

**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 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. Therefore, the NRC is denying PRM-50-115.

**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](mailto: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](mailto: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](mailto: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. Under § 50.48(a), each operating nuclear power plant licensee must have a fire protection plan that satisfies Criterion 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 fire protection program for nuclear power plants uses a defense-in-depth approach of administrative controls, fire protection systems and features, and post-fire safe-shutdown capability to achieve the required degree of reactor safety.

Licensees of nuclear power plants that were operating 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 Measure 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 redefined; 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 Measure Guidance Documents Are Not Clear**

The petitioners observe that compensatory measure 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 with fire protection regulations and that not all fire protection compensatory measures may be acceptable for long periods of time.

### **Issue 3: Compensatory Measure Guidance Documents Were Not Developed Through an Open Process**

The petitioners assert that, because compensatory measure 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 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 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.

### *B. NRC Response to Public Comments*

The NRC 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 comments, including—if appropriate—a high-level summary of the basis for the response.

## **1. Enforceability of guidance documents**

*Comment:* Two commenters do not agree with the petitioners' assertion regarding enforceability because compensatory measures are required by a facility's operating license (through a standard 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...." 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 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 acceptable methods for meeting regulatory requirements. Licensees may voluntarily rely on 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:* 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 that includes specific features such as administrative controls. The fire protection program is either included directly 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 licensee's approved fire protection program and in 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; (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:* 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 discusses 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. The NRC's policy is to provide opportunity for public participation in the 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 revised the final version of Regulatory Guide 1.189, Revision 2, taking into account comments received on Draft Regulatory Guide 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.)

#### **4. List of licensee event reports**

*Comment:* 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, contrary 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 report to the NRC fire events or fire protection deficiencies that meet the criteria of §§ 50.72 and 50.73, as appropriate 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, 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 supporting rationale for this 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. The remaining paragraphs of Section III summarize the NRC's evaluation of the three main issues identified in the petition.

#### **Issue 1: Compensatory Measure 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 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 events, 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, changes to compensatory measures required NRC review and approval.

Subsequently, the NRC issued Generic Letter 86-10, "Implementation of Fire Protection Requirements," which described 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 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." Through the standard fire protection license condition, a site's fire protection program still requires fire protection compensatory measures for equipment that does not meet the functionality requirements.

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 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, failing to appropriately implement the fire protection compensatory measures would 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 Criterion 3 of appendix A to part 50. Under 10 CFR 50.48(a)(3), a licensee must retain each change to the fire protection program as a record until the Commission terminates the license. The licensee's changes to the approved fire protection program are subject to inspection, as discussed in Inspection Procedure 71111.21N.05, "Fire Protection Team Inspection (FPTI)."

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 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 the NRC’s 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 each site’s approved fire protection program. These compensatory measures were originally incorporated into most 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 formed the basis for licensee assessments that provided the ability to make changes to 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 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 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, 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.

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



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 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, this does not introduce a safety concern.

The fire protection programs at nuclear power plants are built upon the concept of defense in depth<sup>1</sup> with layers of protective features. The technical deficiencies being compensated for do not invalidate the defense-in-depth approach. Further, 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 reactor units. Additionally, the NRC inspects a sample of these compensatory measures for adequacy during 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, a licensee with the standard license condition for fire protection may change the approved fire protection program to use alternate compensatory measures.

### **Issue 3: Compensatory Measure 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

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<sup>1</sup> 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.

methods for applicants and licensees to meet applicable laws and regulations, when needed. 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. After considering the comments received on a document, the NRC publishes the final version.

The NRC provided 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 the petitioners' assertion that compensatory measures guidance documents were not developed through an open process.

