



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

March 11, 2020

SECRETARY

COMMISSION VOTING RECORD

DECISION ITEM: SECY-19-0071

TITLE: DENIAL OF PETITION FOR RULEMAKING ON FIRE
 PROTECTION COMPENSATORY MEASURES (PRM-50-115;
 NRC-2017-0132)

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

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

A handwritten signature in blue ink, appearing to read "Annette L. Vietti-Cook", written over a horizontal line.

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-19-0071

RECORDED VOTES

	<u>APPROVED</u>	<u>DISAPPROVED</u>	<u>ABSTAIN</u>	<u>NOT PARTICIPATING</u>	<u>COMMENTS</u>	<u>DATE</u>
Chrm. Svinicki	X				X	01/23/20
Cmr. Baran		X			X	02/13/20
Cmr. Caputo	X				X	01/27/20
Cmr. Wright	X				X	01/24/20

NOTATION VOTE


RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary
FROM: CHAIRMAN SVINICKI
SUBJECT: SECY-19-0071 - Denial of Petition for Rulemaking on
Fire Protection Compensatory Measures (PRM-50-
115; NRC-2017-0132)

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 _____

KLS edits

[7590-01-P]

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-115; NRC-2017-0132]

Fire Protection Compensatory Measures

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying Petition for Rulemaking (PRM)-50-115, "Petition for Rulemaking—Fire Protection Compensatory Measures," dated May 1, 2017, submitted by David Lochbaum and Paul Gunter (the petitioners) on behalf of the Union of Concerned Scientists and Beyond Nuclear. The petitioners request that the NRC issue regulations that establish acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met, as well as define the maximum duration that compensatory measures may be relied upon. The NRC staff concludes that the petitioners did not present sufficient new information or arguments to warrant the requested changes to the regulations in light of the NRC's relevant past decisions and current policies. ~~arguments raised in the petition do not support the requested revisions to the regulations; revisions are not necessary because the petition does not raise any new significant safety or security concerns.~~ Therefore, the NRC is denying PRM-50-115, ~~because existing NRC regulations provide reasonable assurance of adequate protection of public health and safety.~~

DATES: The docket for PRM-50-115 is closed as of [INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*].

ADDRESSES: Please refer to Docket ID NRC-2017-0132 when contacting the NRC about the availability of information for this action. You can obtain publicly-available documents related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2017-0132. 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 Section IV, Availability of Documents.

- **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.

Commented [A1]: Hyperlink corrected to "https://adams.nrc.gov/wba"

FOR FURTHER INFORMATION CONTACT: Pamela Noto, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-6795, e-mail: Pamela.Noto@nrc.gov, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

Commented [A2]: Hyperlink corrected to "mailto:Pamela.Noto@nrc.gov."

SUPPLEMENTARY INFORMATION:

I. Background and Summary of the Petition

Title 10 of the *Code of Federal Regulations* (10 CFR) 2.802, "Petition for rulemaking—requirements for filing," provides an opportunity for any interested person to petition the Commission to issue, amend, or rescind any regulation. The NRC received a petition dated May 1, 2017, from David Lochbaum and Paul Gunter on behalf of the Union of Concerned Scientists and Beyond Nuclear, respectively, regarding the establishment of acceptable conditions for the use of compensatory measures during periods when fire protection regulations are not met. The NRC assigned Docket Number PRM-50-115 to this petition and published a notice of docketing and request for public comment in the *Federal Register* on October 6, 2017 (82 FR 46717).

Fire protection programs at U.S. commercial nuclear power plants have the primary goal of minimizing both the probability of occurrence and the consequences of fire. The fire protection regulations under [10 CFR § 50.48](#), "Fire protection," establish detailed requirements for fire protection plans at U.S. commercial nuclear power plants. ~~In accordance with~~ [Under](#) § 50.48(a), each operating nuclear power plant licensee must have a fire protection plan that satisfies ~~General Design Criteria~~ [3](#), "Fire protection," of ~~A~~ [Appendix A](#), "General Design Criteria for Nuclear Power Plants," to 10 CFR part 50,

"Domestic Licensing of Production and Utilization Facilities". The fire protection plan describes the overall fire protection program and includes measures related to fire prevention, automatic detection, suppression and response, as well as personnel administrative requirements and the protection of safety-related structures, systems, and components in the event of a fire. The approved fire protection program for nuclear power plants uses the defense-in-depth philosophy to achieve the required degree of reactor safety by using echelons of administrative controls, fire protection systems and features, and post-fire safe-shutdown capability.

Licensees of ~~facilities nuclear power plants~~ that were ~~licensed to operate~~ before January 1, 1979, must meet the requirements of ~~A~~appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," to 10 CFR part 50, except to the extent provided for in § 50.48(b). Licensees of facilities licensed to operate after January 1, 1979, must meet the facility-specific fire protection licensing basis that was reviewed and approved by the agency.

As an alternative to § 50.48(b) or to the facility-specific fire protection licensing basis, licensees may also adopt and maintain a fire protection program that meets § 50.48(c), "National Fire Protection Association Standard (NFPA) 805," which incorporates by reference NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," with certain exceptions.

The petitioners stated that the current guidance documents regarding compensatory measures are deficient due to the following issues:

Issue 1: Compensatory Measures Guidance Documents Are Not Enforceable Expectations

The petitioners assert that fire protection compensatory measures guidance documents are not regulations and that they, therefore, convey unenforceable expectations. As an example, the petitioners describe an inspection at the Waterford Steam Electric Station, Unit 3, in November 1995, where NRC inspectors discovered that workers had revised procedures to define a continuous fire watch from having someone in the area at all times to only having a roving fire watch check the area every 15 to 20 minutes. The petitioners assert that the NRC addressed the issue with a "generic non-answer" and that no enforcement action was taken. In addition, the petitioners note that the NRC issued: (1) Information Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures," in July 1997, describing the discovery of a continuous fire watch that had been improperly re-defined; and (2) Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants," in October 2009, that included the definition of a fire watch. The petitioners observe that the guidance in the information notices and the regulatory guides are not NRC requirements or substitutes for regulations; therefore, compliance with these documents is not required.

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Issue 2: Compensatory Measures Guidance Documents Are Not Clear

The petitioners observe that compensatory measures guidance documents are not clear and, therefore, create confusion for licensees, NRC inspectors and reviewers, and the public about what constitutes acceptable compensatory measures for compliance with fire protection regulations and the permissible durations of such

measures. The petitioners provide examples of instances in which the NRC regions requested that NRC headquarters staff provide clarification of compensatory measures. Petitioners also noted that NRC inspectors frequently ask questions about the appropriateness and acceptability of fire protection compensatory measures. In addition, the petitioners assert that the available guidance and the lack of regulatory requirements do not help NRC inspectors or industry workers determine a reasonable time period to keep compensatory measures in place. In particular, the petitioners assert that compensatory measures routinely have been used for longstanding noncompliance ~~determinations~~ with fire protection regulations and that not all fire protection compensatory measures may be acceptable for long periods of time.

Issue 3: Compensatory Measures Guidance Documents Were Not Developed Through an Open Process

The petitioners assert that, because compensatory measures guidance documents were not developed through an open process, the public did not have opportunities to provide input on the acceptability of various fire protection compensatory measures. In particular, the petitioners assert that the public did not have opportunity to provide feedback on the acceptability or the duration of fire protection compensatory measures, as they had during the development of the NFPA 805 regulations in Appendix R to 10 CFR part 50 and § 50.48(c) via the NRC's rulemaking process. The petitioners also assert that because fire protection compensatory measures have been employed in lieu of compliance with the regulatory requirements in appendix R to 10 CFR part 50, ~~Appendix R,~~ and NFPA 805 for many years, the public's legal rights have been infringed upon, and if compensatory measures will be used as a long-term

protection against fire risks, the public deserves an opportunity to formally weigh in on their acceptability.

Petitioners' Requests

The petitioners assert that when violations of the NRC's fire protection regulations are discovered, compensatory measures intended to provide sufficient protection until compliance is restored have not been properly established. Therefore, the petitioners request that the NRC amend its regulations to include compensatory measures that would provide enforceable requirements for licensees. In particular, the petitioners request that the NRC issue a final rule that defines the compensatory measures authorized for use and the conditions under which such measures are required when the NRC's fire protection regulations (e.g., § 50.48 and ~~General Design~~ Criterion 3 of ~~a~~Appendix A to 10 CFR part 50) are not met. In addition, the petitioners request that the final rule define the maximum duration that compensatory measures may be relied upon.

II. Public Comments on the Petition

A. Overview of Public Comments

The docketing notice for the PRM invited interested persons to submit comments. The comment period closed on December 20, 2017. The NRC received 7 public comment submissions that collectively contain 27 individual comments. The NRC reviewed and considered all comments in its evaluation of the petition. ~~The NRC received a comment from the Nuclear Energy Institute (NEI) that opposed PRM 50-115. Overall, NEI recommended that the NRC deny PRM 50-115 because regulatory~~

~~requirements exist to ensure that fire protection compensatory measures receive appropriate attention and stated that the current regulatory framework adequately ensures the protection of public health and safety. Exelon Generation Company, LLC submitted a comment that agreed with the comments submitted by NEI.~~

~~An individual representing the International Code Council and 3 other interested individuals submitted comments supporting the petition, but did not cite relevant evidence to substantiate arguments raised by the petitioners. One commenter identified unrelated concerns about the NRC's regulations and practices that the NRC determined are outside the scope of PRM-50-145.~~

B. NRC Response to Public Comments

The NRC has binned the comments on the petition into four categories. The following discussion provides a high-level summary of each category and the NRC's response to the ~~grouped-binned~~ comments, including—if appropriate—a high-level summary of the basis for the response.

1. Enforceability of guidance documents

Comment: ~~Several~~Two commenters do not agree with the petitioners' assertion regarding enforceability because compensatory measures are required by a facility's operating license (through the fire protection license condition). The fire protection license condition contained in each power reactor operating license requires the licensee to "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports...." Falling to implement the compensatory measures

would, therefore, be a violation of the facility's license condition and contrary to the updated final safety analysis report requirement, both of which are enforceable.

NRC response: The NRC partially agrees with this comment. All licensees are required to comply with the appropriate regulations and the facility operating license, which are enforceable. The NRC does not agree that guidance documents are enforceable. The NRC issues guidance to provide suggested-acceptable methods for meeting regulatory requirements. Licensees may voluntarily act-rely on these methods contained in guidance documents to comply with regulations and the facility license, but the methods themselves are not enforceable as a part of the guidance.

2. Clarity of guidance documents

Comment: Several-Two commenters do not agree with the petitioners' assertion regarding the clarity of guidance documents because facility-specific requirements for compensatory measures are sufficiently clear for licensees, the NRC, and the public. Section 50.48(a) requires each facility to have a fire protection program and stipulates what that program, which includes a requirement for that includes specific features such as administrative controls, must contain. The fire protection program is either included directly in the updated final safety analysis report or is incorporated by reference into the updated final safety analysis report for a facility. Expectations for fire protection compensatory measures are explicitly described for each facility, and are well-understood by the licensee and the NRC.

NRC response: The NRC agrees with this comment. The use of compensatory measures is clearly described in each the licensee's approved fire protection program and in numerous NRC guidance documents. Additionally, the use of compensatory measures is discussed in NRC generic communications. For example, (1) Information

Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures," alerted licensees to potential problems associated with the implementation of interim compensatory measures for degraded or inoperable plant fire protection features or degraded and inoperable conditions associated with post-fire safe-shutdown capability; (2) Regulatory Issue Summary 2005-07, "Compensatory Measures to Satisfy the Fire Protection Program Requirements," discusses how a licensee with the standard license condition for fire protection may change its approved FPP to use alternate compensatory measures ~~is a comprehensive fire protection guidance document that identifies the scope and depth of fire protection that the NRC would consider acceptable for nuclear power plants;~~ and (3) NUREG/CR-7135, "Compensatory and Alternative Regulatory MEasures for Nuclear Power Plant FIRE Protection (CARMEN-FireFIRE)," documents the history of compensatory measures, details the NRC's regulatory framework established to ensure that they are appropriately implemented and maintained, and explores technologies that did not exist when the current plants were licensed that may offer an effective alternative to the measures specified in a licensee's approved fire protection program.; (4) Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59, Changes, Tests, and Experiments," which endorses NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," contains guidance for applying 10 CFR 50.59 to compensatory actions to address nonconforming or degraded conditions; and (5) Inspection Manual Chapter 0326, "Operability Determinations," contains guidance on the use of temporary manual action in place of automatic action in support of operability.

3. Development of guidance documents through an open process

Comment: ~~Several~~Two commenters do not agree with the petitioners' assertion that guidance documents were not developed through an open process because sufficient opportunities for public comment were available in the development of related guidance documents, and the public had ample opportunity to participate. Specifically, Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants" which references treatment of fire protection compensatory measures, was published for public comment under Draft Regulatory Guide DG-1214 in April 2009, and the NRC responded to over 90 public comments.

NRC response: The NRC agrees with this comment. NRC's standard practicepolicy is to provide opportunity for public participation ~~and is embedded~~ in the NRC's regulatory guidance development process under Management Directive 6.6, "Regulatory Guides." This is to collect input from external stakeholders and allow for an open and collaborative environment. For example, the NRC staff ~~determined the need to revise~~ the final version of Regulatory Guide 1.189, Revision 2, ~~due to public taking into account~~ comments received on Draft Regulatory Guide the guidance document DG-1214, which was published for public comment in April 2009. (Revision 3 of Regulatory Guide 1.189 was subsequently issued in February 2018 to incorporate editorial changes and align it with current program guidance for regulatory guides. The changes were intended to improve clarity and did not alter the Staff Regulatory Guidance in Section C of the guide.)

