U.S. NUCLEAR REGULATORY COMMISSION

REGULATORY GUIDE (RG) 1.101, Revision 7

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EMERGENCY RESPONSE PLANNING AND PREPAREDNESS FOR NUCLEAR POWER REACTORS

A. INTRODUCTION

Purpose

This regulatory guide (RG) describes an approach that is acceptable to the staff of the U.S. Nuclear Regulatory Commission (NRC) to meet the regulatory requirements for emergency response planning and preparedness. This revision updates the list of NRC-developed and NRC-endorsed guidance documents acceptable to meet the regulatory requirements of Title 10 of the *Code of Federal Regulations* (10 CFR) section 50.47, "Emergency plans" (Ref. 1), and Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities" (Ref. 2), to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities" (Ref. 3) to include Nuclear Energy Institute (NEI) white paper, "Enabling a Remote Response by Members of an Emergency Response Organization," Revision 1, issued September 2024 (Ref. 4), and NEI 99-01, Revision 7, "Development of Emergency Action Levels for Non-Passive Reactors," issued September 2024 (Ref. 5). This revision also provides generic guidance for maintaining regulatory compliance for alert and notification systems (ANS) when making significant design changes, as well as provides guidance on a method acceptable to justify a 24-month frequency for 10 CFR 50.54(t) reviews.

Applicability

This RG applies to all holders of, or applicants for, a power reactor operating license or construction permit under 10 CFR Part 50 except those that have certified that they have permanently ceased operations and have permanently removed all fuel from the reactor vessel, as well as all holders of, or applicants for, a power reactor early site permit or a combined license under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants" (Ref. 6). This RG is for light water reactors, including those of an advanced design (e.g., AP1000 design).

Applicable Regulations

- 10 CFR Part 50 provides regulations for licensing production and utilization facilities.

Written suggestions regarding this guide may be submitted through the NRC's public website in the NRC Library at https://www.nrc.gov/reading-rm/doc-collections/reg-guides/index.html., under Document Collections, in Regulatory Guides, at https://www.nrc.gov/reading-rm/doc-collections/reg-guides/contactus.html, and will be considered in future updates and enhancements to the "Regulatory Guide" series. During the development process of new guides suggestions should be submitted within the comment period for immediate consideration. Suggestions received outside of the comment period will be considered if practical to do so or may be considered for future updates.

Electronic copies of this RG, and previous versions of DGs and RGs, are available through the NRC's public website under the Regulatory Guides document collection of the NRC Library at https://nrc.gov/reading-rm/doc-collections/reg-guides/index.html. The RG is also available through the NRC's Agencywide Documents Access and Management System (ADAMS) at https://www.nrc.gov/reading-rm/adams.html, under Accession No. ML25065A240. The regulatory analysis may be found in ADAMS under Accession No. ML24019A196. The associated draft guide, DG-1423, may be found in ADAMS under Accession No. ML24019A202, and the staff responses to the public comments on DG-1423 may be found under ADAMS Accession No. ML25065A246.

- 10 CFR 50.47(a)(1)(i) provides, in part, that "no initial operating license for a nuclear power reactor will be issued unless a finding is made by the NRC that there is reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency."

- 10 CFR 50.47(b) provides 16 planning standards that licensees and applicants must meet for the NRC to make a finding of reasonable assurance.

- 10 CFR 50.47(b)(4) requires that onsite and offsite emergency response plans contain a standard emergency classification and action level scheme.

- 10 CFR 50.47(b)(5) requires, in part, the establishment of the means to provide early notification and clear instruction to the populace within the plume exposure pathway emergency planning zone (EPZ).

- 10 CFR 50.54(p)(3) requires, in part, that the licensee provide for the development, revision, implementation, and maintenance of its safeguards contingency plan.

- 10 CFR 50.54(q)(2)(i) requires that a licensee under Part 50, or a holder of a combined license under 10 CFR Part 52 after the Commission makes the finding under 10 CFR 52.103(g), must follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E to 10 CFR Part 50 and, for nuclear power reactor licensees, the planning standards of 10 CFR 50.47(b).

- 10 CFR 50.54(t)(1) requires licensees to provide for the development, revision, implementation, maintenance, and periodic independent review of its emergency preparedness program.

- Appendix E to 10 CFR Part 50 establishes the minimum requirements for the contents of emergency plans.

    - Section IV.B.1 of Appendix E provides that emergency action levels (EALs) must be established as part of the emergency plan and must be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring.

    - Section IV.C.1 of Appendix E requires each emergency plan to describe the emergency classification levels.

