended shutdown with no immediate plans to decommission. The petitioners stated that there are no regulations to prevent a licensee from changing its decision to cease operations by retracting its certification to do so, and that the current regulations were developed for operating reactor facilities and for reactor facilities in decommissioning, not for facilities "in limbo that will at some unspecified later date return to the operating reactor world or join the decommissioning community." The petitioners ~~asserted~~stated that the current regulations are not

intended, as written, for an operating facility in an "extended shutdown."[1] The petitioners also stated that a licensee can place a ~~the~~ facility in an extended shutdown without public participation or the NRC's review and approval~~, or public participation~~. The petitioners speculated that in the current economic climate, licensees may choose to place a facility in an extended shutdown until the marketplace becomes more favorable or the decision to proceed with decommissioning is made. The petitioners cited the Browns Ferry Nuclear Plant, Unit 1, as an example of a facility in an extended shutdown. In 1985, Tennessee Valley Authority (TVA) voluntarily shut down Unit 1 and did not restart it until 2007. Ultimately, the petitioners asserted that the current regulatory framework does not manage the risk of a facility in an extended shutdown that a licensee may someday seek to restart.

The NRC identified four main issues in the petition, as follows:

1) Define "extended shutdown" for power reactors.

2) Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR).

3) Establish requirements to exit and restart from an extended shutdown.

4) Conduct a decommissioning funding review(s) during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification.

II. Public Comments on the Petition

The NRC published a notice of docketing and request for comment in the *Federal Register* on December 9, 2016. The NRC also sought public comment on six specific

[1] The petition describes an "extended shutdown" as either an operating reactor that has been shut down for 2 years or more and is not actively pursuing restart under a formal NRC process or a when a licensee has voluntarily notified the NRC of its intent to place the facility in an "extended shutdown" condition.

questions. The public comment period closed on February 22, 2017. The NRC received two public comment submissions during the 75-day public comment period; both submissions, which were from industry representatives, were in favor of denying the petition and provided a basis for that position. The two comment submissions, from the Nuclear Energy Institute (NEI) and Entergy Nuclear Operations. Inc. (Entergy), raised five comments in total. Only NEI addressed the specific questions that were included in the *Federal Register* notice that requested public comments. The ADAMS Accession Nos. for the comment submissions can be found in the "Availability of Documents" section of this document.

Public Comments:

The NRC has considered the public comments received on the petition for rulemaking. The NRC response follows a short summary of each comment submission.

Comment Submission 1:

NEI recommended that the NRC deny the petition because the petition has not demonstrated that the existing regulations require rulemaking based on the criteria in § 2.802(c)(1)(iii). The commenter stated that PRM-50-114 should be denied because: (Comment 1) "the petition incorrectly asserts that the Commission's existing regulations are inadequate as applied to operating reactors that have entered an extended shutdown," (Comment 2) "the petition provides no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown," and (Comment 3) "the petition provides no basis for suggesting that the NRC should explicitly prohibit withdrawal of the certification of the permanent cessation of operations submitted pursuant to § 50.82(a)(1)(i)." The commenter noted

that a facility in extended shutdown must continue to comply with its operating license and NRC regulations applicable to operating nuclear power plants. This ~~fact~~ contrasts with the petitioners' assertions that the Commission's existing regulations are inadequate as applied to operating reactors that have entered ~~into~~ an extended shutdown. The commenter noted that a licensee ~~may~~ would still meet all applicable safety and security requirements even if it defers a generic communication action during an extended shutdown scenario. This is because generic communications do not impose new or changed regulatory requirements on licensees.

The commenter further noted that the petition does not provide a basis to change the regulations to require licensees to submit preliminary decommissioning cost estimates every 5 years during an extended shutdown. Once a licensee permanently ceases operations, then the licensee would be required to submit site-specific cost estimates ~~as required~~ under § 50.82, "Termination of license." The commenter noted that PRM-50-114 acknowledge~~s~~d that the current regulations already require 10 CFR part 50 power reactor licensees to report decommissioning funding status every 2 years. The commenter continued that

> ...many NRC regulations applicable to operating nuclear power plants continue to apply even after a nuclear power reactor has permanently ceased operation and defueled. This includes several regulations that seem to be of specific concern to the petitioners (e.g., emergency planning and physical security).

The commenter asserted that the petitioners provide no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown.

In response to the petitioners' requested new regulations for reactors that are in an extended shutdown and not actively pursuing restart to be evaluated under a formal process such as Inspection Manual Chapter (IMC) 0350, "Oversight of Reactor Facilities

in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," the commenter noted that existing NRC procedures in IMC 0375, "Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Performance," would achieve the petitioners' objective. As noted by the commenter, IMC 0375 is the NRC's ~~inspection~~ guidance for implementation of the reactor oversight process for plants in an extended shutdown condition for reasons not related to performance. The commenter points out that IMC 0375 ensures that the NRC "communicates unified and consistent oversight in a clear and predictable manner to the licensee, the public, and other stakeholders" and also ensures the documentation of the required regulatory and licensee actions taken; the resolved technical issues leading to approval for restart, if required; and the eventual return of the plant to the routine reactor oversight process. The commenter asserted that IMC 0375 will provide assurance that the plant will be operated in a manner that provides adequate protection of public health and safety following restart. The commenter stated that "the NRC oversight requested in the petition already exists" under the reactor oversight process. The commenter further stated that the resulting regulations sought in this petition would not result in significant improvements to reactor safety or security and would not improve regulatory efficiency.

NRC Response: The NRC generally agrees with the comments that were relayed in Comment Submission 1. Specifically, the NRC agrees that the Commission's existing regulations and guidance documents adequately address facilities that enter ~~any~~ potential extended shutdown period<u>s</u>.

Comment Submission 2:

Entergy recommended that the NRC deny the petition. The commenter endorsed (Comment 4) the comments provided in NEI's letter. In addition, the

commenter stated that (Comment 5) making a § 50.82(a)(1)(i) certification irrevocable is directly contrary to the assumptions and conditions of a recent settlement agreement entered into by Entergy, the State of New York (among other related New York governmental entities), and Riverkeeper, Inc. regarding the continued operation of Indian Point Units 2 and 3. The commenter noted that making a § 50.82(a)(1)(i) certification irrevocable would nullify key terms of this important agreement.

NRC Response: With respect to Entergy's ~~adoption~~ endorsement of the NEI comments as reflected in Comment Submission 1, the NRC's response is provided in response to Comment Submission 1. With respect to Entergy's Comment 5, the issue raised is outside the scope of the PRM.

Specific Questions:

The NRC has considered the responses received to the specific questions. Only NEI provided responses to the six specific questions on which the NRC sought comment. A summary of the responses provided in NEI's submission follows.

Question 1: The petition outlines a scenario where a reactor is in an extended shutdown condition due to economic or other reasons and would at some unspecified later date return to operation. The petition uses the Browns Ferry Nuclear Plant as an example, where the Tennessee Valley Authority voluntarily shut down one unit from 1985 to 2007. Are there any facilities or licensees who may be likely to use the petitioners' extended shutdown scenario in the future? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that it is not aware of a commercial power reactor likely to use the extended shutdown scenario. The commenter clarified that a

licensee is not prohibited from entering into an extended shutdown voluntarily and references the letter from David A. Kraft of Nuclear Energy Information Service dated June 16, 2016.

NRC's Response: The NRC agrees with the comment and notes the NRC's August 4, 2016 response to the David A. Kraft letter states that the NRC regulations do not prohibit a licensee from voluntarily placing its facilities in an extended shutdown, while continuing to meet all safety and security requirements as outlined in the facility's operating license, without terminating the operating license.

Question 2: The petitioners contend that the NRC's existing regulations were promulgated for operating reactors, and that specific regulations are needed to address non-operating reactors in an "extended shutdown." Assuming the extended shutdown scenario is credible, in what specific ways are the existing regulations identified in the PRM ~~[petition for rulemaking]~~ insufficient to address the scenario described by the petitioners? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 3: Assuming that the existing regulations identified in the PRM are insufficient to address the extended shutdown scenario, what specific changes to those regulations are needed to facilitate the requested rulemaking? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 4: The petition describes a plant in an "extended shutdown," and proposes two criteria to enter into this non-operating state (submission of § 50.82(a)(1)(i) and § 50.4(b)(8) notifications; and a shutdown period of 2 years). Should the term "extended shutdown" be defined in § 50.2, "Definitions," and should the regulations specify the timeframe for this scenario? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that "extended shutdown" does not require a definition in the federal regulations because the regulations are sufficient to address the extended shutdown scenario.

NRC's Response: The NRC agrees with the comment.

Question 5: Given the NRC's long-standing, well-understood Reactor Oversight Program, what potential changes would need to be considered to ensure adequate oversight of a reactor during an extended shutdown? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 6: What additional reporting to the NRC should be required for a reactor in an extended shutdown, and with what level of detail and frequency (e.g., the potential changes to the submission of the decommissioning trust fund reports)? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security. The commenter does not agree that additional reporting requirements are warranted because the petitioners have not "demonstrated the need for any changes to the reporting requirements applicable to a reactor," in an extended shutdown. The commenter adds that both a facility that is actively operating and a facility that is in an extended shutdown would be restricted to using only 3 percent of the decommissioning trust funds for pre-planning activities, consistent with the regulations in § 50.82.

NRC's Response: The NRC agrees with the comment.

III. Reasons for Denial

The NRC is denying the petition because the petitioners did not present any significant new information or arguments that would support the requested changes for extended shutdown conditions. Furthermore, the NRC has determined that the issues raised by the petitioners are adequately addressed by existing NRC regulations, procedures, and guidance, and no amendments to the NRC's regulations are necessary. A discussion of the existing regulatory framework follows.