The NRC also follows a process to consider the cumulative effects of regulation as directed by the Commission in staff requirements memorandum, SRM-SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the

Rulemaking Process." NRC engages with external stakeholders throughout rulemaking and related regulatory activities.

4. List of licensee event reports

Comment: ~~Several~~Two commenters do not agree with the petitioners' assertion that the list of licensee event reports in attachment 1 to the petition is compelling testimony to the frequent need for fire protection compensatory measures. The commenters state that, ~~C~~ontrary to the assertions in the petition, the licensee event reports show that licensees were following their fire protection program requirements by instituting fire watches when inoperable fire protection features occurred or were discovered. The volume of licensee event reports referenced is indicative of a program that provides little ambiguity or flexibility in implementation. This is an illustration of the process working as intended.

NRC response: The NRC agrees that the licensee event reports listed in attachment 1 of the petition are indicative of regulations that appropriately address the safety concern. The requirements of §10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," and §10 CFR 50.73, "Licensee event report system," apply to reporting certain events and conditions related to fire protection at nuclear power plants. Licensees ~~shall~~ report to the NRC fire events or fire protection deficiencies that meet the criteria of §§ 50.72 and 50.73, as appropriate, ~~and in accordance with~~under the requirements of these regulations.

~~Additionally, One commenter identified unrelated concerns about the NRC's regulations and practices that the NRC determined are outside the scope of PRM-50-115.~~

Finally, ~~a few several~~ commenters provided general support for the petition, recommending that the NRC should initiate rulemaking to address the issues raised by the petitioners, but did not provide ~~additional supporting rationale to support for~~ this ~~assertion recommendation.~~

III. Reasons for Denial

The NRC is denying the petition because the petitioners ~~did not present sufficient new information or arguments to warrant the requested changes to the regulations in light of the NRC's relevant past decisions and current policies, did not raise any significant safety or security concerns. In addition, the NRC disagrees with the arguments presented in the petition and concludes that the requested revisions of its regulations are not necessary.~~ The remaining paragraphs of Section III summarize the NRC's evaluation of the three main issues identified in the petition.

Issue 1: Compensatory Measures Guidance Documents Are Not Enforceable Expectations

The guidance documents referenced in the petition (i.e., regulatory guides and information notices) are not directly enforceable. NRC's regulatory guides and information notices provide guidance to licensees ~~and inform licensees of operating~~

experience on how to implement specific parts of the NRC's regulations, techniques used by the NRC to evaluate specific problems or postulated accidents, operating or analytical experience, and data needed by the NRC in its review of applications for licenses.

Historically, At the time of licensing of most currently operating power reactors, compensatory measures were incorporated into the licensee's technical specifications; accordingly, any change to compensatory measures required NRC review and approval. Subsequently, fire protection program requirements, including the management of compensatory measures, were removed from the technical specifications and documented in licensees' approved fire protection plans, governed by a license condition that requires the licensee to, "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports." Generic Letter 86-10, "Implementation of Fire Protection Requirements," specified-described thea process used for revising the operating license condition to allow a licensee to remove fire protection operability requirements and the associated compensatory measures from the technical specifications, and to place them into the approved fire protection plan. Through the standard fire protection license condition, thea site's fire protection program still requires fire protection compensatory measures for equipment that does not meet the functionality requirements. ~~The fire protection license condition requires the licensee to, "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports."~~

Section 50.48(a) requires each facility to have a fire protection program; this provision stipulates what that program must contain and includes administrative controls. The approved fire protection program is either, described directly in the updated final safety analysis report, or ~~incorporated~~included by reference. The licensee's commitments related to fire protection compensatory measures (e.g., fire watches, surveillance cameras) are contained within the fire protection program. Failing to appropriately implement the fire protection compensatory measures would, therefore, be a violation of the plant's operating license, which is enforceable. The provisions of § 50.48(a) require, among other things, that any change to the approved fire protection program must meet ~~General Design~~ Criterion 3 of ~~a~~Appendix A to part 50, ~~and that~~Under § 50.48(a)(3), a licensee must retain each change to the fire protection program must be retained as a record ~~until the Commission terminates the license pursuant to § 50.48(a)(3)~~. The licensee's changes to the approved fire protection program are subject to inspection, as discussed in Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections of Resolution of Degraded and Nonconforming Conditions and on Operability."

In April 1996, the NRC ~~responded to a petition under 10 CFR 2.206, "Requests for action under this subpart," by issuing~~ Director's Decision (DD)-96-03, 42 NRC 183 (1996), ~~that which~~ concluded that fire protection compensatory measures, as approved by the NRC on a facility-specific basis, "continue to ensure public health and safety." Since this decision, the NRC has continued to evaluate fire protection compensatory measures on a facility-specific basis. Thus, the current framework ensures adequate protection of public health and safety.

Therefore, the NRC concludes that the petitioners' assertion that compensatory measures guidance documents are unenforceable does not raise any new significant safety or security concerns that would support the request to amend regulations in light of relevant NRC past decisions and current policies.

Issue 2: Compensatory Measures Guidance Documents Are Not Clear

Section 50.48(a) requires each power reactor licensee to have a fire protection program. This provision stipulates what the fire protection program must contain and, as noted above, includes a requirement for administrative controls. Through the fire protection license condition, a licensee's fire protection program requires fire protection compensatory measures for equipment that does not meet the functionality requirements. The fire protection license condition requires the licensee to "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports."

The required compensatory measures for fire protection systems and equipment that do not meet the functionality requirements are explicitly stated within the each site's approved fire protection program. These compensatory measures were originally incorporated into each-most plant's technical specifications. Thus, the initial compensatory measures, and any subsequent changes, were reviewed and approved by the NRC. The NRC issued Generic Letter 86-10 and Generic Letter 88-12, "Removal of Fire Protection Requirements From Technical Specifications," which provided facilities formed the basis for licensee assessments that provided the ability to make changes to their approved fire protection program's functionality and surveillance

requirements, as well as to the compensatory measures required for nonfunctional fire protection systems and equipment. The licensee could implement these such changes under the regulatory framework for fire protection programs that were removed from technical specifications without the NRC's review and approval, provided that the licensee performed an analysis that demonstrated the change would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

The NRC subsequently issued Information Notice 97-48, which provided examples of NRC inspection findings of licensees implementing inappropriate compensatory measures for nonfunctional fire protection systems and equipment. This information notice also reinforced the guidance provided to the NRC inspectors in Generic Letter 91-18, on the resolution of degraded and nonconforming conditions affecting structures, systems, and components relied upon for compliance with § 50.48.

In addition, Information Notice 97-48 reinforced the NRC's expectations of the timeliness of corrective actions documented in Generic Letter 91-18—that is, for structures, systems, and components that are not expressly subject to technical specifications and are determined to be inoperable, the licensee should assess the reasonable assurance of safety. If the assessment assures safety, then the facility may continue to operate while prompt corrective action is taken. Generic Letter 91-18 states that the timeliness of the corrective action should be commensurate with the safety significance of the issue.

The NRC continued the expectation of timeliness of corrective actions from has since issued Revision 1 to Generic Letter 91-18, in Regulatory Issue Summary 2005-20, "Revision to NRC Inspection Manual Part 9900 Technical Guidance, 'Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety,'" which superseded Generic Letter 91-18. This expectation was further clarified in Part 9900's superseding document, as well as Inspection Manual Chapter 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety," which states,

When evaluating the effect of a condition on an SSC's capability to perform any of its specified safety functions, a licensee may decide to implement compensatory measures, as an interim action, until final corrective action to resolve the condition is completed...

In general, these measures should have minimal impact on the operators or plant operations, should be relatively simple to implement, and should be documented.

Conditions calling for a compensatory measure can place additional burden on plant operators and inspectors should verify the licensee addresses the conditions commensurate with its safety significance per 10 CFR 50 Appendix B Criterion XVI. [i]n determining whether the licensee is making reasonable efforts to complete corrective actions promptly, the NRC will consider safety significance, the effects on operability, the significance of the degradation, and what is necessary to implement the corrective action... If the licensee does not resolve the degraded or nonconforming condition at the first available opportunity or does not appropriately justify a longer completion schedule, the staff would conclude that corrective action has not been timely and would consider taking enforcement action.

It is important to note that the majority of long-term compensatory measures that are/were in place for noncompliance with fire protection regulations were put in place for regulatory issues that were the subject of Enforcement Guidance Memoranda (see Enforcement Guidance Memorandum 07-004, "Enforcement Discretion for Post-Fire Manual Actions Used As Compensatory Measures for Fire Induced Circuit Failures," and

Enforcement Guidance Memorandum 09-002, "Enforcement Discretion for Fire Induced Circuit Faults"), or for facilities that were transitioning their licensing basis to meet the criteria requirements of § 50.48(c). For facilities that are not transitioning their licensing basis to § 50.48(c), the deadline for compliance with the referenced Enforcement Guidance Memoranda has expired. Therefore, where a licensee is still relying on compensatory measures for the noncompliances discussed in the Enforcement Guidance Memoranda, and permanent corrective actions have not been taken, these instances would be considered by the NRC for enforcement action.

For facilities that are transitioning their licensing basis to § 50.48(c), the compensatory measures would be removed once a facility achieves full compliance with their new licensing basis. The deadlines for achieving full compliance are detailed in each facility's respective safety evaluation report and fire protection license condition. Any required actions that have not been completed by the deadlines stated in the safety evaluation report are considered by the NRC for enforcement action.

Additionally, the NRC issued Regulatory Issue Summary 2005-07, which informed licensees that alternate compensatory measures as otherwise required by the approved fire protection program may be used for a degraded or inoperable fire protection feature under certain circumstances. The regulatory issue summary was not meant to provide specific examples of acceptable alternate compensatory measures. As stated in the regulatory issue summary, the purpose was to discuss how a licensee, with the standard license condition for fire protection, may change the approved fire protection program to use alternate compensatory measures. The regulatory issue summary also states that a licensee may change the approved fire protection program in order to implement a different compensatory measure or combination of measures. The

licensee must perform a documented evaluation of the impact of the proposed alternate compensatory measure to the fire protection program and its adequacy compared to the compensatory measure required by the fire protection program. The documented evaluation must demonstrate that the alternate compensatory measure would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. The regulatory issue summary provides additional insights into what the documented evaluation should consider, stating,

[t]he evaluation of the alternate compensatory measure should incorporate risk insights regarding the location, quantity, and type of combustible material in the fire area; the presence of ignition sources and their likelihood of occurrence; the automatic fire suppression and fire detection capability in the fire area; the manual fire suppression capability in the fire area; and the human error probability where applicable.

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Additional guidance was provided in Regulatory Guide 1.189, Revision 2, on what would constitute an acceptable evaluation to determine that the change to the fire protection program would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Regulatory Guide 1.189, Revision 3, states that, within the context of the standard fire protection license condition, the phrase "not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire," means to maintain sufficient safety margins. The regulatory guide also states that, with sufficient safety margins, the following applies:

- a. Codes and standards or their alternatives approved for use by the NRC are met.
- b. Safety analysis acceptance criteria in the licensing basis are met or proposed revisions provide sufficient margin to account for analysis and data uncertainty.

Employing appropriate compensatory measures on a short-term basis is an

integral part of the NRC-approved fire protection program. The NRC recognizes that some compensatory measures have been in place for an extended period of time. However, while it is not ideal to rely on compensatory measures for extended periods, the fact that some of these measures have existed for longer periods of time does not introduce a safety concern.

The fire protection programs at nuclear power plants are built upon the concept of defense-in-depth¹ with layers of protective features. The technical deficiencies being compensated for do not invalidate the defense-in-depth approach. Further, the licensees track fire protection program deficiencies involving compensatory measures at their respective nuclear plants. The NRC's resident inspectors review corrective action programs on a daily basis and are aware of the compensatory measures in place at the reactor units. Additionally, the NRC inspects a sample of these compensatory measures for adequacy during their routine fire protection inspections.

Therefore, the NRC concludes that fire protection compensatory measures guidance documents are clear and were not meant to provide specific examples of acceptable alternate compensatory measures. As stated in Regulatory Issue Summary 2005-07, the purpose was to discuss how a licensee, with the standard license condition for fire protection, may change the approved fire protection program to use alternate compensatory measures. Additionally, the petitioners' assertion does not raise any

¹ Fire protection programs in U.S. nuclear power plants use the concept of defense-in-depth to achieve the required degree of fire safety by using echelons of protection from fire effects. The three echelons for fire protection are: (1) prevent the fire from starting, i.e., plants maintain fire safety by taking measures to minimize the likelihood that fires might occur; (2) rapidly detect, control, and promptly extinguish those fires that do occur, i.e., plants establish fire protection systems (sprinklers, fire water systems, etc.) to extinguish (and minimize the consequences of) any fires that do occur; and (3) protect structures, systems, and components important to safety so that a fire not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant, i.e., plants rely on redundant safety systems (e.g., installing fire barriers) that are unlikely to be damaged by a single fire.

~~significant safety or security concerns to support the issuance of a final rule that defines the compensatory measures authorized for use and the conditions under which such measures are required when the agency's fire protection regulations (e.g., § 50.48 and Criterion 3 of Appendix A to 10 CFR part 50) are not met.~~

~~Further, the NRC also concludes that the petitioners also did not provide sufficient information to support the issuance of a final rule that would define the maximum duration that compensatory measures may be relied upon.~~

Issue 3: Compensatory Measures Guidance Documents Were Not Developed Through An Open Process

~~It is the policy of the NRC that activities are undertaken in an open and transparent manner; staff decisions are sound and consider the need for and impact of proposed actions; and regulatory guidance will be provided to identify acceptable methods for applicants and licensees to meet applicable laws and regulations, when needed. The NRC has a longstanding practice of conducting its regulatory responsibilities in an open and transparent manner. Consistent with the NRC Approach to Open Government, the NRC keeps the public informed of the agency's regulatory, licensing, and oversight activities. The NRC views openness as a critical element for achieving the agency's mission to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment. This is expressed in Management Directive 6.6, "Regulatory Guides," as an objective to ensure that stakeholders (e.g., licensees, applicants, and members of the public and Agreement States) and individuals and offices within NRC all have an opportunity to consider and comment on a new or substantively changed draft regulatory guide before it is issued as~~

~~a final (effective) Regulatory Guide. Based on the NRC's Principles of Good Regulation and Organizational Values, the NRC issues its draft regulations and draft guidance documents for stakeholder and public comment. After considering the comments received on these a documents, the NRC publishes the final version of the regulation or guidance document.~~ The NRC also follows a process to consider the cumulative effects of regulation by engaging with external stakeholders throughout rulemaking and related regulatory activities.