    - Section IV.D of Appendix E establishes additional regulatory requirements for ANS.

    - Section IV.D.3 requires, in part, that the alerting and notification capability must also include administrative and physical means for a backup method of public alert and notification.

    - Section IV.F. of Appendix E establishes the requirements for the training-related content of emergency plans as well as required exercise scenarios and exercise frequencies.

- 10 CFR Part 52 governs the issuance of early site permits, standard design certifications, combined licenses, standard design approvals, and manufacturing licenses for nuclear power facilities.

Related Guidance

- NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," issued November 1980 (Ref. 7), provides specific acceptance criteria for complying with the planning standards in 10 CFR 50.47.

- NUREG-0654/FEMA-REP-1, Revision 2, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," issued December 2019 (Ref. 8), provides specific acceptance criteria for complying with the planning standards in 10 CFR 50.47.

- NUREG-0396/EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," issued December 1978 (Ref. 9).

- NUREG-0696, "Functional Criteria for Emergency Response Facilities," issued February 1981 (Ref. 10).

- NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimate Studies," Revision 0, issued November 2011 (Ref. 11).

- NUREG/CR-7002, "Criteria for Development of Evacuation Time Estimate Studies," Revision 1, issued February 2021 (Ref. 12).

- NSIR/DPR-ISG-02, "Interim Staff Guidance: Emergency Planning Exemption Request for Decommissioning Nuclear Power Reactors," issued May 11, 2015 (Ref. 13).

- RG 1.219, "Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors," issued July 2018 (Ref. 14).

- The preamble to the "Frequency of Reviews and Audits for Emergency Preparedness Programs, Safeguards Contingency Plans, and Security Programs for Nuclear Power Reactors," final rule (Ref. 15), suggests performance indicators.

Purpose of Regulatory Guides

The NRC issues RGs to describe methods that are acceptable to the staff for implementing specific parts of the agency's regulations, to explain techniques that the staff uses in evaluating specific issues or postulated events, and to describe information that the staff needs in its review of applications for permits and licenses. Regulatory guides are not NRC regulations and compliance with them is not required. Methods and solutions that differ from those set forth in RGs are acceptable if the applicant provides sufficient basis and information for the NRC staff to verify that the alternative methods comply with the applicable NRC regulations.

Paperwork Reduction Act

This RG provides voluntary guidance for implementing the mandatory information collections in 10 CFR Part 50 and 10 CFR Part 52 and the voluntary reporting of performance indicators that are subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et. seq.). These information collections were approved by the Office of Management and Budget (OMB), under control numbers 3150-0011, 3150-0151, and 3150-0195, respectively. Send comments regarding this information collection to the FOIA, Library, and Information Collections Branch (T6-A10M), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by e-mail to Infocollects.Resource@nrc.gov, and to OMB reviewer at: OMB Office of Information and Regulatory Affairs (3150-0011, 3150-0151, and 3150-0195), Attn: Desk Officer for the Nuclear Regulatory Commission, 725 17th Street, NW, Washington, DC, 20503.

Public Protection Notification

The NRC may not conduct or sponsor, and a person is not required to respond to, a collection of information unless the document requesting or requiring the collection displays a currently valid OMB control number.

B. DISCUSSION

Reason for Revision

The NRC is issuing Revision 7 of RG 1.101 to endorse and update guidance that is available to licensees and applicants on methods acceptable to the staff for complying with the NRC's regulations for emergency response plans and preparedness at nuclear power reactors.

This revision endorses:

- NEI white paper, "Enabling a Remote Response by Members of an Emergency Response Organization," Revision 1, issued September 2024, and

- NEI 99-01, Revision 7, "Development of Emergency Action Levels for Non-Passive Reactors," issued September 2024.

In addition, this revision of RG 1.101 provides guidance for maintaining compliance with ANS requirements when making significant ANS design changes.

This RG also provides guidance on a method acceptable to justify a 24-month frequency for 10 CFR 50.54(t) emergency preparedness program reviews. 10 CFR 50.54(t) requires, in part, that licensees ensure that all program elements are reviewed by persons who have no direct responsibility for the implementation of the emergency preparedness program. These reviews must occur either 1) at intervals not to exceed 12 months or 2) as necessary, based on an assessment by the licensee against performance indicators, and as soon as reasonably practicable after a change occurs in personnel, procedures, equipment, or facilities that potentially could adversely affect emergency preparedness, but no longer than 12 months after the change. In any case, all elements of the emergency preparedness program must be reviewed at least once every 24 months.