Issue No. 1: Define "extended shutdown" for power reactors

The NRC is denying Issue No. 1 because there is no need to define "extended shutdown" in the regulations. The holder of an operating license is required to maintain the facility and all of its security and operational programs in accordance with the conditions of its operating license. This remains true whether the facility is operating or shut down for any period ~~of time~~, including extended shutdowns. As discussed further under Issue Nos. 2, 3, and 4, the licensee must maintain programs in effect to ensure the continued safety and security of the facility regardless of the mode of operation. Therefore, the issues raised by the petitioners associated with what could be defined as an extended shutdown are currently and adequately covered by the existing regulations and NRC processes.

Issue No. 2: Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR)

The NRC is denying Issue No. 2 because there is no need to require the licensee to submit a RESAR prior to entering an extended shutdown condition. This proposed report, as raised by the petitioners, would be similar to the post-shutdown decommissioning activities report ~~the~~ required~~ments in~~ §~~50.82~~(a)(4)(i) ~~for the post-shutdown decommissioning activities report~~ and would describe how certain activities are handled during an extended shutdown. The petitioners included items that should be included in the proposed report. Those items are listed below followed by the staff's evaluation of each item:

Operator License

Aging Management

Technical Specifications

In-service Inspections (and In-service Testing)

Quality Assurance

Irradiated Fuel Protection

Fitness for Duty

Operator License

An operator's license is not automatically terminated based solely on an extended plant shutdown. ~~In accordance with~~ Under ~~§~~ 55.55, "Expiration " an operator's license expires ~~after~~ 6 years after the date of issuance, upon termination of employment, or upon determination by the facility licensee that the license is no longer needed. An operator's license can be renewed if the requirements of § 55.57 "Renewal of licenses." are met. Whether the facility is operating or is in extended shutdown, licensed operators and senior operators, as defined in § 55.4, are required to successfully complete requalification requirements established by § 55.59 "Requalification" to maintain their licenses. Further, licensed operators and senior operators are required to meet proficiency requirements established by § 55.53(e) to maintain an active status. Active status under § 55.53(e) is maintained by performing the functions of an operator or a senior operator, as defined in the facility's technical specifications, for a specified number of shifts per calendar quarter. For an operator or senior operator who does not meet the § 55.53(e) requirements resulting in an in-active status on his or her license, the requirements of § 55.53(f) apply to ensure proficiency before an operator can legally perform licensed duties. To maintain or restore active status on an operator's license, the facility would need to remain in a mode of operation that requires operators to actively perform the functions of an operator or senior operator, as defined by §10

CFR 55.4. However, if the facility is in a mode of operation that does not allow for licensed duties to be performed, this may result in a licensed operator(s) becoming inactive. The licensee may find it acceptable to have a reduced number of licensed operators during an extended shutdown. Before restarting, however (as discussed in Section III, "Reasons for Denial." ~~stated later under~~ Issue No. 3 "Establish requirements to exit and restart from extended shutdown," of this document), the licensee would ~~be required~~need to have the required number of licensed operators in place ~~per~~ under its licensing basis and the existing 10 CFR part 55 requirements.

Aging Management

A licensee with a facility in an extended shutdown must still perform the activities specified in its NRC-reviewed aging management programs, if its current licensing basis includes such programs. Any adjustments to aging management programs are considered changes to the facility's licensing basis and are controlled through current regulations under § 50.59, "Changes, tests, and experiments."

The scope of aging management activities does not change during an extended shutdown. Current regulations in 10 CFR part 54 establish the scope of aging management programs that are only for passive components, based on whether they perform a prescribed intended function "without moving parts or without a change in configuration or properties." The determination of whether a component is classified as either passive or active is not based on frequency of either operation or surveillance testing. The assurance of proper function for active components during an extended shutdown would not fall within established aging management activities. Active components are included in the surveillance requirements that are part of the technical specifications in the license, as well as ~~inservice~~in-service testing programs required by

regulation.

Technical Specifications

Under§ 50.36. "Technical specifications," each ~~A facility's technical specifications are a part of its~~ operating license under 10 CFR part 50 for a power reactor must include technical specifications. These technical specifications include limiting conditions for operation as described in § 50.36(a)(2), that represent the lowest functional capability or performance levels of equipment required for safe operation of the facility. These technical specifications also include surveillance requirements as described in § 50.36(a)(3} that are requirements relating to test, calibration or inspection to assure that the necessary quality of systems and components is maintained and that the limiting conditions for operation will be met.~~. A noncompliance with technical specifications is a noncompliance with a facility's operating license requirements and subject to enforcement action.~~

The usage rules contained in technical specifications are structured in such a manner as to provide reasonable assurance of continued adequate protection of public health and safety regardless of the amount of time a facility has been shut down. The requirements for performing and meeting the surveillance requirements in technical specifications are independent of the amount of time a facility has been shut down. Rather, requirements for performing surveillances and meeting surveillance requirements are dependent on the ~~facility~~ mode the facility is in, as defined in the technical specifications, or on other specified conditions in the applicability of a limiting condition for operation.

Before a licensee changes the mode a facility is in, ~~entering a new mode (e.g.,~~ for example from a shutdown mode to Hot Standby or from Hot Standby to Startup

~~restarting)~~, any structures, systems, and components necessary for safe operation of the facility in the new mode must be operable, and the applicable surveillances must have been met as ~~the facility must demonstrate operability. Therefore, any required structures, systems, and components for the new mode must be operable,~~ required by ~~as defined in~~ the facility's technical specifications~~., before transition can occur.~~ No additional "lay-up" program or testing/inspection is required.

The usage rules of technical specifications are independent of the amount of time a facility has been in a shutdown condition and a noncompliance with the usage rules is a noncompliance with the operating license requirements subject to enforcement action. Therefore, the NRC does not agree that a regulation is needed to require a licensee to explain whether testing and inspections per the technical specifications will be continued during a shutdown period.

The technical specifications set out different requirements for different modes of operation. The NRC agrees that fewer requirements within the technical specifications are applicable when a reactor is in cold shutdown, refueling or defueled. However, the technical specifications still provide reasonable assurance of adequate protection of public health and safety. The reason that fewer requirements within the technical specifications apply in cold shutdown, refueling, or defueled conditions is that there are fewer credible scenarios that could impact public health and safety when plants are in any mode where the reactor is shut down or defueled. Nonetheless, the licensee must evaluate the impact of degradation of required structures, systems, and components on the operability of those structures, systems, and components. If a licensee determines that a required system is inoperable, then the licensee must comply with the required actions in the technical specifications. Furthermore, the design features of the technical specifications apply at all times, regardless of mode or time since shutdown. The design

features, for example, typically contain requirements for fuel storage that, if altered or not met, would have a significant impact on safety.

Inservice Inspection [and Inservice Testing]

~~In accordance with~~ Under § 50.55a(g), Section XI of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* provides the requirements for inservice inspection of nuclear power plants. Section XI requires examinations to be scheduled in 10-year inspection intervals. Section XI has provisions that allow a licensee ~~inspection intervals~~ to ~~be~~ shorten~~ed~~ or lengthen~~ed~~ inspection intervals to conform to a facility's outage schedule. Section XI, IWA-2430(d) provides allowances for extended outages. It states in part, that:

> ...for plants that are out of service continuously for 6 months or more, the inspection interval during which the outage occurred may be extended for a period equivalent to the outage and the original pattern of intervals extended accordingly for successive intervals.

~~In accordance with~~ Under § 50.55a(f), the ASME *Operation and Maintenance* of Nuclear Power Plants (OM Code) provides requirements for ~~inservice~~in-service testing of pumps and valves in nuclear power facilities. The OM Code requires testing to be scheduled periodically within the 10-year ~~inservice~~in-service testing program intervals. Licensees may extend ~~T~~the 10-year inservice testing program intervals ~~may be extended~~ for plants with extended outages, as discussed above for ~~inservice~~in-service inspection. Under the OM Code, licensees of ~~For~~ plants that are continuously out-of-service, ~~per the OM Code,~~ are not required to follow the test schedule for pumps and valves ~~need not be followed~~ and do not need to submit relief requests which would otherwise be necessary ~~. No relief requests are required.~~ The OM Code requires that

~~W~~within the 3 months before a~~the~~ plant is placed in operation, ~~per the OM Code,~~ the pumps must be tested, and the valves must be exercised.

Additionally, Section 06.02 of IMC 0375 directs inspectors to verify that the licensee has considered the latest vendor bulletins and other important information related to safety-related equipment, consistent with licensee procedures.

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Quality Assurance

There is no ~~specific~~ relaxation of ~~any of~~ the requirements of appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR part 50 (appendix B) for an operating facility that is in an extended outage. Appendix B establishes quality assurance requirements for the design, manufacture, construction, and operation of certain structures, systems, and components. The pertinent requirements of this appendix apply to all licensee activities affecting the safety-related functions of these structures, systems, and components, regardless of whether the facility is producing power or in a shutdown condition. Such activities include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying these structures, systems, and components. Criterion II, "Quality Assurance Program," of appendix B, requires that the quality assurance program, be documented by written policies, procedures, or instructions and be carried out throughout the life of the facility. ~~Thus, a~~Appendix B requires compliance with the applicable portions of the regulations for covered activities regardless of whether or how long the facility has been in a shutdown period. Licensed operators and other licensee staff would still be required to be trained to perform activities affecting quality; to follow written procedures or instructions (where applicable); and to document, evaluate, and resolve issues through

the implementation of the non-conformance and corrective action programs. In addition, ~~c~~Criterion XVIII, "Audits," of appendix B, requires licensee staff to continue to evaluate programs and processes through periodic auditing throughout the life of the facility and is applicable to facilities regardless of whether or how long a facility has been in a shutdown condition.