The NRC provided ~~sufficient~~ opportunities for public comment in the development of guidance documents related to fire protection compensatory measures, and the public had many opportunities to participate. For example, Regulatory Guide 1.189, Revision 2, was issued for public comment as Draft Regulatory Guide (DG)-1214 on April 21, 2009 (74 FR 18262). The NRC responded to 97 public comments on DG-1214 on October 31, 2009 (74 FR 56673). The NRC held a public meeting on May 20, 2009 to discuss comments and questions on DG-1214; and the Advisory Committee on Reactor Safeguards also held a meeting on October 9, 2009, to discuss comments and questions on DG 1214. As addressed above, the staff revised the guidance document based on comments submitted by the public. Revision 3 to Regulatory Guide 1.189 was not issued for public comment because the changes were intended to improve clarity and did not alter the Staff Regulatory Guidance in Section C of the guide. A notice of opportunity for public comment on Regulatory Issue Summary 2005-07 was not published because it is informational.

Therefore, the NRC ~~does not agree with~~ concludes that the petitioners' assertion that compensatory measures guidance documents were not developed through an open process ~~does not raise any new significant safety or security concerns to support the~~

request for rulemaking.

IV. Availability of Documents

The following table provides information about how to access the documents referenced in this document. The ADDRESSES section of this document provides additional information about how to access ADAMS.

Date	Document	ADAMS Accession Number or Federal Register Citation
April, <u>24</u> 1986	Generic Letter 86-10, "Implementation of Fire Protection Requirements"	ML031150322 ← Formatted: Left
August 2, 1988	Generic Letter 88-12, "Removal of Fire Protection Requirements from Technical Specifications"	ML031150471 ← Formatted: Left
November 7, 1991	Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections of Resolution of Degraded and Nonconforming Conditions and on Operability"	ML031140549 ← Formatted: Left
October 21, 1994	1994 petition under 10 CFR 2.206	ML17311B356 ← Formatted: Left
April 3, 1996	DD-96-03, "Director's Decision Under 10 CFR 2.206"	ML082401211 ← Formatted: Left
July, <u>9</u> 1997	Information Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures"	ML070180068 ← Formatted: Left
October 8, 1997	Generic Letter 91-18, Revision 1, "Information to Licensees Regarding Two NRC Inspection Manual Sections of Resolution of Degraded and Nonconforming Conditions and on Operability"	ML031200706 ← Formatted: Left
January 13, 2001	NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants"	Available at www.nfpa.org ← Formatted: Left
April, <u>19</u> 2005	Regulatory Issue Summary 2005-07, "Compensatory Measures to Satisfy the Fire Protection Program Requirements"	ML042360547 ← Formatted: Left
June 30, 200 <u>7</u> <u>6</u>	Enforcement Guidance Memorandum 07-004, "Enforcement Discretion for Post-Fire Manual Actions Used As Compensatory Measures for Fire Induced Circuit Failures"	ML071830345 ← Formatted: Left

Date	Document	ADAMS Accession Number or Federal Register Citation
April 1, 2009	DG-1214, "Fire Protection for Nuclear Power Plants"	ML090070453
April 21, 2009	Notice of Issuance and Availability of Draft Regulatory Guide, DG-1214	74 FR 18262
May 14, 2009	Enforcement Guidance Memorandum 09-002, "Enforcement Discretion for Fire Induced Circuit Faults"	ML090300446
May 20 6 , 2009	Notice of Meeting to Provide Overview and Discuss Comments and Questions on Draft Regulatory Guide DG-1214, "Fire Protection For Nuclear Power Plants"	ML091240146
May 2June 10, 2009	Meeting Summary of May 20, 2009 Public Meeting to Discuss Regarding Draft Fire Protection Regulatory Guide DG-1214, Fire Protection for Nuclear Power Plants, Revision to Regulatory Guide 1.189	ML091480283
October 20, 2009	ACRS Report on the Draft Final Revision 2 to Regulatory Guide 1.189 (DG-1214), "Fire Protection for Nuclear Power Plants"	ML092880515
October 31, 2009	NRC Responses to Comments on Draft Regulatory Guide 1.189, Revision 2 (DG-1214)	ML092580570
October 2009	Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants"	ML092580550
October 11, 2011	Staff Requirements-SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process"	ML112840466
November 20, 2017	Inspection Manual Chapter 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety"	ML16302A480
June 2015	NUREG/CR-7135, "Compensatory and Alternative Regulatory MEasures for Nuclear Power Plant FIRE Protection (CARMEN-FireFIRE)"	ML15226A446
May 1, 2017	Petition for Rulemaking (PRM-50-115)	ML17146A393
October 6, 2017	Notice of Receipt of Petition for Rulemaking; Notice of Docketing and Request for Comment	82 FR 46717

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Date	Document	ADAMS Accession Number or Federal Register Citation
December 20, 2017	Public Comments on Petitions for Rulemaking: Fire Protection Compensatory Measures	ML18088A076

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V. Conclusion

The NRC completed an evaluation of the petition and determined that the petitioners assertions do not raise any new significant safety or security concerns to support the requested changes. In addition, the NRC disagrees with the arguments presented in the petition and concludes that the requested revisions to its regulations are not necessary. Finally, the NRC reaffirms that its existing regulations continue to provide reasonable assurance of adequate protection of public health and safety and the environment. For the reasons cited in this document, the NRC is denying PRM-50-115.

Dated at Rockville, Maryland, this xxth day of Xxxxx, 20XX.

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
Director, Nuclear Safety Project
Union of Concerned Scientists
PO Box 15316
Chattanooga, TN 37415

Dear Dr. Lyman:

I am responding to the petition for rulemaking (PRM) dated May 1, 2017, submitted by Mr. David Lochbaum on behalf of the Union of Concerned Scientists, and by Mr. Paul Gunter of Beyond Nuclear. The petition, docketed by the U.S. Nuclear Regulatory Commission (NRC) as PRM-50-115, requested that the NRC issue regulations establishing acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met.

The petition stated that violations of the NRC's fire protection regulations are often discovered, but the compensatory measures intended to provide sufficient protection until compliance is restored have not been properly established and that regulations are necessary. ~~You have~~The petitioners requested that the NRC amend its regulations to include compensatory measures that would provide enforceable requirements for the licensee. In particular, the petitioners requested that the NRC issue a final rule to (1) define ~~when and under what conditions~~the compensatory measures authorized for use and the conditions under which such measures are required during periods when the fire protection regulations are not met and (2) define the maximum duration for reliance on compensatory measures.

The NRC considered the petition, public comments, and the arguments raised therein, and finds that the petition did not present sufficient new information or arguments to warrant the requested changes to the regulations in light of the NRC's relevant past decisions and current policies. The existing NRC regulations provide reasonable assurance of adequate protection of public health and safety.~~raise a significant safety or security concern. The NRC staff concludes that the arguments raised in the petition do not support the requested revisions to the regulations and are not necessary because the petition does not raise any new significant safety or security concerns.~~ For these and the reasons stated in the enclosed *Federal Register* notice, ~~your~~the petition for rulemaking, PRM-50-115, is denied.

The NRC tracks the status of all PRMs on its Web sites at <http://www.nrc.gov/reading-rm/doc-collections/rulemaking-ruleforum/petitions-by-year.html> and <https://www.nrc.gov/about-nrc/regulatory/rulemaking/rules-petitions.html>. The notice and the public comments that were submitted on the petition can be found at www.regulations.gov under Docket ID NRC-2017-0132.

E. Lyman

- 2 -

This petition is considered closed. If you have any questions regarding this matter, please direct them to Pamela Noto at 301-415-6795 or Pamela.Noto@nrc.gov.

Sincerely,

Annette L. Vietti-Cook
Secretary of the Commission

Enclosure:
Federal Register Notice

cc: Paul Gunter, Beyond Nuclear
David Lochbaum

NOTATION VOTE

RESPONSE SHEET

TO: Annette Vietti-Cook, Secretary

FROM: Commissioner Baran

SUBJECT: SECY-19-0071 - Denial of Petition for Rulemaking on Fire Protection Compensatory Measures (PRM-50-115; NRC-2017-0132)

Approved Disapproved Abstain Not Participating

COMMENTS: Below Attached None

Entered in "STARS"

Yes

No



SIGNATURE

2/13/20

DATE

**Commissioner Baran's Comments on SECY-19-0071,
"Denial of Petition for Rulemaking on Fire Protection Compensatory Measures"**

NRC regulations require nuclear power plant licensees to have a fire protection plan that meets specified criteria. Compliance with the fire protection plan is a condition of the plant's operating license. Alternatively, a plant can voluntarily transition to a license condition that requires the plant's fire protection plan to meet the risk-informed provisions of National Fire Protection Association (NFPA) Standard 805. If a plant cannot meet the particular requirements of its fire protection plan, it must temporarily implement fire protection compensatory measures, such as the use of fire watches, surveillance cameras, or backup fire suppression equipment. Site-specific compensatory measures are included in a plant's NRC-approved fire protection plan, and compliance with the plan is mandatory.

The Union of Concerned Scientists and Beyond Nuclear submitted a petition for rulemaking requesting that NRC issue a rule to (1) define which fire protection compensatory measures are permitted and under what conditions and (2) establish a maximum duration that compensatory measures may be relied upon. The NRC staff recommends denying the petition.

The staff correctly points out that the compensatory measures allowed at a given site and the circumstances under which they would be used are laid out in the site's fire protection plan, which is approved by NRC and legally binding. I believe this element of the petition is adequately addressed by the existing regulatory framework.

However, there are strong reasons to proceed with a focused rulemaking to require a time limit on the use of compensatory measures to be included in a licensee's fire protection plan.

There is no question that fire protection in nuclear power plants is safety significant. For the subset of plants that have transitioned to NFPA 805 and provided core damage frequency information to NRC, fire risk accounts for between 35% and 90% of the total core damage frequency of the plant. In other words, at some plants, the risk of fire is the single greatest internal plant risk.

A significant number of plants have relied on compensatory measures for extended periods of time. The petition points to Browns Ferry, which had fire protection compensatory measures in place for decades. This may be an extreme case. But according to the NRC staff, there are 46 units that have transitioned or are transitioning to NFPA 805 that have had compensatory measures in place for longer than 18 months. The staff does not know the full extent of the reliance on long-term compensatory measures because licensees are not required to submit this information.

The staff acknowledges that compensatory measures that were meant to be temporary have often been in place for extended periods of time and that this is "not ideal." But the staff's position is that this long-term dependence on compensatory measures "does not introduce a safety concern." Of course, NRC established specific requirements for fire protection plans by regulation in order to ensure adequate protection of public health and safety. If the compensatory measures being relied on year after year at nuclear power plants across the country were the best way to protect against fires, those measures would presumably have been included in the 1980 regulation or NFPA 805. That they were not clearly indicates that these measures are not the best way to protect against the risk of fires at nuclear power plants. I can think of no good reason to refuse to establish a time limit on the reliance on compensatory

measures. It is perfectly reasonable for NRC to expect nuclear power plants to meet regulatory requirements that have been in effect for many years. I agree with the staff that “[e]mploying appropriate compensatory measures on a short-term basis is an integral part of the NRC-approved fire protection program.” But indefinite, multi-year (or even multi-decade) reliance on compensatory measures is not the right way to protect nuclear power plants from fires.

For these reasons, I disapprove the NRC staff’s recommendation to deny the petition for rulemaking. The staff should re-draft the *Federal Register* notice to grant the petition with respect to the request to define the maximum period of time that a nuclear power reactor can rely on compensatory measures. Instead of setting a generic time limit for each potential compensatory measure in a regulation, the rulemaking should require licensees to include site-specific time limits for each compensatory measure in their fire protection plans. These proposed time limits would be subject to NRC review and approval. The staff should provide a rulemaking plan to the Commission within six months.

NOTATION VOTE

RESPONSE SHEET

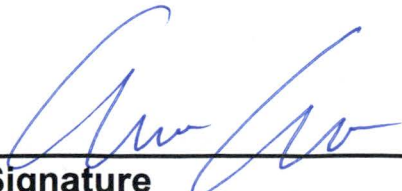
TO: Annette Vietti-Cook, Secretary
FROM: Commissioner Caputo
SUBJECT: SECY-19-0071 - Denial of Petition for Rulemaking on Fire Protection Compensatory Measures (PRM-50-115; NRC-2017-0132)

Approved Disapproved Abstain Not Participating

COMMENTS: Below Attached None

Entered in STARS

Yes
No



Signature
1/27/2020

DATE

Commissioner Caputo's Comments
on SECY-19-0071 "Denial of Petition for Rulemaking
on Fire Protection Compensatory Measures"

The staff seeks Commission approval to publish the enclosed Federal Register notice to deny "Petition for Rulemaking-Fire Protection Compensatory Measures." The petitioners requested that the NRC issue regulations that establish acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met, as well as define the maximum duration for reliance on compensatory measures.

Staff points out that the fire protection regulations under 10 CFR 50.48, "Fire protection," establish detailed requirements for fire protection plans at U.S. commercial nuclear power plants. In accordance with 10 CFR 50.48(a), each operating nuclear power plant licensee must have a fire protection plan that satisfies Criterion 3, of Appendix A, to 10 CFR part 50. Expectations for fire protection compensatory measures are explicitly described for each facility in a license condition and related fire protection program.