General Background

RG 1.101, Revision 3, issued August 1992 (Ref. 16), endorsed:

- Nuclear Management and Resources Council (NUMARC)/National Environmental Studies Project (NESP)-007, Revision 2, "Methodology for Development of Emergency Action Levels," issued January 1992 (Ref. 17).

RG 1.101, Revision 4, issued July 2003 (Ref. 18), endorsed:

- NEI 99-01, Revision 4, "Methodology for Development of Emergency Action Levels," issued January 2003 (Ref. 19), as acceptable methods for licensees to consider in the development of their plant-specific EAL schemes.

RG 1.101, Revision 5, issued June 2005 (Ref. 20), provided:

- Guidance for co-located licensees on conducting emergency response planning activities and interactions in the years between participation in offsite full- or partial-participation exercises.

RG 1.101, Revision 6, issued June 2021 (Ref. 21), captured prior endorsement of two NEI guidance documents:

- NEI 99-01, Revision 5, "Methodology for Development of Emergency Action Levels," February 2008 (Ref. 22), which the staff found acceptable for use by licensees and applicants as a methodology to develop or upgrade EAL schemes in accordance with related sections of Appendix E to 10 CFR Part 50. In addition to clarifying certain sections of previous revisions, Revision 5 of NEI 99-01 formalizes enhancements to emergency planning associated with hostile action events for emergency preparedness programs. The NRC endorsed this guidance in a memorandum to NEI, "U.S. Nuclear Regulatory Commission Review and Endorsement of NEI 99-01, Revision 5," February 22, 2008 (Ref. 23).

- NEI 99-01, Revision 6, "Development of Emergency Action Levels for Non-Passive Reactors," November 2012 (Ref. 24), which the staff found acceptable for use by licensees and applicants as a methodology to develop or upgrade EAL schemes in accordance with the requirements of 10 CFR 50.47(b)(4), related sections of Appendix E to 10 CFR Part 50, and the associated planning standard evaluation elements of NUREG-0654/FEMA-REP-1, Revision 1. The NRC endorsed this guidance in a memorandum to NEI, "U.S. Nuclear Regulatory Commission Review and Endorsement of NEI 99-01, Revision 6," March 28, 2013 (Ref. 25).

Since the publication of RG 1.101, Revision 6, the NRC has developed or endorsed several new or revised emergency planning guidance documents described in Section C of this RG.

Background of NUREG-0654/FEMA-REP-1

Planning standard 10 CFR 50.47(b)(4) requires that the emergency plan include a standard EAL scheme. An EAL is a predetermined, site-specific, observable threshold for a plant condition that results in an emergency classification. The NRC initially established guidance for the development of EALs in Generic Letter (GL) 79-50, "Emergency Plans Submittal Dates," issued 1979 (Ref. 26).

In November 1980, the NRC published NUREG-0654/FEMA-REP-1, Revision 1, a joint NRC NUREG-series publication and Federal Emergency Management Agency (FEMA) guidance document. The NRC uses this document to evaluate the adequacy of the emergency plans and preparedness of nuclear power plant licensees. FEMA uses this document to review and approve State, local, and Tribal government radiological emergency plans.

In October 1981, the NRC endorsed NUREG-0654/FEMA-REP-1, Revision 1, in RG 1.101, Revision 2, including guidance in Appendix 1 to NUREG-0654/FEMA-REP-1 that became the primary standard for the NRC's review of EAL schemes. As the industry gained experience with the implementation and use of EAL schemes, the industry issued revised guidance documents on EAL scheme development to reflect lessons learned. The industry-developed guidance built upon and enhanced the foundation set forth in NUREG-0654/FEMA-REP-1.

In December 2019, the NRC published Revision 2 of NUREG-0654/FEMA-REP-1, which integrated nearly 35 years of lessons learned in radiological emergency preparedness and consolidated and clarified previous guidance related to the development of emergency plans. The planning criteria and guidance contained in Revision 2 of NUREG-0654/FEMA-REP-1 reflect changes to both NRC and FEMA regulations, guidance, policies, and doctrine, as well as advances in technology and best practices that occurred since the document was originally issued in 1980. The NRC staff considers these criteria and guidance to be acceptable methods for complying with the onsite and offsite emergency response planning standards in 10 CFR 50.47.