Irradiated Fuel[2]

The petitioners requested that the NRC require licensees to develop and submit a RESAR that includes a discussion of how the facility will ensure, ~~during an extended shutdown period~~, that any irradiated fuel will be protected and not be damaged during an extended shutdown period. In addition, the petitioners requested that the RESAR describe how the public and facility personnel will be protected, should irradiated fuel become damaged. The NRC determined that the existing regulations, guidance, and processes already discussed in this notice would prevent and mitigate such damage from a design and safety standpoint. The NRC also reviewed other existing regulatory requirements not specifically mentioned by the petitioners. Specifically, the NRC considered emergency planning requirements and security requirements (the design basis threat) in making this conclusion.

Irradiated Fuel: Emergency Planning

Emergency planning regulations and required licensee emergency plans already exist to protect workers and the public from damaged irradiated fuel ~~per § 50.54,~~

[2] As part of its review of the petition, the NRC reviewed other existing regulatory requirements. While not specifically mentioned by the petitioners, a discussion of emergency planning requirements and security design basis threats is included in this notice, as both topics relate to protecting the public and plant personnel, should irradiated fuel become damaged.

~~"Conditions of licenses," to~~ includinge when the facility is in extended shutdown. Specifically, §-50.54(q)(2) requires that the licensee follow and maintain the effectiveness of an emergency plan that meets the requirements in appendix E to part 50 and, for a nuclear power reactor facility, the planning standards of § 50.47(b). ~~In accordance with~~Under § 50.47(b)(14), a licensee must conduct periodic exercises to evaluate major portions of emergency response capabilities, while periodic drills are conducted to develop and maintain key skills. Any deficiencies identified as a result of exercises or drills must be corrected.

Irradiated Fuel: Design Basis Threat

Existing regulations in 10 CFR part 73, "Physical Protection of Plants and Materials," require security protection when irradiated fuel is onsite and stored inside the protected area, regardless of the reactor's operational mode, or conditions, including an extended shutdown condition.

Under~~Pursuant to~~ § 73.55~~1(b)(1)(i),~~ licensees who are authorized to operate a nuclear power reactors under ~~§ 50.57, as well as holders of a combined license under~~ 10 CFR part 50 or 52 (after the Commission has made the finding under § 52.103(g)) ~~must comply with the requirements of § 73.55. These requirements include a s~~ must establish and maintain a security plan and the associated protective strategy with defined design basis threats, as described in §§ 73.1 and 73.2, to protect against acts of radiological sabotage~~, and the associated protective strategy.~~ The security plan includes a physical security plan, a training and qualification plan, a safeguards contingency plan, and a cyber security plan. The specific design basis threat is safeguards information, which is protected under § 73.21 and is withheld from public access pursuant to the requirements of § 9.17.

Along with the security plan, § 73.55(k)(8) requires the licensee to establish and implement a protective strategy when irradiated fuel is onsite and stored in the protected area, regardless of the reactor's operational modes, or conditions.

Fitness for Duty

Existing regulations in 10 CFR part 26, "Fitness for Duty Programs," require that all persons who are granted unescorted access to nuclear power reactor protected areas by the licensees be subject to a fitness-for-duty program. UnderPursuant to § 26.3(a), licensees who are authorized to operate a nuclear power reactor facility under § 50.57, as well as holders of a combined license under 10 CFR 50 or part 52 (after the Commission has made the finding under § 52.103(g)) must comply with the requirements of 10 CFR part 26, except for subpart K, "FFD Program for Construction."

The fitness-for-duty program performance objectives required under § 26.23 provide reasonable assurance of an individual's ability to safely and competently perform his or her duty commensurate with maintaining public health and safety. These requirements apply regardless of the reactor's operational modes, or conditions, and include drug and alcohol testing, behavioral observation, and determinations of fitness.

Therefore, staff has determined that Issue No. 2, to require a licensee to develop and submit a RESAR, whether prior to or during an extended shutdown, is not necessary because the issues raised by the petitioners are currently and adequately covered by the existing regulations.

Issue No. 3: Establish requirements to exit and restart from extended shutdown

The NRC is denying Issue No. 3 because there is no need to amend the regulations to establish criteria for exiting an extended shutdown. The staff determined

that existing reactor oversight process guidance provides for appropriate NRC oversight of a plant in an extended shutdown condition. Oversight of reactor facilities in extended shutdown for reasons not related to performance is governed by IMC 0375. One of the purposes of IMC 0375 is to provide assurance that the facility will be operated in a manner that provides adequate protection of public health and safety following restart. Section 06.02 of IMC 0375 discusses the inspection plan and indicates that a focus on operational readiness of the licensee for reactor restart may be necessary. Aspects that may be considered as potential areas for additional NRC inspection include equipment upgrades and maintenance, procedure updates, facilities maintenance, and the status of the corrective action program. In addition, a facility cannot restart without active licensed operators per § 55.53 and as described previously under Issue No. 2.

~~In addition, b~~ Before a licensee changes the mode a facility is in, for example from a shutdown mode to Hot Standby or from Hot Standby to Startup, any structures, systems, and components necessary for safe operation of the facility in the new mode must be operable and the applicable surveillances must have been met as required by the facility's technical specifications. ~~entering a higher mode (e.g., restarting and increasing power) the licensee must ensure operability of the required equipment and pass the required surveillances for the next higher mode prior to entry.~~

David Kraft of the Nuclear Energy Information Service raised many of the same issues in a letter to the agency dated June 16, 2016. By letter dated August 4, 2016, John Giessner from the Division of Nuclear Materials Safety in NRC Region III responded to Mr. Kraft. In this response letter, referenced by the petitioners as "the Giessner letter," the NRC staff answered questions about the requirements for power reactor decommissioning and extended shutdown. As discussed ~~recognized~~ in the ~~NRC's response~~ letter of August 4, 2016, NRC the regulations do not prohibit a licensee

from voluntarily entering the extended shutdown configuration described in the petition and ~~refers to~~ IMC 0375, ~~which~~ provides for NRC oversight of a facility exiting from extended shutdown. If a licensee were to place~~s~~ a facility in extended shutdown and later decide~~s~~ to restart, the NRC ~~has determined that the agency~~ has sufficient regulations, processes, and procedures in place to ensure that the restart is conducted in a safe manner.

The example cited by the petitioners was the extended shutdown of Browns Ferry Nuclear Plant, Unit 1, which was shut down from March 1985 to June 2007, after operating for 10 years. During the 22~~twenty-two~~ year shutdown, the NRC continued to provide oversight ~~via~~with multiple resident inspectors assigned to the Browns Ferry Nuclear Plants. Further, NRC staff from regional and headquarters offices routinely visited the Browns Ferry Nuclear Plant for oversight of the operating Unit 2 and 3 reactors. As part of the reactor oversight process, the NRC developed an inspection procedure to monitor the restart effort and to ensure that the plant was able to restart and operate in a safe manner. This procedure ~~eventually became~~ formed the basis for the current IMC 0375. The NRC ~~was able to~~ used existing regulatory tools (e.g., inspectors, inspection procedures, enforcement of the operating license) during the startup of Browns Ferry Nuclear Plant, Unit 1, ~~startup~~ in 2007. As ~~evidenced~~shown by the safe startup of Browns Ferry Nuclear Plant, Unit 1, the NRC ~~maintains~~has the regulatory tools necessary to ~~effectively~~ ensure that the public health and safety and common defense and security continue~~s~~ to be protected in the context of restart of a power reactor following an extended shutdown.

~~The NRC staff found additional~~Other examples of power reactor facilities experiencing extended shutdowns relevant to the petition include~~ing~~: Crystal River Nuclear Generating Plant, Unit 3, which was shut down for an extended period of time

before permanently ceasing cessation of operations; Kewaunee Power Station, which had permanently shut down and defueled but later considered restarting and relicensing (it ultimately the licensee chose decided not to seek authorization for restart); James A. FitzPatrick Nuclear Power Plant, Davis-Besse Nuclear Power Station, Unit 1, and Perry Nuclear Power Plant, Unit 1 for which the licensees had made a decision to permanently cease operations that was later reversed. The NRC staff's review of these additional examples found that the existing regulatory tools were effective and sufficient in addressing these different scenarios and ensured that the public health and safety and common defense and security continued to be protected.

Therefore, the potential safety and security issues associated with exit and restart from extended shutdown are currently and adequately covered by the existing regulations and NRC processes.

Issue No. 4: Conduct a decommissioning funding review(s) during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification

The NRC is denying Issue No. 4 because there is no need to prohibit withdrawal of a certification of permanent cessation of operations or to require additional re-assessmentsing of decommissioning funding during an extended shutdown.

Certifications under § 50.82, "Termination of license"

The regulations in § 50.82 do not prohibit a power reactor licensee from voluntarily placing its facilities in an extended shutdown without terminating the operating license. The regulations do require a licensees with an operating license for a power

reactor in an extended shutdown to continue to meet all safety and security requirements as outlined in the facility's operating license.

The regulations in § 50.82(a)(1) specify two actions that the licensee must take to permanently cease operations of a nuclear power facility. First, when the licensee decides to permanently cease operations, the licensee must submit ~~provide~~ a certification of this decision to the NRC in writing within 30 days, under ~~per~~ § 50.82(a)(1)(i). ~~In accordance with~~Under § 50.4(b)(8), this certification must contain the date on which the power generation operations have ceased or will cease. As a result, licensees typically submit an initial certification of the intended permanent cessation of operations providing a planned date and a certification of actual cessation of operations providing the actual date. Second, under § 50.82(a)(1)(ii), the licensee must submit to the NRC a certification of permanent removal of fuel from the reactor vessel. ~~In accordance with~~Under § 50.82(a)(2), ~~after the licensee submits and~~once the NRC dockets ~~both~~the certifications, the licensee is no longer authorized to operate the reactor or place or retain fuel into the reactor vessel.

The submittal and docketing ~~Filing~~ of a certification under § 50.82(a)(1)(i) of a determination to permanently cease operations alone is not sufficient to result in ~~permanent cessation of operations~~ removal of a licensee's authority to operate the reactor. No existing regulation would prevent ~~the~~a power reactor licensee from changing its decision to cease operations by retracting its certification under § 50.82(a)(1)(i).