The staff indicates that compensatory measures for fire protection requirements need not be time-limited even though they are not expected to remain permanently in place. Generic Letter 86-10, states that the NRC expects compensatory measures to be temporary and to remain in place until final corrective actions are completed to resolve the condition that triggered the compensatory measures. Additionally, Generic Letter 91-18, states that the timeliness of the corrective action should be commensurate with the safety significance of the issue. Although reliance on compensatory measures for extended periods is not ideal, it does not introduce a safety concern.

The staff concludes the petition does not raise any new significant safety or security concerns and that the arguments raised in the petition do not support the requested revisions to the regulations. The staff recommends the denial of this petition because existing NRC regulations provide reasonable assurance of adequate protection of public health and safety.

For the reasons described above, I approve the staff's recommendation to publish the enclosed Federal Register notice to deny "Petition for Rulemaking-Fire Protection Compensatory Measures" (Enclosure 1) and draft letter to the petitioner (Enclosure 2), as edited in the attached versions.

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-115; NRC-2017-0132]

Fire Protection Compensatory Measures

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying Petition for Rulemaking (PRM)-50-115, "Petition for Rulemaking—Fire Protection Compensatory Measures," dated May 1, 2017, submitted by David Lochbaum and Paul Gunter (the petitioners) on behalf of the Union of Concerned Scientists and Beyond Nuclear. The petitioners request that the NRC issue regulations that establish acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met, as well as define the maximum duration that compensatory measures may be relied upon. The NRC staff concludes that the petitioners did not present sufficient new information or arguments to warrant the requested changes to the regulations in light of the NRC's relevant past decisions and current policies. ~~arguments raised in the petition do not support the requested revisions to the regulations; revisions are not necessary because the petition does not raise any new significant safety or security concerns.~~ Therefore, the NRC is denying PRM-50-115, ~~because existing NRC regulations provide reasonable assurance of adequate protection of public health and safety.~~

FOR FURTHER INFORMATION CONTACT: Pamela Noto, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-6795, e-mail: Pamela.Noto@nrc.gov, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

I. Background and Summary of the Petition

Title 10 of the *Code of Federal Regulations* (10 CFR) 2.802, "Petition for rulemaking—requirements for filing," provides an opportunity for any interested person to petition the Commission to issue, amend, or rescind any regulation. The NRC received a petition dated May 1, 2017, from David Lochbaum and Paul Gunter on behalf of the Union of Concerned Scientists and Beyond Nuclear, respectively, regarding the establishment of acceptable conditions for the use of compensatory measures during periods when fire protection regulations are not met. The NRC assigned Docket Number PRM-50-115 to this petition and published a notice of docketing and request for public comment in the *Federal Register* on October 6, 2017 (82 FR 46717).

Fire protection programs at U.S. commercial nuclear power plants have the primary goal of minimizing both the probability of occurrence and the consequences of fire. The fire protection regulations under [§10 CFR 50.48](#), "Fire protection," establish detailed requirements for fire protection plans at U.S. commercial nuclear power plants. ~~In accordance with §~~ [Under 10 CFR 50.48\(a\)](#), each operating nuclear power plant licensee must have a fire protection plan that satisfies [General Design Criteria](#) 3, "Fire protection," of Appendix A, "General Design Criteria for Nuclear Power

Plants,” to 10 CFR part 50, “Domestic Licensing of Production and Utilization Facilities”. The fire protection plan describes the overall fire protection program and includes measures related to fire prevention, automatic detection, suppression and response, as well as personnel administrative requirements and the protection of safety-related structures, systems, and components in the event of a fire. The approved fire protection program for nuclear power plants uses the defense-in-depth philosophy to achieve the required degree of reactor safety by using echelons of administrative controls, fire protection systems and features, and post-fire safe-shutdown capability.

Licensees of ~~facilities nuclear power plants~~ that were ~~licensed to operate~~ing before January 1, 1979, must meet the requirements of ~~A~~appendix R, “Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979,” to 10 CFR part 50, except to the extent provided for in ~~§10 CFR~~ 50.48(b). Licensees of facilities licensed to operate after January 1, 1979, must meet the facility-specific fire protection licensing basis that was reviewed and approved by the agency.

As an alternative to ~~§10 CFR~~ 50.48(b) or to the facility-specific fire protection licensing basis, licensees may also adopt and maintain a fire protection program that meets ~~§10 CFR~~ 50.48(c), “National Fire Protection Association Standard (NFPA) 805,” which incorporates by reference NFPA 805, “Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition,” with certain exceptions.

The petitioners stated that the current guidance documents regarding compensatory measures are deficient due to the following issues:

Issue 1: Compensatory Measures Guidance Documents Are Not Enforceable Expectations

The petitioners assert that fire protection compensatory measures guidance documents are not regulations and that they, therefore, convey unenforceable expectations. As an example, the petitioners describe an inspection at the Waterford Steam Electric Station, Unit 3, in November 1995, where NRC inspectors discovered that workers had revised procedures to define a continuous fire watch from having someone in the area at all times to only having a roving fire watch check the area every 15 to 20 minutes. The petitioners assert that the NRC addressed the issue with a "generic non-answer" and that no enforcement action was taken. In addition, the petitioners note that the NRC issued: (1) Information Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures," in July 1997, describing the discovery of a continuous fire watch that had been improperly re-defined; and (2) Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants," in October 2009, that included the definition of a fire watch. The petitioners observe that the guidance in the information notices and the regulatory guides are not NRC requirements or substitutes for regulations; therefore, compliance with these documents is not required.

Issue 2: Compensatory Measures Guidance Documents Are Not Clear

The petitioners observe that compensatory measures guidance documents are not clear and, therefore, create confusion for licensees, NRC inspectors and reviewers, and the public about what constitutes acceptable compensatory measures for compliance with fire protection regulations and the permissible durations of such

measures. The petitioners provide examples of instances in which the NRC regions requested that NRC headquarters staff provide clarification of compensatory measures. Petitioners also and noted that NRC inspectors frequently ask questions about the appropriateness and acceptability of fire protection compensatory measures. In addition, the petitioners assert that the available guidance and the lack of regulatory requirements do not help NRC inspectors or industry workers determine a reasonable time period to keep compensatory measures in place. In particular, the petitioners assert that compensatory measures routinely have been used for longstanding noncompliance determinations with fire protection regulations and that not all fire protection compensatory measures may be acceptable for long periods of time.

Issue 3: Compensatory Measures Guidance Documents Were Not Developed Through an Open Process

The petitioners assert that, because compensatory measures guidance documents were not developed through an open process, the public did not have opportunities to provide input on the acceptability of various fire protection compensatory measures. In particular, the petitioners assert that the public did not have opportunity to provide feedback on the acceptability or the duration of fire protection compensatory measures, as they had during the development of the NFPA 805 regulations in Appendix R to 10 CFR part 50 and §10 CFR10 CFR 50.48(c) via the NRC's rulemaking process. The petitioners also assert that because fire protection compensatory measures have been employed in lieu of compliance with the regulatory requirements in appendix R to 10 CFR part 50, Appendix R, and NFPA 805 for many years, the public's legal rights have been infringed upon, and if compensatory measures will be used as a

long-term protection against fire risks, the public deserves an opportunity to formally weigh in on their acceptability.

Petitioners' Requests

The petitioners assert that when violations of the NRC's fire protection regulations are discovered, compensatory measures intended to provide sufficient protection until compliance is restored have not been properly established. Therefore, the petitioners request that the NRC amend its regulations to include compensatory measures that would provide enforceable requirements for licensees. In particular, the petitioners request that the NRC issue a final rule that defines the compensatory measures authorized for use and the conditions under which such measures are required when the NRC's fire protection regulations (e.g., §10 CFR 10 CFR 50.48 and General Design Criterion 3 of Appendix A to 10 CFR part 50) are not met. In addition, the petitioners request that the final rule define the maximum duration that compensatory measures may be relied upon.

II. Public Comments on the Petition

A. Overview of Public Comments

The docketing notice for the PRM invited interested persons to submit comments. The comment period closed on December 20, 2017. The NRC received 7 public comment submissions that collectively contain 27 individual comments. The NRC reviewed and considered all comments in its evaluation of the petition. ~~The NRC received a comment from the Nuclear Energy Institute (NEI) that opposed PRM-50-115.~~

~~Overall, NEI recommended that the NRC deny PRM-50-115 because regulatory requirements exist to ensure that fire protection compensatory measures receive appropriate attention and stated that the current regulatory framework adequately ensures the protection of public health and safety. Exelon Generation Company, LLC submitted a comment that agreed with the comments submitted by NEI.~~

~~An individual representing the International Code Council and 3 other interested individuals submitted comments supporting the petition, but did not cite relevant evidence to substantiate arguments raised by the petitioners. One commenter identified unrelated concerns about the NRC's regulations and practices that the NRC determined are outside the scope of PRM-50-115.~~

B. NRC Response to Public Comments

The NRC has binned the comments on the petition into four categories. The following discussion provides a high-level summary of each category and the NRC's response to the grouped comments, including—if appropriate—a high-level summary of the basis for the response.

1. Enforceability of guidance documents

Comment: ~~Several~~ Two commenters do not agree with the petitioners' assertion regarding enforceability because compensatory measures are required by a facility's operating license (through the fire protection license condition). The fire protection license condition contained in each power reactor operating license requires the licensee to "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the

NRC safety evaluation reports...” Failing to implement the compensatory measures would, therefore, be a violation of the facility’s license condition and contrary to the updated final safety analysis report requirement, both of which are enforceable.

NRC response: The NRC partially agrees with this comment. ~~All~~ licensees are required to comply with the appropriate regulations and the facility operating license, which are enforceable. The NRC does not agree that guidance documents are enforceable. The NRC issues guidance to provide suggested acceptable methods for meeting regulatory requirements. Licensees may voluntarily ~~act~~ rely on ~~these~~ methods, contained in guidance documents to comply with regulations and the facility but license, but the methods themselves are not enforceable ~~as a part of the guidance.~~

2. Clarity of guidance documents

Comment: ~~Several~~ Two commenters do not agree with the petitioners’ assertion regarding the clarity of guidance documents because facility-specific requirements for compensatory measures are sufficiently clear for licensees, the NRC, and the public. Section 50.48(a) requires each facility to have a fire protection program ~~and stipulates what that program, which includes a requirement for that includes specific features such as~~ administrative controls, ~~must contain~~. The fire protection program is either included directly in ~~the updated final safety analysis report~~ or is incorporated by reference into the updated final safety analysis report for a facility. Expectations for fire protection compensatory measures are explicitly described for each facility, and are well-understood by the licensee and the NRC.

NRC response: The NRC agrees with this comment. The use of compensatory measures is clearly described in each the licensee’s approved fire protection program and in ~~numerous~~ NRC guidance documents. -Additionally, the use of compensatory

measures is discussed in NRG generic communications. For example, (1) Information Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures." alerted licensees to potential problems associated with the implementation of interim compensatory measures for degraded or inoperable plant fire protection features or degraded and inoperable conditions associated with post-fire safe-shutdown capability; (2) Regulatory Issue Summary 2005-07, "Compensatory Measures to Satisfy the Fire Protection Program Requirements," discusses how a licensee with the standard license condition for fire protection may change its approved FPP to use alternate compensatory measures is a comprehensive fire protection guidance document that identifies the scope and depth of fire protection that the NRC would consider acceptable for nuclear power plants; and; (3) NUREG/CR-7135, "Compensatory and Alternative Regulatory Measures for Nuclear Power Plant FIRE Protection (CARMEN-FireIRE)," documents the history of compensatory measures, details the NRC's regulatory framework established to ensure that they are appropriately implemented and maintained, and explores technologies that did not exist when the current plants were licensed that may offer an effective alternative to the measures specified in a licensee's approved fire protection program.; (4) Regulatory Guide 1.187, "Guidance for Implementation of 10 CFR 50.59. Changes. Tests. and Experiments." which endorses NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," contains guidance for applying 10 CFR 50.59 to compensatory actions to address nonconforming or degraded conditions: and (5) Inspection Manual Chapter 0326. "Operability Determinations," contains guidance on the use of temporary manual action in place of automatic action in support of operability.

3. Development of guidance documents through an open process

Comment: ~~Several~~Two commenters do not agree with the petitioners' assertion that guidance documents were not developed through an open process because sufficient opportunities for public comment were available in the development of related guidance documents, and the public had ample opportunity to participate. Specifically, Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants" which references treatment of fire protection compensatory measures, was published for public comment under Draft Regulatory Guide DG-1214 in April 2009, and the NRC responded to over 90 public comments.

NRC response: The NRC agrees with this comment. NRC's ~~standard practice~~policy is to provide opportunity for public participation ~~and is embedded in the NRC's guidance~~the guidance development process to collect input from external stakeholders and allow for an open and collaborative environment. For example, the NRC staff ~~determined the need to~~ revised the final version of Regulatory Guide 1.189, Revision 2, due to public comments received on the guidance document.

The NRC also follows a process to consider the cumulative effects of regulation as directed by the Commission in staff requirements memorandum, SRM-SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process." NRC engages with external stakeholders throughout rulemaking and related regulatory activities.

4. List of licensee event reports

Comment: ~~Several~~Two commenters do not agree with the petitioners' assertion that the list of licensee event reports in attachment 1 to the petition is compelling testimony to the frequent need for fire protection compensatory measures. The

commenters state that ~~C~~ontrary to the assertions in the petition, the license event reports show that licensees were following their fire protection program requirements by instituting fire watches when inoperable fire protection features occurred or were discovered. The volume of licensee event reports referenced is indicative of a program that provides little ambiguity or flexibility in implementation. This is an illustration of the process working as intended.