In addition, Revision 2 of NUREG-0654/FEMA-REP-1 defines the review period for emergency preparedness program reviews conducted in accordance with 10 CFR 50.54(t)(1) such that "12 months" in 10 CFR 50.54(t)(1) and "annual" in NUREG-0654/FEMA-REP-1 both mean 365 days. Thus, the program review should not exceed 365 days from the end date of the prior review to the completion of the next program review, which includes issuance of the review report. The requirement for all elements of the emergency preparedness program to be reviewed at least once every 24 months should not exceed 730 days from the end of the prior review to the completion of the next program review, which includes issuance of the review report.

Background of Alert and Notification System Design Changes

The ANS Evaluation Report is reviewed and approved by FEMA. The NRC assesses the ANS Evaluation Report to inform its reasonable assurance finding whether adequate protective measures can and will be taken in the event of a radiological emergency. Therefore, the licensee should maintain an accurate ANS Evaluation Report.

The NRC requires licensees to comply with 10 CFR 50.54(q)(2), which states, in part, that a licensee authorized to possess and operate a nuclear power reactor must follow and maintain the effectiveness of an emergency plan that meets the planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50. The NRC evaluates the acceptability of a licensee's emergency plan against the planning standards in 10 CFR 50.47(b), the requirements of Appendix E to 10 CFR Part 50, and the guidance contained in NUREG-0654/FEMA-REP-1. In particular, Appendix E, section IV.D.3 states, in part, "The licensee shall demonstrate that the appropriate governmental authorities have the capability to make a public alerting and notification decision promptly on being informed by the licensee of an emergency condition."

Consideration of International Standards

The International Atomic Energy Agency (IAEA) works with member states and other partners to promote the safe, secure, and peaceful use of nuclear technologies. The IAEA develops Safety Standards and Safety Guides for protecting people and the environment from harmful effects of ionizing radiation. This system of safety fundamentals, safety requirements, safety guides, and other relevant reports reflects an international perspective on what constitutes a high level of safety. To inform its development of this RG, the NRC considered IAEA Safety Requirements and Safety Guides pursuant to the Commission's International Policy Statement (Ref. 27) and Management Directive and Handbook 6.6, "Regulatory Guides" (Ref. 28).

The following IAEA Safety Requirements and Guides were considered in the update of the Regulatory Guide:

IAEA Safety Standards Series, "Preparedness and Response for a Nuclear or Radiological Emergency, GSR Part 7," published in November 2015 (Ref. 29).

Documents Discussed in Staff Regulatory Guidance

This RG endorses the use of one or more guidance documents developed by external organizations, and other third-party guidance documents. These codes, standards and third-party guidance documents may contain references to other codes, standards or third-party guidance documents ("secondary references"). If a secondary reference has itself been incorporated by reference into NRC regulations as a requirement, then licensees and applicants must comply with that standard as set forth in the regulation. If the secondary reference has been endorsed in an RG as an acceptable approach for

meeting an NRC requirement, then the standard constitutes a method acceptable to the NRC staff for meeting that regulatory requirement as described in the specific RG. If the secondary reference has neither been incorporated by reference into NRC regulations nor endorsed in an RG, then the secondary reference is neither a legally binding requirement nor a "generic" NRC approved acceptable approach for meeting an NRC requirement. However, licensees and applicants may consider and use the information in the secondary reference, if appropriately justified, consistent with current regulatory practice, and consistent with applicable NRC requirements.

C. STAFF REGULATORY GUIDANCE

This section includes industry-developed guidance documents that the NRC staff has determined to be acceptable to meet regulatory requirements for emergency response planning and preparedness for nuclear power plants.

New: NRC Endorsement of Industry Guidelines within RG 1.101

1. The NRC staff endorses the NEI white paper, "Enabling a Remote Response by Members of an Emergency Response Organization," Revision 1, which is acceptable for use by licensees and applicants as a methodology for alternative strategies for ERO staffing.

2. The NRC staff endorses NEI 99-01, Revision 7, "Methodology for Development of Emergency Action Levels," which is acceptable for use by licensees and applicants as an EAL scheme development strategy.

Previously: NRC Endorsement of Industry Guidelines within RG 1.101

3. Appendix A, "Recommended Drill and Exercise Objectives," to NEI 06-04, "Conducting a Hostile Action-Based Emergency Response Drill."

    3.1 Appendix A, "Recommended Drill and Exercise Objectives," to NEI 06-04, "Conducting a Hostile Action-Based Emergency Response Drill," Revision 2, issued July 2011 (Ref. 30), which is acceptable for use by licensees and applicants for the development and conduct of hostile action-based emergency response drills. The NRC endorsed Appendix A to NEI 06-04, Revision 2, by letter dated September 19, 2011 (Ref. 31).