~~The regulations do not specify a time limit for the permanent removal of fuel or the schedule for submitting the corresponding certification under § 50.82(a)(1)(ii) to the NRC. Additionally, after the NRC dockets the certifications required by § 50.82(a)(1), no existing regulations would explicitly prohibit the NRC from reauthorizing operation; however, the licensee would have to demonstrate that it meets all the requirements in~~

~~10 CFR part 50 and request approval from the NRC to authorize operation and. The NRC would then determine whether the licensee has met all requirements.~~

While the NRC cannot prevent the licensee from electing to cease operation and transition to decommissioning, the NRC can stop decommissioning activities in certain situations. The NRC's regulation at § 50.82(a)(6) states that the licensee must not perform any decommissioning activity that: (1) forecloses release of the site for possible unrestricted use, (2) results in any significant environmental impact not previously reviewed, or (3) results in there no longer being reasonable assurance that adequate funds will be available for decommissioning. If any decommissioning activity could not meet these conditions, the licensee is prohibited from undertaking the activity until it submits, and the NRC approves, a license amendment request that describes the proposed activity and the potential impact associated with that activity.

The petitioners provided no basis for requesting the NRC to ~~explicitly~~ prohibit withdrawal of ~~the~~a certification of ~~the~~ permanent cessation of operations submitted under ~~pursuant to~~ § 50.82(a)(1)(i). There is no ~~fundamental~~ change in the ~~status~~ authority to operate granted by a ~~of the~~ facility's operating license associated solely with the filing of the § 50.82(a)(1)(i) certification. ~~Further, t~~There is also no change in the regulatory treatment of a commercial nuclear power reactor based solely on the submittal of the certification of permanent cessation of operations required by § 50.82(a)(1)(i). Thus, withdrawal of this certification, in and of itself, regardless of whether the licensee intends to enter ~~into~~ an extended shutdown or continue operating the facility, does not affect the status of the facility with respect to the NRC's requirements. Similar regulations are found ~~under~~in § 52.110 for combined licenses. In addition, in its letter dated August 4, 2016, the NRC staff responded to similar questions from David Kraft of the

Nuclear Energy Information Service regarding the certifications and license termination requirements under § 50.82.

Therefore, prohibiting ~~the~~a licensee from withdrawing a certification of permanent cessation of operations that had been submitted under ~~in accordance with~~ § 50.82(a)(1)(i) would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

Decommissioning Funding

The petitioners ~~asserted~~stated that a facility in an extended shutdown may eventually resume operation or enter decommissioning. The petitioners requested that the amended regulations clearly address whether decommissioning funding may be used for activities during a facility's extended shutdown and, ~~if so~~include, the criteria and conditions governing their use. ~~of decommissioning funding should be included in the amended regulations.~~

The regulations ~~under~~ in § 50.82(a)(8)(ii) limit the use of decommissioning trust funds by licensees prior to the submittal of the certifications required under § 50.82(a)(1) of permanent cessation of operations and permanent removal of fuel from the reactor vessel. These limitations allow the use of only a specified portion of the funds for decommissioning planning and would apply ~~do not allow decommissioning trust funds to be used for any activities (except decommissioning planning) while the licensee has an operating license including~~ during an extended shutdown as well as during operation . In addition, the licensee in extended shutdown is not relieved of any existing decommissioning trust fund regulations that are applicable to any facility with an operating license.

The petitioners also requested that the amended regulations require licensees to submit a preliminary decommissioning cost estimate to the NRC at 5-year intervals throughout the period of extended shutdown. The petitioners also and inquired whether the decommissioning funding amounts required by § 50.75(c) should be re-assessed during an extended shutdown.

Th rRegulations under §§ 50.75(f)(1) and (f)(2) require licensees to report at least once every 2 years on the status of its decommissioning funding and related factors. In addition to these requirements for biennial reports, § 50.75(f)(3) requires that each power reactor licensee shall, at or about 5 years prior to the projected permanent cessation ofend operations,[3] submit a preliminary decommissioning cost estimate, that which includes an up-to-date assessment of the major factors that could affect the cost to decommission. TheAn extended shutdown would haves no effect on the license expiration date, and all applicable decommissioning funding regulations remain in effect, including § 50.75.

Therefore, prohibiting withdrawal of a certification of permanent cessation of operations under § 50.82(a)(1)(i) or to requiringe additional re-assessassessmenting of decommissioning funding during an extended shutdown would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

IV. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the methods, as indicated.

[3] The "permanent cessation end of operations" in this context refers to when a licensee is no longer authorized to operate the reactor or place or retain fuel into the reactor vessel, perunder § 50.82(a)(2).

DOCUMENT	ADAMS ACCESSION NO. / *FEDERAL REGISTER* CITATION
Request for Petition for Rulemaking (PRM-50-114), dated September 1, 2016.	ML16258A486
Federal Register notice, "Power Reactors in Extended Shutdowns," dated December 9, 2016.	81 FR 89011
Comment Submission 1: Rodney McCullum of Nuclear Energy Institute (NEI), dated February 22, 2017.	ML17055B792
Comment Submission 2: Paul Bessette of Morgan, Lewis & Bockius, LLP (on behalf of Entergy Nuclear Operations, Inc.), dated February 23, 2017.	ML17055B953
IMC 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," dated March 1, 2018.	ML17116A273
IMC 0375, "Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Performance," dated November 13, 2015.	ML15247A274
~~NUREG/BR-0521, "Decommissioning Nuclear Power Plants," dated August 2014.~~	~~ML14210A472~~
~~NUREG-1700, Revision 1, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," dated April 2003.~~	~~ML031270391~~
~~Regulatory Guide (RG) 1.184, Revision 1, "Decommissioning of Nuclear Power Reactors," dated October 2013.~~	~~ML13144A840~~

~~RG 1.179, Revision 1, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors," dated June 2011.~~	~~ML110490419~~
Letter from Mr. David A. Kraft of Nuclear Energy Information Service, dated June 16, 2016.	ML16175A449
NRC Letter to Mr. David A. Kraft of Nuclear Energy Information Service, dated August 4, 2016.	ML16218A266
~~FirstEnergy Solutions Corp. Letter, "Withdrawal of Certification of Permanent Cessation of Power Operations for Davis-Besse Nuclear Power Station, Unit No. 1, and Perry Nuclear Power Plant, Unit No. 1," dated July 26, 2019.~~	~~ML19207A097~~
~~Draft regulatory issue summary, "Disposition of Information Related to the Time Period that Safety-Related Structures, Systems, or Components are Installed," dated May 17, 2016.~~	~~81 FR 30571~~

The NRC may post materials related to this document, including public comments, on the Federal Rulemaking Web site at http://www.regulations.gov under Docket ID NRC-2016-0204. The Federal Rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2016-0204); 2) click the "Sign up for E-mail Alerts" link; and 3) enter your e-mail address and select how frequently you would like to receive e-mails (daily, weekly, or monthly).

V. Conclusion

For the reasons cited in this document, the NRC is denying PRM-50-114. The NRC has concluded that the issues raised by the petitioners are adequately addressed

by existing NRC regulations, procedures, and guidance, and no amendments to the NRC's regulations are necessary.

Dated at Rockville, Maryland, this day of , 2020~~19~~.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.

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

AXC comments

Edwin Lyman ~~(on behalf of David A. Lochbaum)~~
Union of Concerned Scientists
1825 K Street, NW, Suite 800
Washington, DC 20006-1232

Dear D~~M~~r. Lyman:

I am responding to David Lochbaum's petition for rulemaking (PRM) dated September 1, 2016, submitted on behalf of the Union of Concerned Scientists and two co-petitioners, Greenpeace and National Resources Defense Council (Agencywide Documents Access and Management System Accession No. ML16258A486). The U.S. Nuclear Regulatory Commission (NRC) docketed the petition as PRM-50-114. The petition requested the NRC amend its regulations in Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities," to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage."

The NRC published a notice of docketing for PRM-50-114 in the *Federal Register* on December 9, 2016 (81 FR 89011). The staff received two public comment submissions during the 75-day public comment period; both submissions were in favor of denying the petition and provided a basis for that conclusion.

The NRC is denying PRM-50-114 because it has been determined that the issues raised by the petitioners are adequately addressed by existing NRC regulations, procedures, and guidance, and therefore, no amendments to the NRC's regulations are necessary. The enclosed notice, which will be published in the *Federal Register*, explains the reasons for the denial. Upon publication of the enclosed notice, the NRC will close the docket for PRM-50-114.

You may direct any questions about this matter to Dennis Andrukat by calling 301-415-3561 or sending an e-mail to Dennis.Andrukat@nrc.gov.

Sincerely,

Annette L. Vietti-Cook
Secretary of the Commission

Enclosure:
Federal Register notice

POLICY ISSUE
NOTATION VOTE

RESPONSE SHEET

TO: Annette L. Vietti-Cook, Secretary

FROM: Commissioner Wright

SUBJECT: SECY-19-0121: Denial of Petition for Rulemaking on Power Reactors in Extended Shutdown (PRM-50-114;NRC-2016-0204)

Approved X **Disapproved** ____ **Abstain** ____ **Not Participating** ____

COMMENTS: **Below** X **Attached** X **None** ____

I appreciate the staff's thorough review of each of the petitioner's questions and concerns. I approve the staff's recommendation to deny PRM-50-114. I also approve publication of the draft *Federal Register* notice and issuance of the draft letter, subject to the attached edits.

Entered in STARS
Yes ✓
No ____

SIGNATURE

01/29/2020

DATE

[7590-01-P]

DAW Edits

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-114; NRC-2016-0204]

Power Reactors in Extended Shutdowns

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying a petition for rulemaking dated September 1, 2016, submitted by Mr. David Lochbaum on behalf of the Union of Concerned Scientists and two co-petitioners (the petitioners). The petition was docketed by the NRC on September 14, 2016, and was assigned Docket No. PRM-50-114. The petitioners requested that the NRC amend its regulations to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage." The NRC is denying the petition because the NRC already has regulatory processes in place to address the issues identified in the petition.