NRC response: The NRC agrees that the licensee event reports listed in attachment 1 of the petition are indicative of regulations that appropriately address the safety concern. The requirements of § 10 CFR 50.72, "Immediate notification requirements for operating nuclear power reactors," and §10 CFR 50.73, "Licensee event report system," apply to reporting certain events and conditions related to fire protection at nuclear power plants. Licensees ~~shall~~ report to the NRC fire events or fire protection deficiencies that meet the criteria of §§ 10 CFR 50.72 and 50.73, as appropriate, ~~and in accordance with~~under the requirements of these regulations.

Finally, ~~several~~a few commenters provided general support for the petition, recommending that the NRC should initiate rulemaking to address the issues raised by the petitioners, but did not provide ~~additional~~supporting rationale ~~to support~~for this assertion recommendation.

III. Reasons for Denial

The NRC is denying the petition because the petitioners did not present sufficient new information or arguments to warrant the requested changes to the regulations in light of the NRC's relevant past decisions and current policies. ~~did not raise any significant safety or security concerns. In addition, the NRC disagrees with the arguments presented in the petition and concludes that the requested revisions of its regulations are not necessary.~~ The remaining paragraphs of Section III summarize the NRC's evaluation of the three main issues identified in the petition.

Issue 1: Compensatory Measures Guidance Documents Are Not Enforceable Expectations

The guidance documents referenced in the petition (i.e., regulatory guides and information notices) are not directly enforceable. NRC's regulatory guides and information notices provide guidance to licensees and inform licensees of operating experience on how to implement specific parts of the NRC's regulations, techniques used by the NRC to evaluate specific problems or postulated accidents, operating or analytical experience, and data needed by the NRC in its review of applications for licenses.

At the time of licensing, of most currently operating power reactors, compensatory measures were incorporated into the licensee's technical specifications; accordingly, any change to compensatory measures required NRC review and approval. Subsequently, fire protection program requirements, including the management of compensatory measures, were removed from the technical specifications and

documented in licensees' approved fire protection plans. governed by a license condition that requires the licensee to. "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports." Generic Letter 86-10,

"Implementation of Fire Protection Requirements," ~~specified a~~ described the process used for revising the operating license condition to allow a licensee to remove fire protection operability requirements and the associated compensatory measures from the technical specifications, and to place them into the approved fire protection plan.

Through the standard fire protection license condition, ~~the~~ site's fire protection program still requires fire protection compensatory measures for equipment that does not meet the functionality requirements. ~~The fire protection license condition requires the licensee to, "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports."~~

10 CFR Section 50.48(a) requires each facility to have a fire protection program; this provision stipulates what that program must contain and includes administrative controls. The approved fire protection program is either, described directly in the updated final safety analysis report, or incorporated eluded by reference. The licensee's commitments related to fire protection compensatory measures (e.g., fire watches, surveillance cameras) are contained within the fire protection program. Failing to appropriately implement the fire protection compensatory measures would, therefore, be a violation of the plant's operating license, which is enforceable. The provisions of §10 CFR 50.48(a) require, among other things, that any change to the approved fire protection program must meet General Design-Criterion 3 of Appendix A to part 50, and that Under 10 CFR 50.48(a)(3), a licensee must retain each change to the fire protection program must be retained as a record until the Commission terminates the license pursuant to § 50.48(a)(3). The licensee's changes to the approved fire protection program are subject to inspection, as discussed in Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections of Resolution of Degraded and Nonconforming Conditions and on Operability."

In April 1996, the NRC responded to a petition under 10 CFR 2.206, "Requests for action under this subpart, by issuing ed Director's Decision -(DD)-96-03, 42 NRC 183 (1996), thatwhich concluded that fire protection compensatory measures, as approved by the NRC on a facility-specific basis, "continue to ensure public health and safety." Since this decision, the NRC has continued to evaluate fire protection compensatory measures on a facility-specific basis. Thus, the current framework ensures adequate protection of public health and safety.

Therefore, the NRC concludes that the petitioners' assertion that compensatory measures guidance documents are unenforceable does not raise any new significant safety or security concerns that would support the request to amend regulations in light of relevant NRC past decisions and current policies.

Issue 2: Compensatory Measures Guidance Documents Are Not Clear

Section 50.48(a) requires each power reactor licensee to have a fire protection program. This provision stipulates what the fire protection program must contain and, as noted above, includes a requirement for administrative controls. Through the fire protection license condition, a licensee's fire protection program requires fire protection compensatory measures for equipment that does not meet the functionality requirements. The fire protection license condition requires the licensee to "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports."

The required compensatory measures for fire protection systems and equipment that do not meet the functionality requirements are explicitly stated within the each site's approved fire protection program. These compensatory measures were originally incorporated into each most plant's technical specifications. Thus, the initial compensatory measures, and any subsequent changes, were reviewed and approved by the NRC. The NRC issued Generic Letter 86-10 and Generic Letter 88-12, "Removal of Fire Protection Requirements From Technical Specifications," which provided facilities formed the basis for licensee assessments that provided the ability to make changes to their approved fire protection program's functionality and surveillance requirements, as

well as to the compensatory measures required for nonfunctional fire protection systems and equipment. The licensee could implement ~~thesesuch~~ changes under the regulatory framework for fire protection programs that were removed from technical specifications without the NRC's review and approval, provided that the licensee performed an analysis that demonstrated the change would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire.

The NRC subsequently issued Information Notice 97-48, which provided examples of NRC inspection findings of licensees implementing inappropriate compensatory measures for nonfunctional fire protection systems and equipment. This information notice also reinforced the guidance provided to the NRC inspectors in Generic Letter 91-18, on the resolution of degraded and nonconforming conditions affecting structures, systems, and components relied upon for compliance with §10 CFR 50.48.

In addition, Information Notice 97-48 reinforced the NRC's expectations of the timeliness of corrective actions documented in Generic Letter 91-18—that is, for structures, systems, and components that are not expressly subject to technical specifications and are determined to be inoperable, the licensee should assess the reasonable assurance of safety. If the assessment assures safety, then the facility may continue to operate while prompt corrective action is taken. Generic Letter 91-18 states that the timeliness of the corrective action should be commensurate with the safety significance of the issue.

The NRC continued the expectation of timeliness of corrective actions from has since issued Revision 1 to Generic Letter 91-18, in Regulatory Issue Summary 2005-20, "Revision to NRC Inspection Manual Part 9900 Technical Guidance, 'Operability Determinations & Functionality Assessments for Resolution of Degraded or Nonconforming Conditions Adverse to Quality or Safety." which superseded Generic Letter 91-18. This expectation was further clarified in Part 9900's superseding document, as well as Inspection Manual Chapter 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety," which states,

When evaluating the effect of a condition on an SSC's capability to perform any of its specified safety functions, a licensee may decide to implement compensatory measures, as an interim action, until final corrective action to resolve the condition is completed...

In general, these measures should have minimal impact on the operators or plant operations, should be relatively simple to implement, and should be documented.

Conditions calling for a compensatory measure can place additional burden on plant operators and inspectors should verify the licensee addresses the conditions commensurate with its safety significance per 10 CFR 50 Appendix B Criterion XVI. [i]n determining whether the licensee is making reasonable efforts to complete corrective actions promptly, the NRC will consider safety significance, the effects on operability, the significance of the degradation, and what is necessary to implement the corrective action... If the licensee does not resolve the degraded or nonconforming condition at the first available opportunity or does not appropriately justify a longer completion schedule, the staff would conclude that corrective action has not been timely and would consider taking enforcement action.

It is important to note that the majority of long-term compensatory measures that are/were in place for noncompliance with fire protection regulations were put in place for regulatory issues that were the subject of Enforcement Guidance Memoranda (see Enforcement Guidance Memorandum 07-004, "Enforcement Discretion for Post-Fire Manual Actions Used As Compensatory Measures for Fire Induced Circuit Failures," and Enforcement Guidance Memorandum 09-002, "Enforcement Discretion for Fire Induced

Circuit Faults”), or for facilities that were transitioning their licensing basis to meet the criteria requirements of §10 CFR 50.48(c). For facilities that are not transitioning their licensing basis to §10 CFR 50.48(c), the deadline for compliance with the referenced Enforcement Guidance Memoranda has expired. Therefore, where a licensee is still relying on compensatory measures for the noncompliances discussed in the Enforcement Guidance Memoranda, and permanent corrective actions have not been taken, these instances would be considered by the NRC for enforcement action.

For facilities that are transitioning their licensing basis to §10 CFR 50.48(c), the compensatory measures would be removed once a facility achieves full compliance with their new licensing basis. The deadlines for achieving full compliance are detailed in each facility’s respective safety evaluation report and fire protection license condition. Any required actions that have not been completed by the deadlines stated in the safety evaluation report are considered by the NRC for enforcement action.

Additionally, the NRC issued Regulatory Issue Summary 2005-07, which informed licensees that alternate compensatory measures as otherwise required by the approved fire protection program may be used for a degraded or inoperable fire protection feature under certain circumstances. The regulatory issue summary was not meant to provide specific examples of acceptable alternate compensatory measures. As stated in the regulatory issue summary, the purpose was to discuss how a licensee, with the standard license condition for fire protection, may change the approved fire protection program to use alternate compensatory measures. The regulatory issue summary also states that a licensee may change the approved fire protection program in order to implement a different compensatory measure or combination of measures. The licensee must perform a documented evaluation of the impact of the proposed alternate

compensatory measure to the fire protection program and its adequacy compared to the compensatory measure required by the fire protection program. The documented evaluation must demonstrate that the alternate compensatory measure would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. The regulatory issue summary provides additional insights into what the documented evaluation should consider, stating,

[t]he evaluation of the alternate compensatory measure should incorporate risk insights regarding the location, quantity, and type of combustible material in the fire area; the presence of ignition sources and their likelihood of occurrence; the automatic fire suppression and fire detection capability in the fire area; the manual fire suppression capability in the fire area; and the human error probability where applicable.

Additional guidance was provided in Regulatory Guide 1.189, Revision 2, on what would constitute an acceptable evaluation to determine that the change to the fire protection program would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Regulatory Guide 1.189, Revision 3, states that, within the context of the standard fire protection license condition, the phrase “not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire,” means to maintain sufficient safety margins. The regulatory guide also states that, with sufficient safety margins, the following applies:

- a. Codes and standards or their alternatives approved for use by the NRC are met.
- b. Safety analysis acceptance criteria in the licensing basis are met or proposed revisions provide sufficient margin to account for analysis and data uncertainty.

Employing appropriate compensatory measures on a short-term basis is an integral part of the NRC-approved fire protection program. The NRC recognizes that

some compensatory measures have been in place for an extended period of time. However, while it is not ideal to rely on compensatory measures for extended periods, the fact that some of these measures have existed for longer periods of time does not introduce a safety concern.

The fire protection programs at nuclear power plants are built upon the concept of defense-in-depth¹ with layers of protective features. The technical deficiencies being compensated ~~for~~ do not invalidate the defense-in-depth approach. Further, ~~the~~ licensees track fire protection program deficiencies involving compensatory measures at their respective nuclear plants. The NRC's resident inspectors review corrective action programs on a daily basis and are aware of the compensatory measures in place at ~~the~~ reactor units. Additionally, the NRC inspects a sample of these compensatory measures for adequacy during ~~their~~ routine fire protection inspections.

Therefore, the NRC concludes that fire protection compensatory measures guidance documents are clear and were not meant to provide specific examples of acceptable alternate compensatory measures. As stated in Regulatory Issue Summary 2005-07, ~~the purpose was to discuss how~~ a licensee, with the standard license condition for fire protection, may change the approved fire protection program to use alternate compensatory measures. ~~Additionally, the petitioners' assertion does not raise any significant safety or security concerns to support the issuance of a final rule that defines~~

¹ Fire protection programs in U.S. nuclear power plants use the concept of defense-in-depth to achieve the required degree of fire safety by using echelons of protection from fire effects. The three echelons for fire protection are: (1) prevent the fire from starting, i.e., plants maintain fire safety by taking measures to minimize the likelihood that fires might occur; (2) rapidly detect, control, and promptly extinguish those fires that do occur, i.e., plants establish fire protection systems (sprinklers, fire water systems, etc.) to extinguish (and minimize the consequences of) any fires that do occur; and (3) protect structures, systems, and components important to safety so that a fire not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant, i.e., plants rely on redundant safety systems (e.g., installing fire barriers) that are unlikely to be damaged by a single fire.

~~the compensatory measures authorized for use and the conditions under which such measures are required when the agency's fire protection regulations (e.g., § 50.48 and Criterion 3 of Appendix A to 10 CFR part 50) are not met.~~

~~Further, the NRC also concludes that the petitioners also did not provide sufficient information to support the issuance of a final rule that would define the maximum duration that compensatory measures may be relied upon.~~

Issue 3: Compensatory Measures Guidance Documents Were Not Developed Through An Open Process

~~It is the policy of the NRC that activities are undertaken in an open and transparent manner: staff decisions are sound and consider the need for and impact of proposed actions: and regulatory guidance will be provided to identify acceptable methods for applicants and licensees to meet applicable laws and regulations. When needed. The NRC has a longstanding practice of conducting its regulatory responsibilities in an open and transparent manner. Consistent with the NRC Approach to Open Government, the NRC keeps the public informed of the agency's regulatory, licensing, and oversight activities. The NRC views openness as a critical element for achieving the agency's mission to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment. This is expressed in Management Directive 6.6. "Regulatory Guides," as an objective to ensure that stakeholders (e.g. • licensees, applicants, and members of the public and Agreement States) and individuals and offices within NRC all have an opportunity to consider and comment on a new or substantively changed draft regulatory guide before it is issued as a final (effective) Regulatory Guide. Based on the NRC's Principles of~~

~~Good Regulation and Organizational Values, the NRC issues its draft regulations and draft guidance documents for stakeholder and public comment.~~ After considering the comments received on a these documents, the NRC publishes the final version of the regulation or guidance document. The NRC also follows a process to consider the cumulative effects of regulation by engaging with external stakeholders throughout rulemaking and related regulatory activities.