#### 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.

<b>Date</b>	<b>Document</b>	<b>ADAMS Accession Number or <i>Federal Register</i> Citation</b>
April 24, 1986	Generic Letter 86-10, "Implementation of Fire Protection Requirements"	<a href="#">ML031150322</a>
August 2, 1988	Generic Letter 88-12, "Removal of Fire Protection Requirements from Technical Specifications"	<a href="#">ML031150471</a>
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"	<a href="#">ML031140549</a>
October 21, 1994	1994 petition under 10 CFR 2.206	<a href="#">ML17311B356</a>
April 3, 1996	DD-96-03, "Director's Decision Under 10 CFR 2.206"	<a href="#">ML082401211</a>
July 9, 1997	Information Notice 97-48, "Inadequate or Inappropriate Interim Fire Protection Compensatory Measures"	<a href="#">ML070180068</a>
October 8, 1997	Generic Letter 91-18, Revision 1, "Information to Licensees Regarding Two	<a href="#">ML031200706</a>

<b>Date</b>	<b>Document</b>	<b>ADAMS Accession Number or Federal Register Citation</b>
	NRC Inspection Manual Sections of Resolution of Degraded and Nonconforming Conditions and on Operability”	
January 13, 2001	NFPA 805, “Performance-Based Standard for Fire Protection for Light Water Reactor Electric Generating Plants”	Available at <a href="http://www.nfpa.org">www.nfpa.org</a>
April 19, 2005	Regulatory Issue Summary 2005-07, “Compensatory Measures to Satisfy the Fire Protection Program Requirements”	<a href="#">ML042360547</a>
June 30, 2007	Enforcement Guidance Memorandum 07-004, “Enforcement Discretion for Post-Fire Manual Actions Used As Compensatory Measures for Fire Induced Circuit Failures”	<a href="#">ML071830345</a>
April 1, 2009	DG-1214, “Fire Protection for Nuclear Power Plants”	<a href="#">ML090070453</a>
April 21, 2009	Notice of Issuance and Availability of Draft Regulatory Guide, DG-1214	<a href="#">74 FR 18262</a>
May 14, 2009	Enforcement Guidance Memorandum 09-002, “Enforcement Discretion for Fire Induced Circuit Faults”	<a href="#">ML090300446</a>
May 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”	<a href="#">ML091240146</a>
June 10, 2009	Meeting Summary of May 20, 2009 Public Meeting Regarding Draft Fire Protection Regulatory Guide DG-1214	<a href="#">ML091480283</a>
October 20, 2009	ACRS Report on the Draft Final Revision 2 to Regulatory Guide 1.189 (DG-1214), “Fire Protection for Nuclear Power Plants”	<a href="#">ML092880515</a>
October 31, 2009	NRC Responses to Comments on Draft Regulatory Guide 1.189, Revision 2 (DG-1214)	<a href="#">ML092580570</a>
October 2009	Regulatory Guide 1.189, Revision 2, “Fire Protection for Nuclear Power Plants”	<a href="#">ML092580550</a>
October 11, 2011	Staff Requirements-SECY-11-0032, “Consideration of the Cumulative Effects of Regulation in the Rulemaking Process”	<a href="#">ML112840466</a>
November 20, 2017	Inspection Manual Chapter 0326, “Operability Determinations & Functionality	<a href="#">ML16302A480</a>

<b>Date</b>	<b>Document</b>	<b>ADAMS Accession Number or <i>Federal Register</i> Citation</b>
	Assessments for Conditions Adverse to Quality or Safety”	
June 2015	NUREG/CR-7135, “Compensatory and Alternative Regulatory MEasures for Nuclear Power Plant FIRE Protection (CARMEN-FIRE)”	<a href="#">ML15226A446</a>
May 1, 2017	Petition for Rulemaking (PRM-50-115)	<a href="#">ML17146A393</a>
October 6, 2017	Petition for Rulemaking; Notice of Docketing and Request for Comment	<a href="#">82 FR 46717</a>
December 20, 2017	Public Comments on Petition for Rulemaking: Fire Protection Compensatory Measures	<a href="#">ML18088A076</a>

## **V. Conclusion**

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

Dated at Rockville, Maryland, this 2<sup>nd</sup> day of April, 2020.

For the Nuclear Regulatory Commission.

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