DATES: The docket for the petition for rulemaking, PRM-50-114, is closed on **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2016-0204, when contacting the NRC about the availability of information regarding this petition. You may obtain publicly-available information related to this petition by any of the following methods:

- **Federal Rulemaking Web Site:** Go to https://www.regulations.gov and search for Docket ID NRC-2016-0204. Address questions about NRC dockets to Carol Gallagher; telephone: 301-415-3463; e-mail: Carol.Gallagher@nrc.gov. For technical questions, contact the individual listed in the FOR FURTHER INFORMATION CONTACT section of this document.

- **NRC's Agencywide Documents Access and Management System (ADAMS):** You may obtain publicly-available documents online in the ADAMS Public Documents collection at https://www.nrc.gov/reading-rm/adams.html. To begin the search, select Begin Web-based ADAMS Search. For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1-800-397-4209, 301-415-4737, or by e-mail to pdr.resource@nrc.gov. For the convenience of the reader, instructions about obtaining materials referenced in this document are provided in the "Availability of Documents" section.

- **NRC's PDR:** You may examine and purchase copies of public documents at the NRC's PDR, Room O1-F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Dennis Andrukat, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-3561; e-mail: Dennis.Andrukat@nrc.gov; U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

TABLE OF CONTENTS:

I. The Petition

Section 2.802 of title 10 of the *Code of Federal Regulations* (10 CFR), "Petition for rulemaking—requirements for filing," provides an opportunity for any ~~interested~~ person to petition the Commission to issue, amend, or rescind any regulation. On September 1, 2016, Mr. David Lochbaum, on behalf of the Union of Concerned Scientists and two co-petitioners (petitioners), submitted a petition for rulemaking (PRM) to the NRC. The NRC docketed this petition and assigned it Docket No. PRM-50-114. The petitioners requested that the NRC amend 10 CFR part 50, "Domestic Licensing of Production and Utilization Facilities," to "promulgate regulations applicable to nuclear power reactors with operating licenses issued by the NRC but in an extended outage."

The petitioners described a scenario in which an operating commercial nuclear power plant (facility) could voluntarily be in an extended shutdown with no immediate plans to decommission. The petitioners stated that there are no regulations to prevent a licensee from changing its decision to cease operations by retracting its certification to do so, and that the current regulations were developed for operating reactor facilities and for reactor facilities in decommissioning, not for facilities "in limbo that will at some unspecified later date return to the operating reactor world or join the decommissioning community." The petitioners asserted that the current regulations are not intended, as

written, for an operating facility in an "extended shutdown."[1] The petitioners also stated that a licensee can place the facility in an extended shutdown without the NRC's review and approval, or public participation. The petitioners speculated that in the current economic climate, licensees may choose to place a facility in an extended shutdown until the marketplace becomes more favorable or the decision to proceed with decommissioning is made. The petitioners cited the Browns Ferry Nuclear Plant Unit 1 as an example of a facility in an extended shutdown. In 1985, Tennessee Valley Authority (TVA) voluntarily shut down Unit 1 and did not restart it until 2007. Ultimately, the petitioners asserted that the current regulatory framework does not manage the risk of a facility in an extended shutdown that a licensee may someday seek to restart.

The NRC identified four main issues in the petition, as follows:

1) Define "extended shutdown" for power reactors.

2) Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR).

3) Establish requirements to exit and restart from an extended shutdown.

4) Conduct a decommissioning funding review(s) during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification.

II. Public Comments on the Petition

The NRC published a notice of docketing and request for comment in the *Federal Register* on December 9, 2016. The NRC also sought public comment on six specific questions. The public comment period closed on February 22, 2017. The NRC received

[1] The petition describes an "extended shutdown" as either an operating reactor that has been shut down for 2 years or more and is not actively pursuing restart under a formal NRC process or a when a licensee has voluntarily notified the NRC of its intent to place the facility in an "extended shutdown" condition.

two public comment submissions during the 75-day public comment period; both submissions, which were from industry representatives, were in favor of denying the petition and provided a basis for that position. The two comment submissions, from the Nuclear Energy Institute (NEI) and Entergy Nuclear Operations, Inc. (Entergy), raised five comments in total. Only NEI addressed the specific questions that were included in the *Federal Register* notice that requested public comments. The ADAMS Accession Nos. for the comment submissions can be found in the "Availability of Documents" section of this document.

Public Comments:

The NRC has considered the public comments received on the petition for rulemaking. The NRC response follows a short summary of each comment submission.

Comment Submission 1:

NEI recommended that the NRC deny the petition because the petition has not demonstrated that the existing regulations require rulemaking based on the criteria in § 2.802(c)(1)(iii). The commenter stated that PRM-50-114 should be denied because: (Comment 1) "the petition incorrectly asserts that the Commission's existing regulations are inadequate as applied to operating reactors that have entered an extended shutdown," (Comment 2) "the petition provides no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown," and (Comment 3) "the petition provides no basis for suggesting that the NRC should explicitly prohibit withdrawal of the certification of the permanent cessation of operations submitted pursuant to § 50.82(a)(1)(i)." The commenter noted that a facility in extended shutdown must continue to comply with its operating license

and NRC regulations applicable to operating nuclear power plants. This fact contrasts with the petitioners' assertions that the Commission's existing regulations are inadequate as applied to operating reactors that have entered into an extended shutdown. The commenter noted that a licensee may still meet all applicable safety and security requirements even if it defers to a generic communication action during an extended shutdown scenario. This is because generic communications do not impose new or changed regulatory requirements on licensees.

The commenter further noted that the petition does not provide a basis to change the regulations to require licensees to submit preliminary decommissioning cost estimates every 5 years during an extended shutdown. Once a licensee permanently ceases operations, then the licensee would be required to submit site-specific cost estimates ~~as required~~ under § 50.82, "Termination of license." The commenter acknowledged that ~~the~~ current regulations already require 10 CFR part 50 licensees to report decommissioning funding status every 2 years. The commenter continued that

> ...many NRC regulations applicable to operating nuclear power plants continue to apply even after a nuclear power reactor has permanently ceased operation and defueled. This includes several regulations that seem to be of specific concern to the petitioners (e.g., emergency planning and physical security).

The commenter asserted that the petitioners provide no basis for requesting that the NRC establish new requirements that must be satisfied for a reactor to restart after an extended shutdown.

In response to the petitioners' requested new regulations for reactors that are in an extended shutdown and not actively pursuing restart to be evaluated under a formal process such as Inspection Manual Chapter (IMC) 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," the commenter noted that existing NRC procedures in IMC 0375, "Implementation of the

Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Performance," would achieve the petitioners' objective. As noted by the commenter, IMC 0375 is the NRC's ~~inspection~~ guidance for implementation of the reactor oversight process for plants in an extended shutdown condition for reasons not related to performance. The commenter points out that IMC 0375 ensures that the NRC "communicates unified and consistent oversight in a clear and predictable manner to the licensee, the public, and other stakeholders" and also ensures the documentation of the required regulatory and licensee actions taken; the resolved technical issues leading to approval for restart, if required; and the eventual return of the plant to the routine reactor oversight process. The commenter asserted that IMC 0375 will provide assurance that the plant will be operated in a manner that provides adequate protection of public health and safety following restart. The commenter stated that "the NRC oversight requested in the petition already exists" under the reactor oversight process. The commenter further stated that the resulting regulations sought in this petition would not result in significant improvements to reactor safety or security and would not improve regulatory efficiency.

NRC Response: The NRC generally agrees with the comments that were relayed in Comment Submission 1. Specifically, the NRC agrees that the Commission's existing regulations and guidance documents adequately address facilities that enter any potential extended shutdown period.

Comment Submission 2:

Entergy recommended that the NRC deny the petition. The commenter endorsed (Comment 4) the comments provided in NEI's letter. In addition, the commenter stated that (Comment 5) making a § 50.82(a)(1)(i) certification irrevocable is directly contrary to the assumptions and conditions of a recent settlement agreement

entered into by Entergy, the State of New York (among other related New York governmental entities), and Riverkeeper, Inc. regarding the continued operation of Indian Point Units 2 and 3. The commenter noted that making a § 50.82(a)(1)(i) certification irrevocable would nullify key terms of this important agreement.

NRC Response: With respect to Entergy's ~~adoption~~ endorsement of the NEI comments as reflected in Comment Submission 1, the NRC's response is provided in response to Comment Submission 1. With respect to Entergy's Comment 5, the issue raised is outside the scope of the PRM.

Specific Questions:

The NRC has considered the responses received to the specific questions. Only NEI provided responses to the six specific questions on which the NRC sought comment. A summary of the responses provided in NEI's submission follows.

Question 1: The petition outlines a scenario where a reactor is in an extended shutdown condition due to economic or other reasons and would at some unspecified later date return to operation. The petition uses the Browns Ferry Nuclear Plant as an example, where the Tennessee Valley Authority voluntarily shut down one unit from 1985 to 2007. Are there any facilities or licensees who may be likely to use the petitioners' extended shutdown scenario in the future? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that it is not aware of a commercial power reactor likely to use the extended shutdown scenario. The commenter clarified that a licensee is not prohibited from entering into an extended shutdown voluntarily and references the letter from David A. Kraft of Nuclear Energy Information Service dated

June 16, 2016.

NRC's Response: The NRC agrees with the comment and notes the NRC's August 4, 2016 response to the David A. Kraft letter states that the NRC regulations do not prohibit a licensee from voluntarily placing its facilities in an extended shutdown, while continuing to meet all safety and security requirements as outlined in the facility's operating license, without terminating the operating license.