The NRC provided ~~sufficient~~ opportunities for public comment in the development of guidance documents related to fire protection compensatory measures, and the public had many opportunities to participate. For example, Regulatory Guide 1.189 Revision 2 was issued for public comment as Draft Regulatory Guide (DG)-1214 on April 21, 2009 (74 FR 18262). The NRC responded to 97 public comments on DG-1214 on October 31, 2009 (74 FR 56673). The NRC held a public meeting on May 20, 2009 to discuss comments and questions on DG-1214; and the Advisory Committee on Reactor Safeguards also held a meeting on October 9, 2009, to discuss comments and questions on DG 1214. As addressed above, the staff revised the guidance document based on comments submitted by the public. Revision 3 to Regulatory Guide 1.189 was not issued for public comment because the changes were intended to improve clarity and did not alter the Staff Regulatory Guidance in Section C of the guide. A notice of opportunity for public comment on Regulatory Issue Summary 2005-07 was not published because it is informational.

Therefore, the NRC does not agree with ~~concludes that~~ the ~~petitioners~~ petitioner's assertion that compensatory measures guidance documents were not developed through an open process does not raise any new significant safety or security concerns to support the request for rulemaking.

Date	Document	ADAMS Accession Number or <i>Federal Register</i> Citation
April 21, 2009	Notice of Issuance and Availability of Draft Regulatory Guide, DG-1214	74 FR 18262
May 14, 2009	Enforcement Guidance Memorandum 09-002, "Enforcement Discretion for Fire Induced Circuit Faults"	ML090300446
May 20, 2009	Notice of Meeting to Provide Overview and Discuss Comments and Questions on Draft Regulatory Guide DG-1214, "Fire Protection For Nuclear Power Plants"	ML091240146
May 20, 2009	Summary of Public Meeting to Discuss Draft Guide DG-1214, Fire Protection for Nuclear Power Plants, Revision to Regulatory Guide 1.189	ML091480283
October 20, 2009	ACRS Report on the Draft Final Revision 2 to Regulatory Guide 1.189 (DG-1214), "Fire Protection for Nuclear Power Plants"	ML092880515
October 31, 2009	NRC Responses to Comments on Draft Regulatory Guide 1.189, Revision 2 (DG-1214)	ML092580570
October 2009	Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants"	ML092580550
October 11, 2011	Staff Requirements-SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process"	ML112840466
November 20, 2017	Inspection Manual Chapter 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety"	ML16302A480
June 2015	NUREG/CR-7135, "Compensatory and Alternative Regulatory Measures for Nuclear Power Plant FIRE Protection (CARMEN-Fire)"	ML15226A446
May 1, 2017	Petition for Rulemaking (PRM-50-115)	ML17146A393
October 6, 2017	Notice of Receipt of Petition for Rulemaking	82 FR 46717
December 20, 2017	Public Comments on Petitions for Rulemaking: Fire Protection Compensatory Measures	ML18088A076



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

AXC edits

Edwin Lyman
Director, Nuclear Safety Project
Union of Concerned Scientists
PO Box 15316
Chattanooga, TN 37415

Dear Dr. Lyman:

I am responding to the petition for rulemaking (PRM) dated May 1, 2017, submitted by Mr. David Lochbaum on behalf of the Union of Concerned Scientists, and by Mr. Paul Gunter of Beyond Nuclear. The petition, docketed by the U.S. Nuclear Regulatory Commission (NRC) as PRM-50-115, requested that the NRC issue regulations establishing acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met.

The petition stated that violations of the NRC's fire protection regulations are often discovered, but the compensatory measures intended to provide sufficient protection until compliance is restored have not been properly established and that regulations are necessary. The petitioners ~~You have~~ requested that the NRC amend its regulations to include compensatory measures that would provide enforceable requirements for the licensee. In particular, the petitioners requested that the NRC issue a final rule to (1) define ~~when and under what conditions~~ the compensatory measures authorized for use and the conditions under which such measures are required during periods when the fire protection regulations are not met and (2) define the maximum duration for reliance on compensatory measures.

The NRC considered the petition, public comments, and the arguments raised therein, and finds that the petition did not present sufficient new information or arguments to warrant the requested changes to the regulations in light of the NRC's relevant past decisions and current policies. The existing NRC regulations provide reasonable assurance of adequate protection of public health and safety. raise a significant safety or security concern. The NRC staff concludes that the arguments raised in the petition do not support the requested revisions to the regulations and are not necessary because the petition does not raise any new significant safety or security concerns. For these and the reasons stated in the enclosed *Federal Register* notice, ~~your~~ petition for rulemaking, PRM-50-115, is denied.

The NRC tracks the status of all PRMs on its Web sites at <http://www.nrc.gov/reading-rm/doc-collections/rulemaking-ruleforum/petitions-by-year.html> and <https://www.nrc.gov/about-nrc/regulatory/rulemaking/rules-petitions.html>. The notice and the public comments that were submitted on the petition can be found at www.regulations.gov under Docket ID NRC-2017-0132.

NOTATION VOTE

RESPONSE SHEET


TO: Annette Vietti-Cook, Secretary
FROM: Commissioner Wright
SUBJECT: SECY-19-0071 - Denial of Petition for Rulemaking on Fire Protection Compensatory Measures (PRM-50-115; NRC-2017-0132)

Approved X Disapproved Abstain Not Participating

COMMENTS: Below X Attached X None

I approve the staff's recommendation to deny PRM-50-115 on fire protection compensatory measures. I also approve publication of the *Federal Register* notice announcing this decision and the issuance of the accompanying letter, subject to the attached edits.

Entered in STARS
Yes ✓
No


SIGNATURE
01/24/2020
DATE

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[Docket No. PRM-50-115; NRC-2017-0132]

Fire Protection Compensatory Measures

AGENCY: Nuclear Regulatory Commission.

ACTION: Petition for rulemaking; denial.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is denying Petition for Rulemaking (PRM)-50-115, "Petition for Rulemaking—Fire Protection Compensatory Measures," dated May 1, 2017, submitted by David Lochbaum and Paul Gunter (the petitioners) on behalf of the Union of Concerned Scientists and Beyond Nuclear, respectively. The petitioners request that the NRC issue regulations that establish acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met, as well as define the maximum duration that compensatory measures may be relied upon. The NRC staff concludes that the arguments raised in the petition do not support the requested revisions to the regulations because they do ; revisions are not necessary because the petition does not raise any significant safety or security concerns and existing regulations provide reasonable assurance of adequate protection of public health and safety. Therefore, the NRC is denying PRM-50-115 ~~because existing NRC regulations provide reasonable assurance of adequate protection of public health and safety~~.

DATES: The docket for PRM-50-115 is closed as of **[INSERT DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Please refer to Docket ID NRC-2017-0132 when contacting the NRC about the availability of information for this action. You can obtain publicly-available documents related to this action by any of the following methods:

- **Federal Rulemaking Web Site:** Go to <https://www.regulations.gov> and search for Docket ID NRC-2017-0132. 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 Section IV, Availability of Documents.

- **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: Pamela Noto, Office of Nuclear Material Safety and Safeguards, telephone: 301-415-6795, e-mail: Pamela.Noto@nrc.gov, U.S. Nuclear Regulatory Commission, Washington DC 20555-0001.

SUPPLEMENTARY INFORMATION:

I. Background and Summary of the Petition

Title 10 of the *Code of Federal Regulations* (10 CFR) 2.802, "Petition for rulemaking—requirements for filing," provides an opportunity for any interested person to petition the Commission to issue, amend, or rescind any regulation. The NRC received a petition dated May 1, 2017, from David Lochbaum and Paul Gunter on behalf of the Union of Concerned Scientists and Beyond Nuclear, respectively, regarding the establishment of acceptable conditions for the use of compensatory measures during periods when fire protection regulations are not met. The NRC assigned Docket Number PRM-50-115 to this petition and published a notice of docketing and request for public comment in the *Federal Register* on October 6, 2017 (82 FR 46717).

Fire protection programs at U.S. commercial nuclear power plants have the primary goal of minimizing both the probability of occurrence and the consequences of fire. The fire protection regulations under 10 CFR § 50.48, "Fire protection," establish detailed requirements for fire protection plans at U.S. commercial nuclear power plants. ~~In accordance with Under~~ § 50.48(a), each operating nuclear power plant licensee must have a fire protection plan that satisfies ~~General Design Criteria~~ 3, "Fire protection," of Appendix A, "General Design Criteria for Nuclear Power Plants," to 10 CFR part 50,

"Domestic Licensing of Production and Utilization Facilities." The fire protection plan describes the overall fire protection program and includes measures related to fire prevention, automatic detection, suppression and response, as well as personnel administrative requirements and the protection of safety-related structures, systems, and components in the event of a fire. The ~~approved~~ fire protection program for nuclear power plants uses ~~uses the~~ defense-in-depth ~~philosophy approach of administrative controls, fire protection systems and features, and post-fire safe-shutdown capability~~ to achieve the required degree of reactor safety ~~by using echelons of administrative controls, fire protection systems and features, and post-fire safe-shutdown capability.~~

Licensees of ~~facilities~~ nuclear power plants that were licensed to operate before January 1, 1979, must meet the requirements of Appendix R, "Fire Protection Program for Nuclear Power Facilities Operating Prior to January 1, 1979," to 10 CFR part 50, except to the extent provided for in § 50.48(b). Licensees of facilities licensed to operate after January 1, 1979, must meet the facility-specific fire protection licensing basis that was reviewed and approved by the agency.

As an alternative to § 50.48(b) or to the facility-specific fire protection licensing basis, licensees may also adopt and maintain a fire protection program that meets § 50.48(c), "National Fire Protection Association Standard (NFPA) 805," which incorporates by reference NFPA 805, "Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants, 2001 Edition," with certain exceptions.

The petitioners stated that the current guidance documents regarding compensatory measures are deficient due to the following issues:

Issue 1: Compensatory Measures Guidance Documents Are Not Enforceable**Expectations**

The petitioners assert that fire protection compensatory measures guidance documents are not regulations and that they, therefore, convey unenforceable expectations. As an example, the petitioners describe an inspection at the Waterford Steam Electric Station, Unit 3, in November 1995, where NRC inspectors discovered that workers had revised procedures to define a continuous fire watch from having someone in the area at all times to only having a roving fire watch check the area every 15 to 20 minutes. The petitioners assert that the NRC addressed the issue with a "generic non-answer" and that no enforcement action was taken. In addition, the petitioners note that the NRC issued: (1) Information Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures," in July 1997, describing the discovery of a continuous fire watch that had been improperly re-defined; and (2) Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants," in October 2009, that included the definition of a fire watch. The petitioners observe that the guidance in the information notices and the regulatory guides are not NRC requirements or substitutes for regulations; therefore, compliance with these documents is not required.

Issue 2: Compensatory Measures Guidance Documents Are Not Clear

The petitioners observe that compensatory measures guidance documents are not clear and, therefore, create confusion for licensees, NRC inspectors and reviewers, and the public about what constitutes acceptable compensatory measures for compliance with fire protection regulations and the permissible durations of such

measures. The petitioners provide examples of instances in which the NRC regions requested clarification of compensatory measures and note that NRC inspectors frequently ask questions about the appropriateness and acceptability of fire protection compensatory measures. In addition, the petitioners assert that the available guidance and the lack of regulatory requirements do not help NRC inspectors or industry workers determine a reasonable time period to keep compensatory measures in place. In particular, the petitioners assert that compensatory measures routinely have been used for longstanding noncompliance ~~determinations~~ with fire protection regulations and that not all fire protection compensatory measures may be acceptable for long periods of time.

Issue 3: Compensatory Measures Guidance Documents Were Not Developed Through an Open Process

The petitioners assert that, because compensatory measures guidance documents were not developed through an open process, the public did not have opportunities to provide input on the acceptability of various fire protection compensatory measures. In particular, the petitioners assert that the public did not have opportunity to provide feedback on the acceptability or the duration of fire protection compensatory measures, as they had during the development of the NFPA 805 regulations in Appendix R to 10 CFR part 50 and § 50.48(c) via the NRC's rulemaking process. The petitioners also assert that because fire protection compensatory measures have been employed in lieu of compliance with the regulatory requirements in 10 CFR part 50, Appendix R, and NFPA 805 for many years, the public's legal rights have been infringed upon, and if

compensatory measures will be used as a long-term protection against fire risks, the public deserves an opportunity to formally weigh in on their acceptability.

Petitioners' Requests

The petitioners assert that when violations of the NRC's fire protection regulations are discovered, compensatory measures intended to provide sufficient protection until compliance is restored have not been properly established. Therefore, the petitioners request that the NRC amend its regulations to include compensatory measures that would provide enforceable requirements for licensees. In particular, the petitioners request that the NRC issue a final rule that defines the compensatory measures authorized for use and the conditions under which such measures are required when the NRC's fire protection regulations (e.g., § 50.48 and ~~General Design~~ Criterion 3 of Appendix A to 10 CFR part 50) are not met. In addition, the petitioners request that the final rule define the maximum duration that compensatory measures may be relied upon.

II. Public Comments on the Petition

A. Overview of Public Comments

The docketing notice for the PRM invited interested persons to submit comments. The comment period closed on December 20, 2017. The NRC received 7 public comment submissions that collectively contained ed 27 individual comments. The NRC reviewed and considered all comments in its evaluation of the petition. The NRC received a comment from the Nuclear Energy Institute (NEI) that opposed PRM-50-115. Overall, NEI recommended that the NRC deny PRM-50-115 because regulatory

requirements exist to ensure that fire protection compensatory measures receive appropriate attention and stated that the current regulatory framework adequately ensures the protection of public health and safety. Exelon Generation Company, LLC submitted a comment that agreed with the comments submitted by NEI.