Question 2: The petitioners contend that the NRC's existing regulations were promulgated for operating reactors, and that specific regulations are needed to address non-operating reactors in an "extended shutdown." Assuming the extended shutdown scenario is credible, in what specific ways are the existing regulations identified in the PRM ~~[petition for rulemaking]~~ insufficient to address the scenario described by the petitioners? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 3: Assuming that the existing regulations identified in the PRM are insufficient to address the extended shutdown scenario, what specific changes to those regulations are needed to facilitate the requested rulemaking? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 4: The petition describes a plant in an "extended shutdown," and proposes two criteria to enter into this non-operating state (submission of § 50.82(a)(1)(i) and § 50.4(b)(8) notifications; and a shutdown period of 2 years). Should the term "extended shutdown" be defined in § 50.2, "Definitions," and should the regulations specify the timeframe for this scenario? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that "extended shutdown" does not require a definition in the federal regulations because the regulations are sufficient to address the extended shutdown scenario.

NRC's Response: The NRC agrees with the comment.

Question 5: Given the NRC's long-standing, well-understood Reactor Oversight Program, what potential changes would need to be considered to ensure adequate oversight of a reactor during an extended shutdown? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security.

NRC's Response: The NRC agrees with the comment.

Question 6: What additional reporting to the NRC should be required for a reactor in an extended shutdown, and with what level of detail and frequency (e.g., the potential changes to the submission of the decommissioning trust fund reports)? Please provide technical, scientific, or other data or information demonstrating the basis for your position.

Comment: The commenter responded that the regulations are sufficient to address the extended shutdown scenario, and therefore no changes to the NRC's regulations are necessary to ensure adequate protection of public health and safety or security. The commenter does not agree that additional reporting requirements are warranted because the petitioners have not "demonstrated the need for any changes to the reporting requirements applicable to a reactor," in an extended shutdown. The commenter adds that both a facility that is actively operating and a facility that is in an extended shutdown would be restricted to using only 3 percent of the decommissioning trust funds for pre-planning activities, consistent with the regulations in § 50.82.

NRC's Response: The NRC agrees with the comment.

III. Reasons for Denial

The NRC is denying the petition because the petitioners did not present any significant ~~new~~ information or arguments that would support the requested changes for extended shutdown conditions. Furthermore, the NRC has determined that the issues raised by the petitioners are adequately addressed by existing NRC regulations, procedures, and guidance, and no amendments to the NRC's regulations are necessary. A discussion of the existing regulatory framework follows.

Issue No. 1: Define "extended shutdown" for power reactors

The NRC is denying Issue No. 1 because there is no need to define "extended shutdown" in the regulations. The holder of an operating license is required to maintain the facility and all of its security and operational programs in accordance with the conditions of its operating license. This remains true whether the facility is operating or shut down for any period of time, including extended shutdowns. As discussed further under Issue Nos. 2, 3, and 4, the licensee must maintain programs in effect to ensure the continued safety and security of the facility regardless of the mode of operation. Therefore, the issues raised by the petitioners associated with what could be defined as an extended shutdown are currently and adequately covered by the existing regulations and NRC processes.

Issue No. 2: Establish requirements during an extended shutdown period, including the petitioners' proposed "Reactor Extended Shutdown Activities Report" (RESAR)

The NRC is denying Issue No. 2 because there is no need to require the licensee to submit a RESAR prior to entering an extended shutdown condition. This proposed report, as raised by the petitioners, would be similar to the post-shutdown decommissioning activities report ~~the~~ required ~~ments in~~ by § 50.82(a)(4)(i) ~~for the post-shutdown decommissioning activities report~~ and would describe how certain activities are handled during an extended shutdown. The petitioners included items that should be included in the proposed report. Those items are listed below followed by the staff's evaluation of each item:

Operator License

Aging Management

Technical Specifications

In-service Inspections (and In-service Testing)

Quality Assurance

Irradiated Fuel Protection

Fitness for Duty

Operator License

An operator's license is not automatically terminated based solely on an extended plant shutdown. In accordance with § 55.55, "Expiration," an operator's license expires ~~after~~ 6 years after the date of issuance, upon termination of employment, or upon determination by the facility licensee that the license is no longer needed. An operator's license can be renewed if the requirements of § 55.57, "Renewal of licenses," are met. Whether the facility is operating or is in extended shutdown, licensed operators and senior operators, as defined in § 55.4, "Definitions," are required to successfully complete requalification requirements established by § 55.59, "Requalification," to maintain their licenses. Further, licensed operators and senior operators are required to meet proficiency requirements established by § 55.53(e) to maintain an active status. Active status under § 55.53(e) is maintained by performing the functions of an operator or a senior operator, as defined in the facility's technical specifications, for a specified number of shifts per calendar quarter. For an operator or senior operator who does not meet the § 55.53(e) requirements resulting in an in-active status on his or her license, the requirements of § 55.53(f) apply to ensure proficiency before an operator can legally perform licensed duties. To maintain or restore active status on an operator's license, the facility would need to remain in a mode of operation that requires operators to actively perform the functions of an operator or senior operator, as defined by § 55.4. However, if the facility

is in a mode of operation that does not allow for licensed duties to be performed, this may result in a licensed operator(s) becoming in-active. The licensee may find it acceptable to have a reduced number of licensed operators during an extended shutdown. Before restarting, however (as discussed later in this section ~~stated later~~ under Issue No. 3), the licensee would ~~be required~~need to have the required number of licensed operators in place per its licensing basis and the existing 10 CFR part 55 requirements.

Aging Management

A licensee with a facility in an extended shutdown must still perform the activities specified in its NRC-reviewed aging management programs~~,~~ if its current licensing basis includes such programs. Any adjustments to aging management programs are considered changes to the facility's licensing basis and are controlled through current regulations under § 50.59, "Changes, tests, and experiments."

The scope of aging management activities does not change during an extended shutdown. Current regulations in 10 CFR part 54 establish the scope of aging management programs that are only for passive components, based on whether they perform a prescribed intended function "without moving parts or without a change in configuration or properties." The determination of whether a component is classified as either passive or active is not based on frequency of either operation or surveillance testing. The assurance of proper function for active components during an extended shutdown would not fall within established aging management activities. Active components are included in the surveillance requirements that are part of the technical specifications in the license, as well as inservice testing programs required by regulation.

Technical Specifications

Under § 50.36, Technical Specifications," a licensed facility under part 50 or part 52 is required to have technical specifications, which will include safety limits and limiting safety settings necessary to reasonably protect the integrity of safety systems. A facility's technical specifications are a part of its operating license. These technical specifications also include surveillance requirements, as described in § 50.36(a)(3), that are requirements relating to test calibration or inspection to assure that the necessary quality of systems and components is maintained and that the limiting conditions for operation will be met. ~~A noncompliance with technical specifications is a noncompliance with a facility's operating license requirements and subject to enforcement action.~~

The usage rules contained in technical specifications are structured ~~in such a manner as~~ to provide reasonable assurance of continued adequate protection of public health and safety regardless of the amount of time a facility has been shut down. The requirements for performing and meeting the surveillance requirements in technical specifications are independent of the amount of time a facility has been shut down. Rather, requirements for performing surveillances and meeting surveillance requirements are dependent on the ~~facility~~ mode the facility is in, as defined by technical specifications, or on other specified conditions in the applicability of a limiting condition for operation.

Before a licensee changes the mode a facility is in ~~entering a new mode~~ (e.g., ~~restarting~~from cold shutdown to hot shutdown), the facility must demonstrate operability. Therefore, any ~~required~~ structures, systems, and components required for safe operation of the facility in the new mode must be operable~~,~~ and the applicable surveillance requirements met, as defined in the facility's technical specifications, before transition can occur. No additional "lay-up" program or testing/inspection is required.

The usage rules of technical specifications are independent of the amount of time a facility has been in a shutdown condition and a noncompliance with the usage rules is a noncompliance with the operating license requirements subject to enforcement action. Therefore, the NRC does not agree that a regulation is needed to require a licensee to explain whether testing and inspections per the technical specifications will be continued during an extended shutdown period.

The technical specifications set out different requirements for different modes of operation. The NRC agrees that fewer requirements within the technical specifications are applicable when a reactor is in cold shutdown, refueling or defueled. However, the technical specifications still provide reasonable assurance of adequate protection of public health and safety. The reason that fewer requirements within the technical specifications apply in cold shutdown, refueling, or defueled conditions is that there are fewer credible scenarios that could impact public health and safety when plants are in ~~any mode where the reactor is shut down or defueled~~those conditions. Nonetheless, the licensee must evaluate the impact of degradation of required structures, systems, and components on the operability of those structures, systems, and components. If a licensee determines that a required system is inoperable, then the licensee must comply with the required actions in the technical specifications. Furthermore, the design features of the technical specifications apply at all times, regardless of mode or time since shutdown. The design features, for example, typically contain requirements for fuel storage that, if altered or not met, ~~would~~ could have a significant impact on safety.

Inservice Inspection [and Inservice Testing]

~~In accordance with~~ Under § 50.55a(g), Section XI of the American Society of Mechanical Engineers (ASME) *Boiler and Pressure Vessel Code* provides the

requirements for inservice inspection of nuclear power plants. Section XI requires examinations to be scheduled in 10-year inspection intervals. Section XI has provisions that allow a licensee to shorten or lengthen inspection intervals ~~to be shortened or lengthened~~ to conform to a facility's outage schedule. Section XI, IWA-2430(d) provides allowances for extended outages. It states, in part, that:

> ...for plants that are out of service continuously for 6 months or more, the inspection interval during which the outage occurred may be extended for a period equivalent to the outage and the original pattern of intervals extended accordingly for successive intervals.

~~In accordance with~~Under § 50.55a(f), the ASME *Operation and Maintenance* of Nuclear Power Plants (OM Code) provides requirements for inservice testing of pumps and valves in nuclear power facilities. The OM Code requires testing to be scheduled periodically within the 10-year inservice testing program intervals. Licensees may extend ~~T~~the 10-year inservice testing program intervals ~~may be extended~~ for plants with extended outages, as discussed above for inservice inspection. Under the OM Code, licensees for ~~For~~ plants that are continuously out-of-service, are not required to follow ~~per the OM Code,~~ the test schedule for pumps and valves ~~need not be followed~~, and thus subsequent. ~~No~~ relief requests are not required. However, the OM Code does require that ~~W~~within 3 months before the plant is placed in operation~~, per the OM Code~~, the pumps must be tested, and the valves must be exercised.

Additionally, Section 06.02 of IMC 0375 directs inspectors to verify that the licensee has considered the latest vendor bulletins and other important information related to safety-related equipment, consistent with licensee procedures.

Quality Assurance

There is no ~~specific~~ relaxation of any of the requirements of appendix B, "Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants," to 10 CFR part 50 ~~(appendix B)~~ for an operating facility that is in an extended outage. Appendix B establishes quality assurance requirements for the design, manufacture, construction, and operation of certain structures, systems, and components. The pertinent requirements of this appendix apply to all licensee activities affecting the safety-related functions of these structures, systems, and components, regardless of whether the facility is producing power or in a shutdown condition. Such activities include designing, purchasing, fabricating, handling, shipping, storing, cleaning, erecting, installing, inspecting, testing, operating, maintaining, repairing, refueling, and modifying these structures, systems, and components. Criterion II, "Quality Assurance Program," of appendix B, requires that the quality assurance program, be documented by written policies, procedures, or instructions and be carried out throughout the life of the facility. Thus, appendix B requires compliance with the applicable portions of the regulations for covered activities regardless of whether or how long the facility has been in a shutdown period. Licensed operators and other licensee staff would still be required to be trained to perform activities affecting quality; to follow written procedures or instructions (where applicable); and to document, evaluate, and resolve issues through the implementation of the non-conformance and corrective action programs. In addition, ~~criterion~~ Criterion XVIII, "Audits," of appendix B, requires licensee staff to continue to evaluate programs and processes through periodic auditing throughout the life of the facility and is applicable to facilities regardless of whether or how long a facility has been in a shutdown condition.

Irradiated Fuel[2]

The petitioners requested that the NRC require licensees to develop and submit a RESAR that includes a discussion of how the facility will ensure that any irradiated fuel will be protected and not be damaged, during an extended shutdown period, ~~that any irradiated fuel will be protected and not be damaged~~. In addition, the petitioners requested that the RESAR describe how the public and facility personnel will be protected, should irradiated fuel become damaged. The NRC determined that the existing regulations, guidance, and processes already discussed in this notice would prevent and mitigate such damage from a design and safety standpoint. The NRC also reviewed other existing regulatory requirements not specifically mentioned by the petitioners. Specifically, the NRC considered emergency planning requirements and security requirements (the design basis threat) in making this conclusion.

Irradiated Fuel: Emergency Planning

Under § 50.54, "Conditions of licenses," ~~E~~emergency planning regulations and required licensee emergency plans already exist to protect workers and the public from damaged irradiated fuel ~~per, § 50.54, "Conditions of licenses,"~~ to include when the facility is in an extended shutdown. Specifically, § 50.54(q)(2) requires that the licensee follow and maintain the effectiveness of an emergency plan that meets the requirements in appendix E to part 50 and, for a nuclear power reactor facility, the planning standards of § 50.47(b). ~~In accordance with~~Under § 50.47(b)(14), a licensee must conduct periodic exercises to evaluate major portions of emergency response capabilities, while periodic

[2] As part of its review of the petition, the NRC reviewed other existing regulatory requirements. While not specifically mentioned by the petitioners, a discussion of emergency planning requirements and security design basis threats is included in this notice, as both topics relate to protecting the public and plant personnel, should irradiated fuel become damaged.

drills are conducted to develop and maintain key skills. Any deficiencies identified as a result of exercises or drills must be corrected.

Irradiated Fuel: Design Basis Threat

Existing regulations in 10 CFR part 73, "Physical Protection of Plants and Materials," require security protection when irradiated fuel is onsite and stored inside the protected area, regardless of the reactor's operational mode, or conditions, including an extended shutdown condition.

~~Pursuant to~~Under § 73.55, ~~73.1(b)(1)(i)~~ licensees who are authorized to operate a nuclear power reactor ~~under § 50.57, as well as holders of a combined license~~ under 10 CFR part 50 or 52 (after the Commission has made the finding under § 52.103(g)), must ~~comply with the requirements of § 73.55. These requirements include~~provide a security plan and the associated protective strategy with defined design basis threats, as described in §§ 73.1 and 73.2, to protect against acts of radiological sabotage ~~and the associated protective strategy~~. The security plan includes a physical security plan, a training and qualification plan, a safeguards contingency plan, and a cyber security plan. The specific design basis threat is safeguards information, which is protected under § 73.21 and is withheld from public access pursuant to the requirements of § 9.17.

Along with the security plan, § 73.55(k)(8) requires the licensee to establish and implement a protective strategy when irradiated fuel is onsite and stored in the protected area, regardless of the reactor's operational modes, or conditions.

Fitness for Duty

Existing regulations in 10 CFR part 26, "Fitness for Duty Programs," require that all persons who are granted unescorted access to nuclear power reactor protected areas

by the licensees be subject to a fitness-for-duty program. ~~Pursuant to~~Under § 26.3(a), licensees who are authorized to operate a nuclear power reactor facility ~~under § 50.57, as well as holders of a combined license~~ under 10 CFR part 50 or 52 (after the Commission has made the finding under § 52.103(g)) must comply with the requirements of 10 CFR part 26, except for subpart K, "FFD Program for Construction."

The fitness-for-duty program performance objectives required under § 26.23 provide reasonable assurance of an individual's ability to safely and competently perform his or her duty commensurate with maintaining public health and safety. These requirements apply regardless of the reactor's operational modes, or conditions, and include drug and alcohol testing, behavioral observation, and determinations of fitness.

Therefore, staff has determined that Issue No. 2, to require a licensee to develop and submit a RESAR, whether prior to or during an extended shutdown, is not necessary because the issues raised by the petitioners are currently and adequately covered by the existing regulations.

Issue No. 3: Establish requirements to exit and restart from extended shutdown

The NRC is denying Issue No. 3 because there is no need to amend the regulations to establish criteria for exiting an extended shutdown. The staff determined that existing reactor oversight process guidance provides for appropriate NRC oversight of a plant in an extended shutdown condition. Oversight of reactor facilities in extended shutdown for reasons not related to performance is governed by IMC 0375. One of the purposes of IMC 0375 is to provide assurance that the facility will be operated in a manner that provides adequate protection of public health and safety following restart. Section 06.02 of IMC 0375 discusses the inspection plan and indicates that a focus on operational readiness of the licensee for reactor restart may be necessary. NRC

decision making regarding plants restarting after extended shutdowns assess operations readiness. Additional guidance for conducting operational readiness assessment inspections is provided in Inspection Procedure 93806, Operational Readiness Assessment Team Inspections, which includes a focus on identifying potential areas of weakness important to plant operations. Aspects that may be considered as potential areas for additional NRC inspection include equipment upgrades and maintenance, procedure updates, facilities maintenance, and the status of the corrective action program. In addition, a facility cannot restart without active licensed operators per § 55.53 and as described previously under Issue No. 2.

Moreover, before a licensee changes the mode a facility is in (e.g., from cold shutdown to hot shutdown), the facility must demonstrate operability. Therefore, any structures, systems, and components required for safe operation of the facility in the new mode must be operable and the applicable surveillance requirements met, as defined in the facility's technical specifications, before transition can occur. ~~In addition, before entering a higher mode (e.g., restarting and increasing power) the licensee must ensure operability of the required equipment and pass the required surveillances for the next higher mode prior to entry.~~

David Kraft of the Nuclear Energy Information Service raised many of the same issues in a letter to the agency dated June 16, 2016. By letter dated August 4, 2016, John Giessner from the Division of Nuclear Materials Safety in NRC Region III responded to Mr. Kraft. In this response letter, referenced by the petitioners as "the Giessner letter," the NRC staff answered questions about the requirements for power reactor decommissioning and extended shutdown. As discussed ~~recognized~~ in the NRC's August 4, 2016 response letter, ~~the~~ NRC regulations do not prohibit a licensee from voluntarily entering the extended shutdown configuration described in the petition

and refers to IMC 0375, which provides for NRC oversight of a facility exiting from extended shutdown. If a licensee places a facility in extended shutdown and decides to restart, the NRC ~~has determined that the agency~~ has sufficient regulations, processes, and procedures in place to ensure that the restart is conducted in a safe manner.

The example cited by the petitioners was the extended shutdown of Browns Ferry Nuclear Plant, Unit 1, which was shut down from March 1985 to June 2007, after operating for 10 years. During the ~~twenty-two~~22 year shutdown, the NRC continued to provide oversight via multiple resident inspectors assigned to the Browns Ferry Nuclear Plants. Further, NRC staff from regional and headquarters offices routinely visited the Browns Ferry Nuclear Plant for oversight of the operating Unit 2 and 3 reactors. As part of the reactor oversight process, the NRC developed an inspection procedure to monitor the restart effort to ensure that the plant was able to restart and operate in a safe manner. This procedure eventually became IMC 0375. The NRC ~~was able to use~~used existing regulatory tools (e.g., inspectors, inspection procedures, enforcement of the operating license) during the Browns Ferry Nuclear Plant, Unit 1, startup in 2007. As evidenced by the startup of Browns Ferry Nuclear Plant, Unit 1, the NRC ~~maintains~~ has the regulatory tools necessary to effectively ensure that the public health and safety and common defense and security continues to be protected.