An individual representing the International Code Council and 3 other interested individuals submitted comments supporting the petition, but did not cite relevant evidence to substantiate arguments raised by the petitioners. One commenter identified unrelated concerns about the NRC's regulations and practices that the NRC determined are outside the scope of PRM-50-115.

B. NRC Response to Public Comments

The NRC ~~has~~ binned the comments on the petition into four categories. The following discussion provides a high-level summary of each category and the NRC's response to the binned grouped comments, including—if appropriate—a high-level summary of the basis for the response.

1. Enforceability of guidance documents

Comment: Two~~Several~~ commenters do not agree with the petitioners' assertion regarding enforceability because compensatory measures are required by a facility's operating license (through at the standard fire protection license condition on fire protection). The fire protection license condition contained in each power reactor operating license requires the licensee to "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports...." The fire protection

program contains the licensee commitments that have been approved by the NRC concerning compensatory measures. Therefore, failing to implement the compensatory measures would, therefore, be a violation of the facility's license condition and would not be in accordance ~~contrary to~~ with the updated final safety analysis report. Both of these requirements, both of which are enforceable.

NRC response: The NRC partially agrees with this comment. All licensees are required to comply with the appropriate applicable regulations and the facility operating license, which are enforceable. The NRC does not agree that guidance documents are enforceable. The NRC issues guidance to provide suggested acceptable methods for meeting regulatory requirements. Licensees may voluntarily act on these methods in the guidance to comply with the applicable regulations and the facility license, but compliance with the specific methods themselves is not enforceable.

2. Clarity of guidance documents

Comment: Two ~~Several~~ commenters do not agree with the petitioners' assertion regarding the clarity of guidance documents because facility-specific requirements for compensatory measures are sufficiently clear for licensees, the NRC, and the public. Section 50.48(a) requires each facility to have a fire protection program and stipulates what that program, which includes a requirement for that includes specific features such as administrative controls, must contain. The fire protection program is either included directly in the updated final safety analysis report or is incorporated by reference into the updated final safety analysis report. Expectations for fire protection compensatory measures are explicitly described for each facility, and are well-understood by the licensee and the NRC.

NRC response: The NRC agrees with this comment. The use of compensatory measures is clearly described in each the licensee's approved fire protection program and in ~~numerous~~ NRC guidance documents.

The NRC also provides additional information in generic communications and NUREGs as well as in inspection procedures. For example, (1) Information Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures," alerted licensees to potential problems associated with the implementation of interim compensatory measures for degraded or inoperable plant fire protection features, or degraded and inoperable conditions associated with post-fire safe-shutdown capability; (2) Regulatory Issue Summary 2005-07, "Compensatory Measures to Satisfy the Fire Protection Program Requirements," discusses how a licensee with the standard license condition for fire protection may change its approved fire protection program to use alternate compensatory measures ~~is a comprehensive fire protection guidance document that identifies the scope and depth of fire protection that the NRC would consider acceptable for nuclear power plants;~~ and (3) NUREG/CR-7135, "Compensatory and Alternative Regulatory Measures for Nuclear Power Plant FIRE Protection (CARMEN-FIRE)," documents the history of compensatory measures, details the NRC's regulatory framework established to ensure that they are appropriately implemented and maintained, and explores technologies that did not exist when the current plants were licensed that may offer an effective alternative to the measures specified in a licensee's approved fire protection program, and; (4) Inspection Manual Chapter 0326, "Operability Determinations," contains guidance on the use of compensatory measures.

3. Development of guidance documents through an open process

Comment: Several commenters do not agree with the petitioners' assertion that guidance documents were not developed through an open process because sufficient opportunities for public comment were available in the development of related guidance documents, and the public had ample opportunity to participate. Specifically, Regulatory Guide 1.189, "Fire Protection for Nuclear Power Plants," Revision 2, which references discusses treatment of fire protection compensatory measures, was published for public comment as Draft Regulatory Guide DG-1214 in April 2009, and the NRC responded to over 90 public comments.

NRC response: The NRC agrees with this comment. The NRC's standard practicepolicy is to provide opportunity for public participation in developing its regulatory guidance. For regulatory guides, this policy is implemented in Management Directive 6.6, "Regulatory Guides," and is embedded in the NRC's guidance development process to collect input from external stakeholders and allow for an open and collaborative environment. For example, the NRC staff considered the public comments that were received on DG-1214 before issuing the final determined the need to Rrevision 2e to Regulatory Guide 1.189. , Revision 2, due to public comments received on the guidance document.

The NRC also follows a process to consider the cumulative effects of regulation as directed by the Commission in staff requirements memorandum, SRM-SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process." NRC engages with external stakeholders throughout rulemaking and related regulatory activities.

4. List of licensee event reports

Comment: ~~Two~~Several commenters do not agree with the petitioners' assertion that the list of licensee event reports in ~~A~~attachment 1 to the petition is compelling testimony to the frequent need for fire protection compensatory measures. ~~The commenters state that, c~~Contrary to the assertions in the petition, the license event reports show that licensees were following their fire protection program requirements by instituting fire watches when inoperable fire protection features occurred or were discovered. The volume of licensee event reports referenced is indicative of a program that provides little ambiguity or flexibility in implementation. This is an illustration of the process working as intended.

NRC response: The NRC agrees that the licensee event reports listed in ~~A~~attachment 1 of the petition are indicative of regulations that appropriately address the safety concern. The requirements of 10 CFR§ 50.72, "Immediate notification requirements for operating nuclear power reactors," and 10 CFR§ 50.73, "Licensee event report system," apply to reporting certain events and conditions related to fire protection at nuclear power plants. Licensees shall report to the NRC fire events or fire protection deficiencies that meet the criteria of §§ 50.72 and 50.73, as appropriate, ~~under and in accordance with~~ the requirements of these regulations.

Finally, ~~several~~a few commenters provided general support for the petition, recommending that the NRC should initiate rulemaking to address the issues raised by the petitioners, but did not provide ~~additional supporting~~ rationale ~~to support for~~ this ~~assertion~~recommendation.

III. Reasons for Denial

The NRC is denying the petition because the issues raised in the petition do not support the requested revisions to the regulations and the petitioners did not raise any significant safety or security concerns. ~~In addition, the NRC disagrees with the arguments presented in the petition and concludes that the requested revisions of its regulations are not necessary.~~ The remaining paragraphs of Section III summarize the NRC's evaluation of the three main issues identified in the petition.

Issue 1: Compensatory Measures Guidance Documents Are Not Enforceable Expectations

The guidance documents referenced in the petition (i.e., regulatory guides and information notices) are not directly enforceable. The NRC's regulatory guides ~~and information notices~~ provide guidance to licensees on how to implement specific parts of the NRC's regulations, techniques used by the NRC to evaluate specific problems or postulated accident events, operating or analytical experience, and data needed by the NRC in its review of applications for licenses.

Historically, aAt the time of licensing of most currently operating power plants, compensatory measures were incorporated into athe licensee's technical specifications; accordingly, any changes to compensatory measures required NRC review and approval. Subsequently, the NRC issued Generic Letter 86-10, "Implementation of Fire Protection Requirements," which described specified a process for relocating the fire protection program, including management of compensatory measures, into the final safety analysis report for a facility, and adding a standard license condition to a facility's

~~revising the operating license that requires the licensee to “implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports.”~~
~~condition to allow a licensee to remove fire protection operability requirements and the associated compensatory measures from the technical specifications, and to place them into the approved fire protection plan.~~ Through the standard fire protection license condition, ~~at~~ the site’s fire protection program still requires fire protection compensatory measures for equipment that does not meet the functionality requirements. The fire protection license condition requires the licensee to, “implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports.”

Section 50.48(a) requires each facility to have a fire protection program; this provision stipulates what that program must contain and includes administrative controls. The approved fire protection program is either, described directly in the updated final safety analysis report, or incorporated ~~uded~~ by reference. The licensee’s commitments related to fire protection compensatory measures (e.g., fire watches, surveillance cameras) are contained within the fire protection program. Therefore, ~~f~~Failing to appropriately implement the fire protection compensatory measures would ~~, therefore,~~ be a violation of the plant’s operating license, which is enforceable. The provisions of § 50.48(a) require, among other things, that any change to the approved fire protection program must meet ~~General Design~~ Criterion 3 of Appendix A to part 50. Under 10 CFR 50.48(a)(3), a licensee must retain each ~~and that~~ change to the fire protection program must be retained as a record ~~pursuant to~~ until the Commission terminates the reactor license ~~§ 50.48(a)(3)~~. The licensee’s changes to the approved fire protection program

are subject to inspection, as discussed in Generic Letter 91-18 Inspection Manual Chapter 0326, "Operability Determinations.", "Information to Licensees Regarding Two NRC Inspection Manual Sections of Resolution of Degraded and Nonconforming Conditions and on Operability."

In April 1996, the NRC responded to a petition under 10 CFR 2.206, "Requests for action under this subpart," by issuing Director's Decision (DD)-96-03, 42 NRC 183 (1996), which ~~that~~ concluded that fire protection compensatory measures, as approved by the NRC on a facility-specific basis, "continue to ensure public health and safety." Since this decision, the NRC has continued to evaluate fire protection compensatory measures on a facility-specific basis. The staff believes that ~~us,~~ the current framework continues to ensure adequate protection ~~provide reasonable assurance of adequate protection~~ of public health and safety.

Therefore, the NRC concludes that the petitioners' assertion that compensatory measures guidance documents are unenforceable does not raise any ~~new~~ significant safety or security concerns that would support the request to amend the NRC's regulations.

Issue 2: Compensatory Measures Guidance Documents Are Not Clear

Section 50.48(a) requires each power reactor licensee to have a fire protection program. This provision stipulates what the fire protection program must contain and, as noted above, includes a requirement for administrative controls. Through the fire protection license condition, a licensee's fire protection program requires fire protection compensatory measures for equipment that does not meet the functionality requirements. The fire protection license condition requires the licensee to "implement and maintain in effect all provisions of the approved fire protection program as described in the updated final safety analysis report, and as approved in the NRC safety evaluation reports."

The required compensatory measures for fire protection systems and equipment that do not meet the functionality requirements are explicitly stated within ~~each~~ the site's approved fire protection program. These compensatory measures were originally incorporated into ~~most~~ each plant's technical specifications. Thus, the initial compensatory measures, and any subsequent changes, were reviewed and approved by the NRC. The NRC ~~subsequently~~ issued Generic Letter 86-10 and Generic Letter 88-12, "Removal of Fire Protection Requirements From Technical Specifications," which ~~described assessments by licensees provided facilities the ability to support~~ make changes to their approved fire protection program's functionality and surveillance requirements, as well as to the compensatory measures required for nonfunctional fire protection systems and equipment. The licensees ~~could~~ implement ~~these~~ ~~such~~ changes without the NRC's review and approval ~~under the regulatory framework for fire protection programs that were removed from technical specifications~~, provided that the licensee performed an analysis that demonstrated the change would not adversely affect the

ability to achieve and maintain safe shutdown in the event of a fire.

The NRC subsequently issued Information Notice 97-48, which provided examples of NRC inspection findings of licensees implementing inappropriate compensatory measures for nonfunctional fire protection systems and equipment. This information notice also reinforced the guidance provided to the NRC inspectors in Generic Letter 91-18, on the resolution of degraded and nonconforming conditions affecting structures, systems, and components relied upon for compliance with § 50.48.

In addition, Information Notice 97-48 reinforced the NRC's expectations of the timeliness of corrective actions documented in Generic Letter 91-18—that is, for structures, systems, and components that are not expressly subject to technical specifications and are determined to be inoperable, the licensee should assess the reasonable assurance of safety. If the assessment assures safety, then the facility may continue to operate while prompt corrective action is taken. Generic Letter 91-18 states that the timeliness of the corrective action should be commensurate with the safety significance of the issue.

The NRC incorporated the guidance in ~~has since issued Revision 1 to~~ Generic Letter 91-18 into, ~~as well as~~ Inspection Manual Chapter 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety," which states,

When evaluating the effect of a condition on an SSC's capability to perform any of its specified safety functions, a licensee may decide to implement compensatory measures, as an interim action, until final corrective action to resolve the condition is completed.

In general, these measures should have minimal impact on the operators or plant operations, should be relatively simple to implement, and should be documented.

Conditions calling for a compensatory measure can place additional burden on plant operators and inspectors should verify the licensee addresses the conditions commensurate with its safety significance per 10 CFR 50 Appendix B Criterion XVI.

~~[i]n determining whether the licensee is making reasonable efforts to complete corrective actions promptly, the NRC will consider safety significance, the effects on operability, the significance of the degradation, and what is necessary to implement the corrective action... If the licensee does not resolve the degraded or nonconforming condition at the first available opportunity or does not appropriately justify a longer completion schedule, the staff would conclude that corrective action has not been timely and would consider taking enforcement action.~~

It is important to note that the majority of long-term compensatory measures that are/were in place for noncompliance with fire protection regulations were put in place for regulatory issues that were the subject of Enforcement Guidance Memoranda (see Enforcement Guidance Memorandum 07-004, "Enforcement Discretion for Post-Fire Manual Actions Used As Compensatory Measures for Fire Induced Circuit Failures," and Enforcement Guidance Memorandum 09-002, "Enforcement Discretion for Fire Induced Circuit Faults"), or for facilities that were transitioning their licensing basis to meet the criteria requirements of § 50.48(c). For facilities that are not transitioning their licensing basis to § 50.48(c), the deadline for compliance with the referenced Enforcement

Guidance Memoranda has expired. Therefore, where a licensee is still relying on compensatory measures for the noncompliances discussed in the Enforcement Guidance Memoranda, and permanent corrective actions have not been taken, these instances would be considered by the NRC for enforcement action.