The NRC staff found additional examples relevant to the petition including: Crystal River Nuclear Generating Plant, Unit 3, which was shut down for an extended period of time before permanently ceasing operations; Kewaunee Power Station, which had permanently shut down and defueled but later considered restarting and relicensing (~~it~~ ultimately the licensee decided not to restart); James A. FitzPatrick Nuclear Power Plant, Davis-Besse Nuclear Power Station, Unit 1, and Perry Nuclear Power Plant, Unit 1 for which a decision to permanently cease operations was reversed. The NRC staff's

review of these additional examples found that the existing regulatory tools were effective and sufficient in addressing these different scenarios and ensured that the public health and safety and common defense and security continued to be protected.

Therefore, the potential safety and security issues associated with exit and restart from extended shutdown are currently and adequately covered by the existing regulations and NRC processes.

Issue No. 4: Conduct a decommissioning funding review(s) during an extended shutdown and establish requirements to prevent the retraction of any letter of permanent cessation of operations certification

The NRC is denying Issue No. 4 because there is no need to prohibit withdrawal of a certification of permanent cessation of operations or to require additional ~~re-~~assess~~ing~~ments of decommissioning funding during an extended shutdown.

Certifications under § 50.82, "Termination of license"

The regulations in § 50.82 do not prohibit a licensee from voluntarily placing its facilities in an extended shutdown without terminating the operating license. The regulations do require licensees with an operating license in an extended shutdown to continue to meet all safety and security requirements as outlined in the facility's operating license.

The regulations in § 50.82(a)(1) specify two actions that the licensee must take to permanently cease operations of a nuclear power facility. First, when the licensee decides to permanently cease operations, the licensee must ~~provide~~ submit a certification of this decision to the NRC in writing within 30 days~~, per~~ under

§ 50.82(a)(1)(i). ~~In accordance with~~Under § 50.4(b)(8), this certification must contain the date on which the power generation operations ceased or will cease. Second, under § 50.82(a)(1)(ii), the licensee must submit to the NRC a certification of permanent removal of fuel from the reactor vessel. ~~In accordance with~~Under § 50.82(a)(2), ~~after~~ once the NRC dockets ~~licensee submits~~ both certifications the licensee submits under § 50.82(a)(1)~~and the NRC dockets both certifications~~, the licensee is no longer authorized to operate the reactor or place or retain fuel in the reactor vessel.

~~Filing~~ Submitting and docketing ~~of~~ a certification under § 50.82(a)(1)(i) of a determination to cease operations alone is not sufficient to result in permanent cessation of operations. No existing regulation would prevent the licensee from changing its decision to cease operations by retracting its certification under § 50.82(a)(1)(i).

The regulations do not specify a time limit for the permanent removal of fuel or the schedule for submitting the corresponding certification under § 50.82(a)(1)(ii) to the NRC. Additionally, after the NRC dockets the certifications required by § 50.82(a)(1), no existing regulations would explicitly prohibit the NRC from reauthorizing operation; however, the licensee would have to demonstrate that it meets all the requirements in 10 CFR part 50 and request approval from the NRC to authorize operation and. The NRC would then determine whether the licensee has met all requirements.

While the NRC cannot prevent the licensee from electing to cease operation and transition to decommissioning, the NRC can stop decommissioning activities in certain situations. The NRC's regulation at § 50.82(a)(6) states that the licensee must not perform any decommissioning activity that: (1) forecloses release of the site for possible unrestricted use, (2) results in any significant environmental impact not previously reviewed, or (3) results in there no longer being reasonable assurance that adequate

funds will be available for decommissioning. If any decommissioning activity could not meet these conditions, the licensee is prohibited from undertaking the activity until it submits, and the NRC approves, a license amendment request that describes the proposed activity and the potential impact associated with that activity.

The petitioners provided no basis for requesting the NRC to ~~explicitly~~ prohibit withdrawal of ~~of the~~a ~~-~~certification of ~~the~~ permanent cessation of operations submitted ~~pursuant to~~under § 50.82(a)(1)(i). There is no ~~fundamental~~ change in the status of the facility's operating license associated with the filing of the § 50.82(a)(1)(i) certification. Further, there is no change in the regulatory treatment of a commercial nuclear power reactor based solely on the submittal of the certification of permanent cessation of operations required by § 50.82(a)(1)(i). Thus, withdrawal of this certification, in and of itself, regardless of whether the licensee intends to enter into an extended shutdown or continue operating the facility, does not affect the status of the facility with respect to the NRC's requirements. Similar regulations are found ~~under~~ in § 52.110 for combined licenses. In addition, in its letter dated August 4, 2016, the NRC staff responded to similar questions from David Kraft of the Nuclear Energy Information Service regarding the certifications and license termination requirements under § 50.82.

Therefore, prohibiting a~~the~~ licensee from withdrawing a certification of permanent cessation of operations submitted ~~in accordance with~~under § 50.82(a)(1)(i) would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

Decommissioning Funding

The petitioners asserted that a facility in an extended shutdown may eventually resume operation or enter decommissioning. The petitioners requested that the

amended regulations clearly address whether decommissioning funding may be used for activities during a facility's extended shutdown and~~, if so,~~ to include the criteria and conditions governing use ~~of decommissioning funding should be included in the amended regulations~~of such funds.

The regulations under § 50.82(a)(8)(ii) do not allow decommissioning trust funds to be used for any activities (except decommissioning planning) while the licensee has an operating license, including during an extended shutdown. In addition, ~~the~~ a licensee in an extended shutdown is not relieved of any existing decommissioning trust fund regulations that are applicable to any facility with an operating license.

The petitioners also requested that the amended regulations require licensees to submit a preliminary decommissioning cost estimate to the NRC at 5-year intervals throughout the period of extended shutdown. The petitioners also inquired whether the decommissioning funding amounts required by § 50.75(c) should be re-assessed during an extended shutdown.

Regulations under §§ 50.75(f)(1) and (f)(2) require licensees to report at least once every 2 years on the status of its decommissioning funding and related factors. In addition to these requirements for biennial reports, § 50.75(f)(3) requires that each power reactor licensee shall, at or about 5 years prior to the projected permanent cessation of operations,[3] submit a preliminary decommissioning cost estimate, which includes an up-to-date assessment of the major factors that could affect the cost to decommission. The extended shutdown has no effect on the license expiration date, and all applicable decommissioning funding regulations remain in effect, including § 50.75.

[3] The "permanent cessation of operations" in this context refers to when a licensee is no longer authorized to operate the reactor or place or retain fuel in the reactor vessel, per § 50.82(a)(2).

Therefore, prohibiting withdrawal of a certification of permanent cessation of operations under § 50.82(a)(1)(i) or ~~to require~~requiring additional ~~re-assessing~~assessments of decommissioning funding during an extended shutdown would not address a new safety or security issue that is not currently and adequately covered by the existing regulations.

IV. Availability of Documents

The documents identified in the following table are available to interested persons through one or more of the methods, as indicated.

DOCUMENT	ADAMS ACCESSION NO. / *FEDERAL REGISTER* CITATION
Request for Petition for Rulemaking (PRM-50-114), dated September 1, 2016.	ML16258A486
Federal Register notice, "Power Reactors in Extended Shutdowns," dated December 9, 2016.	81 FR 89011
Comment Submission 1: Rodney McCullum of Nuclear Energy Institute (NEI), dated February 22, 2017.	ML17055B792
Comment Submission 2: Paul Bessette of Morgan, Lewis & Bockius, LLP (on behalf of Entergy Nuclear Operations, Inc.), dated February 23, 2017.	ML17055B953
IMC 0350, "Oversight of Reactor Facilities in a Shutdown Condition Due to Significant Performance and/or Operational Concerns," dated March 1, 2018.	ML17116A273
IMC 0375, "Implementation of the Reactor Oversight Process at Reactor Facilities in an Extended Shutdown Condition for Reasons Other Than Performance," dated November 13, 2015.	ML15247A274
NUREG/BR-0521, "Decommissioning Nuclear Power Plants," dated August 2014.	ML17177A253~~ML14210A472~~

NUREG-1700, Revision 1, "Standard Review Plan for Evaluating Nuclear Power Reactor License Termination Plans," dated April 2003.	ML18116A124~~ML031270391~~
Regulatory Guide (RG) 1.184, Revision 1, "Decommissioning of Nuclear Power Reactors," dated October 2013.	ML13144A840
RG 1.179, Revision 1, "Standard Format and Content of License Termination Plans for Nuclear Power Reactors," dated June 2011.	ML110490419
Letter from Mr. David A. Kraft of Nuclear Energy Information Service, dated June 16, 2016.	ML16175A449
NRC Letter to Mr. David A. Kraft of Nuclear Energy Information Service, dated August 4, 2016.	ML16218A266
FirstEnergy Solutions Corp. Letter, "Withdrawal of Certification of Permanent Cessation of Power Operations for Davis-Besse Nuclear Power Station. Unit No. 1, and Perry Nuclear Power Plant, Unit No. 1," dated July 26, 2019.	ML19207A097
Draft regulatory issue summary, "Disposition of Information Related to the Time Period that Safety-Related Structures, Systems, or Components are Installed," dated May 17, 2016.	81 FR 30571

The NRC may post materials related to this document, including public comments, on the Federal Rulemaking Web site at https://www.regulations.gov under Docket ID NRC-2016-0204. The Federal Rulemaking Web site allows you to receive alerts when changes or additions occur in a docket folder. To subscribe: 1) navigate to the docket folder (NRC-2016-0204); 2) click the "Sign up for E-mail Alerts" link; and 3) enter your e-mail address and select how frequently you would like to receive e-mails (daily, weekly, or monthly).

V. Conclusion

For the reasons cited in this document, the NRC is denying PRM-50-114. The NRC has concluded that the issues raised by the petitioners are adequately addressed

by existing NRC regulations, procedures, and guidance, and no amendments to the NRC's regulations are necessary.

Dated at Rockville, Maryland, this day of , ~~2019~~2020.

For the Nuclear Regulatory Commission.

Annette L. Vietti-Cook,
Secretary of the Commission.