For facilities that are transitioning their licensing basis to § 50.48(c), the compensatory measures would be removed once a facility achieves full compliance with their new licensing basis. The deadlines for achieving full compliance are detailed in each facility's respective safety evaluation report and fire protection license condition. Any required actions that have not been completed by the deadlines stated in the safety evaluation report are considered by the NRC for enforcement action.

Additionally, the NRC issued Regulatory Issue Summary 2005-07, which informed licensees that alternate compensatory measures as otherwise required by the approved fire protection program may be used for a degraded or inoperable fire protection feature under certain circumstances. The regulatory issue summary was not meant to provide specific examples of acceptable alternate compensatory measures. As stated in the regulatory issue summary, the purpose was to discuss how a licensee, with the standard license condition for fire protection, may change the approved fire protection program to use alternate compensatory measures. The regulatory issue summary also states that a licensee may change the approved fire protection program ~~in order~~ to implement a different compensatory measure or combination of measures. The licensee must perform a documented evaluation of the impact of the proposed alternate compensatory measure to the fire protection program and its adequacy compared to the compensatory measure required by the fire protection program. The documented evaluation must demonstrate that the alternate compensatory measure would not

adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. The regulatory issue summary provides additional insights into what the documented evaluation should consider, stating,

[t]he evaluation of the alternate compensatory measure should incorporate risk insights regarding the location, quantity, and type of combustible material in the fire area; the presence of ignition sources and their likelihood of occurrence; the automatic fire suppression and fire detection capability in the fire area; the manual fire suppression capability in the fire area; and the human error probability where applicable.

Additional guidance was provided in Regulatory Guide 1.189, ~~Revision 2,~~ on what would constitute an acceptable evaluation to determine that the change to the fire protection program would not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire. Regulatory Guide 1.189 states that, within the context of the standard fire protection license condition, the phrase “not adversely affect the ability to achieve and maintain safe shutdown in the event of a fire,” means to maintain sufficient safety margins. The regulatory guide also states that, with sufficient safety margins, the following applies:

- a. Codes and standards or their alternatives approved for use by the NRC are met.
- b. Safety analysis acceptance criteria in the licensing basis are met or proposed revisions provide sufficient margin to account for analysis and data uncertainty.

Employing appropriate compensatory measures on a short-term basis is an integral part of the NRC-approved fire protection program. The NRC recognizes that some compensatory measures have been in place for an extended period of time.

However, ~~while it is not ideal to rely on compensatory measures for extended periods, the fact that some of these measures have existed for longer periods of time~~ this does

not introduce a safety concern.

The fire protection programs at nuclear power plants are built upon the concept of defense-in-depth¹ with layers of protective features. The technical deficiencies being compensated ~~for~~ do not invalidate the defense-in-depth approach. Further, ~~the~~ licensees track fire protection program deficiencies involving compensatory measures at their respective nuclear plants. The NRC's resident inspectors review corrective action programs on a daily basis and are aware of the compensatory measures in place at ~~the~~ reactor units. Additionally, the NRC inspects a sample of these compensatory measures for adequacy during ~~their~~ routine fire protection inspections.

Therefore, the NRC concludes that fire protection compensatory measures guidance documents are clear and were not meant to provide specific examples of acceptable alternate compensatory measures. As stated in Regulatory Issue Summary 2005-07, ~~the purpose was to discuss how~~ a licensee, with the standard license condition for fire protection, may change the approved fire protection program to use alternate compensatory measures. ~~Additionally, the petitioners' assertion does not raise any significant safety or security concerns to support the issuance of a final rule that defines the compensatory measures authorized for use and the conditions under which such measures are required when the agency's fire protection regulations (e.g., § 50.48 and Criterion 3 of Appendix A to 10 CFR part 50) are not met.~~

¹ Fire protection programs in U.S. nuclear power plants use the concept of defense-in-depth to achieve the required degree of fire safety by using echelons of protection from fire effects. The three echelons for fire protection are: (1) prevent the fire from starting, i.e., plants maintain fire safety by taking measures to minimize the likelihood that fires might occur; (2) rapidly detect, control, and promptly extinguish those fires that do occur, i.e., plants establish fire protection systems (sprinklers, fire water systems, etc.) to extinguish (and minimize the consequences of) any fires that do occur; and (3) protect structures, systems, and components important to safety so that a fire not promptly extinguished by the fire suppression activities will not prevent the safe shutdown of the plant, i.e., plants rely on redundant safety systems (e.g., installing fire barriers) that are unlikely to be damaged by a single fire.

Further, the NRC also concludes that the petitioners ~~also~~ did not provide sufficient information to support the issuance of a ~~final~~ rule that would define the maximum duration that compensatory measures may be relied upon.

Issue 3: Compensatory Measures Guidance Documents Were Not Developed Through An Open Process

~~In developing regulatory guidance, t~~The NRC~~NRC~~ staff follows the NRC's Principles of Good Regulation and the NRC's Organizational Values, which emphasize conducting regulatory activities in ~~has a longstanding practice of conducting its regulatory responsibilities in~~ an open and transparent manner. ~~Consistent with the NRC Approach to Open Government, the NRC keeps the public informed of the agency's regulatory, licensing, and oversight activities.~~ The NRC views openness as a critical element for achieving the agency's mission to ensure the safe use of radioactive materials for beneficial civilian purposes while protecting people and the environment. ~~Therefore~~Based on the NRC's Principles of Good Regulation and Organizational Values, the NRC issues its draft regulations and draft guidance documents for stakeholder and public comment. After considering the comments received on atthese documents, the NRC publishes the final version ~~of the regulation or guidance document~~. ~~The NRC also follows a process to consider the cumulative effects of regulation by engaging with external stakeholders throughout rulemaking and related regulatory activities.~~For regulatory guides, this process is implemented in Management Directive 6.6, "Regulatory Guides."

The NRC provided ~~sufficient~~ opportunities for public comment in the development of guidance documents related to fire protection compensatory measures, and the public

had many opportunities to participate. For example, Regulatory Guide 1.189 was issued for public comment as Draft Regulatory Guide (DG)-1214 on April 21, 2009 (74 FR 18262). The NRC responded to 97 public comments on DG-1214 on October 31, 2009 (74 FR 56673). The NRC held a public meeting on May 20, 2009 to discuss comments and questions on DG-1214; and the Advisory Committee on Reactor Safeguards also held a meeting on October 9, 2009, to discuss comments and questions on DG-1214. As addressed above, the staff revised the guidance document based on comments submitted by the public. A notice of opportunity for public comment on Regulatory Issue Summary 2005-07 was not published because it is informational and is not considered a guidance document.

Therefore, the NRC does not agree~~concludes with~~ ~~that~~ the petitioner's assertion that compensatory measures guidance documents were not developed through an open process. ~~does not raise any new significant safety or security concerns to support the request for rulemaking.~~

IV. Availability of Documents

The following table provides information about how to access the documents referenced in this document. The ADDRESSES section of this document provides additional information about how to access ADAMS.

Date	Document	ADAMS Accession Number or <i>Federal Register Citation</i>
April <u>24</u> , 1986	Generic Letter 86-10, "Implementation of Fire Protection Requirements"	ML031150322
August 2, 1988	Generic Letter 88-12, "Removal of Fire Protection Requirements from Technical Specifications"	ML031150471
November 7, 1991	Generic Letter 91-18, "Information to Licensees Regarding Two NRC Inspection Manual Sections of Resolution of Degraded"	ML031140549

Date	Document	ADAMS Accession Number or Federal Register Citation
	and Nonconforming Conditions and on Operability”	
October 21, 1994	1994 petition under 10 CFR 2.206	ML17311B356
April 3, 1996	DD-96-03, “Director’s Decision Under 10 CFR 2.206”	ML082401211
July <u>9</u> , 1997	Information Notice 97-48, “Inadequate or Inappropriate Interim Fire Protection Compensatory Measures”	ML070180068
October 8, 1997	Generic Letter 91-18, Revision 1, “Information to Licensees Regarding Two NRC Inspection Manual Sections of Resolution of Degraded and Nonconforming Conditions and on Operability”	ML031200706
January 13, 2001	NFPA 805, “Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants”	Available at www.nfpa.org
April <u>19</u> , 2005	Regulatory Issue Summary 2005-07, “Compensatory Measures to Satisfy the Fire Protection Program Requirements”	ML042360547
June 30, 200 <u>7</u> <u>6</u>	Enforcement Guidance Memorandum 07-004, “Enforcement Discretion for Post-Fire Manual Actions Used As Compensatory Measures for Fire Induced Circuit Failures”	ML071830345
April 1, 2009	DG-1214, “Fire Protection for Nuclear Power Plants”	ML090070453
April 21, 2009	Notice of Issuance and Availability of Draft Regulatory Guide, DG-1214	74 FR 18262
May 14, 2009	Enforcement Guidance Memorandum 09-002, “Enforcement Discretion for Fire Induced Circuit Faults”	ML090300446
May <u>6</u> <u>20</u> , 2009	Notice of Meeting to Provide Overview and Discuss Comments and Questions on Draft Regulatory Guide DG-1214, “Fire Protection For Nuclear Power Plants”	ML091240146
<u>June 10</u> <u>May 20</u> , 2009	<u>Meeting</u> Summary of <u>May 20, 2009</u> Public Meeting <u>to Discuss Regarding</u> Draft <u>Fire Protection</u> Guide DG-1214, Fire Protection for Nuclear Power Plants, Revision to Regulatory Guide 1.189	ML091480283

Date	Document	ADAMS Accession Number or Federal Register Citation
October 20, 2009	ACRS Report on the Draft Final Revision 2 to Regulatory Guide 1.189 (DG-1214), "Fire Protection for Nuclear Power Plants"	ML092880515
October 31, 2009	NRC Responses to Comments on Draft Regulatory Guide 1.189, Revision 2 (DG-1214)	ML092580570
October 2009	Regulatory Guide 1.189, Revision 2, "Fire Protection for Nuclear Power Plants"	ML092580550
October 11, 2011	Staff Requirements-SECY-11-0032, "Consideration of the Cumulative Effects of Regulation in the Rulemaking Process"	ML112840466
November 20, 2017	Inspection Manual Chapter 0326, "Operability Determinations & Functionality Assessments for Conditions Adverse to Quality or Safety"	ML16302A480
June 2015	NUREG/CR-7135, "Compensatory and Alternative Regulatory Measures for Nuclear Power Plant FIRE Protection (CARMEN-FIREire)"	ML15226A446
May 1, 2017	Petition for Rulemaking (PRM-50-115)	ML17146A393
October 6, 2017	Notice of Receipt of Petition for RRulemaking; Notice of Docketing and Request for Comment	82 FR 46717
December 20, 2017	Public Comments on Petitions for Rulemaking: Fire Protection Compensatory Measures	ML18088A076

V. Conclusion

The NRC completed an evaluation of the petition and determined that the ~~issues in the petition~~ ~~petitioners assertions~~ ~~did~~ not raise any ~~new~~ significant safety or security concerns ~~to support the requested changes~~. In addition, the NRC ~~concludes that disagrees with~~ the arguments presented in the petition ~~do not support and concludes~~

~~that~~ the requested revisions to its regulations ~~are not necessary~~. Finally, the NRC reaffirms that its existing regulations continue to provide reasonable assurance of adequate protection of public health and safety ~~and the environment~~. For the reasons cited in this document, the NRC is denying PRM-50-115.

Dated at Rockville, Maryland, this xxth day of Xxxxx, 20XX.

For the Nuclear Regulatory Commission.

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



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

DAW edits

Edwin Lyman
Director, Nuclear Safety Project
Union of Concerned Scientists
PO Box 15316
Chattanooga, TN 37415

Dear Dr. Lyman:

I am responding to the petition for rulemaking (PRM) dated May 1, 2017, submitted by Mr. David Lochbaum on behalf of the Union of Concerned Scientists, and by Mr. Paul Gunter of Beyond Nuclear. The petition, docketed by the U.S. Nuclear Regulatory Commission (NRC) as PRM-50-115, requested that the NRC issue regulations establishing acceptable conditions for the use of compensatory measures (e.g., fire watches, surveillance cameras) during periods when fire protection regulations are not met.

The petition stated that violations of the NRC's fire protection regulations are often discovered, but the compensatory measures intended to provide sufficient protection until compliance is restored have not been properly established and that regulations are necessary. You have The petitioners requested that the NRC amend its regulations to include compensatory measures that would provide enforceable requirements for the licensee. In particular, the petitioners requested that the NRC issue a final rule to (1) define when and under what conditions compensatory measures authorized for use during periods when the fire protection regulations are not met and (2) define the maximum duration for reliance on compensatory measures.

The NRC considered the petition, public comments, and the arguments raised therein, and finds that the petition did not raise a significant safety or security concern. The NRC staff concludes that the arguments raised in the petition do not support the requested revisions to the regulations and are not necessary because the existing NRC regulations provide reasonable assurance of adequate protection of public health and safety ~~petition does not raise any new significant safety or security concerns~~. For these and the reasons stated in the enclosed *Federal Register* notice, your the petition for rulemaking is denied.

The NRC tracks the status of all PRMs on its Web sites at <https://www.nrc.gov/reading-rm/doc-collections/rulemaking-ruleforum/petitions-by-year.html> and <https://www.nrc.gov/about-nrc/regulatory/rulemaking/rules-petitions.html>. The notice and the public comments that were submitted on the petition can be found at www.regulations.gov under Docket ID NRC-2017-0132.

E. Lyman

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This petition is considered closed. If you have any questions regarding this matter, please direct them to Pamela Noto at 301-415-6795 or Pamela.Noto@nrc.gov.

Sincerely,

Annette L. Vietti-Cook
Secretary of the Commission

Enclosure:
Federal Register Notice

cc: Paul Gunter, Beyond Nuclear
David Lochbaum