    3.2 Appendix A, "Recommended Drill and Exercise Objectives," to NEI 06-04, "Conducting a Hostile Action-Based Emergency Response Drill," Revision 3, issued September 2016 (Ref. 32), which is acceptable for use by licensees and applicants for the development and conduct of hostile action-based emergency response drills. The NRC endorsed Appendix A to NEI 06-04, Revision 3, in Revision 6 of RG 1.101.

Regulatory Staff Positions on Alert and Notification System Design Changes

4. The regulations in 10 CFR Part 50, Appendix E, section IV.D.3, state, in part, *"A licensee shall have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency. The licensee shall demonstrate that the appropriate governmental authorities have the capability to make a public alerting and notification decision promptly on being informed by the licensee of an emergency condition."*

    4.1 In accordance with FEMA's regulations in 44 CFR Part 350, "Review and Approval of State and Local Radiological Emergency Plans and Preparedness," and the FEMA Radiological Emergency Preparedness Program Manual, licensees and applicants must have ANS designs, including testing and maintenance requirements, that have been reviewed and approved by FEMA via the ANS Evaluation Report (Ref. 33).

    4.2 FEMA submits the approved ANS Evaluation Report to the NRC for review and acceptance. The NRC ensures that all ANS regulatory requirements are met, such that the NRC can make or maintain, as applicable, its finding of reasonable assurance that

adequate protective measures can and will be taken in the event of a radiological emergency.

4.3 In accordance with 10 CFR Part 50, Appendix E, section IV.D.3, the design of the ANS is required to include both a primary and backup method of public alerting and notification of the population in the plume exposure pathway EPZ, which may include simultaneous activation of multiple methods.

4.4 The design of the primary and backup ANS methods should ensure that any common-mode failures are evaluated, if applicable, to ensure that reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency is maintained regardless of this common-mode failure possibility.

4.4.1 Any common-mode failures identified should be adequately identified and evaluated by satisfying the following:

4.4.1.1 These common-mode failures should be appropriately risk-informed.

4.4.1.2 The evaluation should be documented.

4.4.1.3 For example, if both the primary and backup systems utilize a common system or component for activation, the submittal should include an evaluation of how the potential common failure would be addressed, how the ANS is adequately risk-informed and performance-based, and how reasonable assurance is maintained (i.e., reliability of diverse methods, defense-in-depth, etc.).

Note that the reliability of FEMA's Integrated Public Alert and Warning System (IPAWS) is primarily based upon the multiple methods of public alert and notification that would be activated simultaneously using the IPAWS architecture versus relying on one method (e.g., fixed sirens) and that each of these separate ANS methods can be individually activated if, for whatever reason, the IPAWS architecture fails to activate ANS as intended.

4.4.1.4 The evaluation should be included in the ANS Evaluation Report. Reference: Information Notice (IN) 2024-02, "Impact on Licensee Emergency Plans From Changes Made By Offsite Response Organizations to Alert and Notification System," dated March 25, 2024 (Ref. 34), for additional information.

NEI White Paper, "Implementing a 24-Month Frequency for Emergency Preparedness Program Reviews," Revision 0, and Staff Requirements Memorandum (SRM)-SECY-23-0010

5. The NRC staff previously endorsed the NEI white paper, "Implementing a 24-Month Frequency for Emergency Preparedness Program Reviews," Revision 0, in Revision 6 of RG 1.101. With the implementation of SRM-SECY-23-0010, "Staff Requirements–SECY-23-0010–Recommendation for Approval to Retire the Reactor Oversight Process Performance Indicator for Licensee Alert and Notification System Availability and to Develop a Performance Indicator for Emergency Response Facility and Equipment Readiness Availability," dated September 1, 2023 (Ref. 35),

and the subsequent Revision 8 to NEI 99-02, "Regulatory Assessment Performance Indicator Guideline," issued October 2024 (Ref. 36), this white paper is no longer necessary to meet the applicable regulatory requirements. Licensees may use the Reactor Oversight Process (ROP) program captured in the NRC's Inspection Manual Chapter 308, Attachment 1, "Technical Basis for Performance Indicators," (Ref. 37) with NEI 99-02, Revision 8, as justification to extend the 10 CFR 50.54(t) 12-month review frequency to the 24-month review frequency allowed under 10 CFR 50.54(t). Licensees may continue to use the NEI white paper if they prefer to do so.

6. The revised ROP supports the 24-month frequency justification with the new ROP Emergency Response Facility and Equipment Readiness performance indicator. Note that the 12-month frequency for the evaluation of the adequacy of the interface with State and local governments in 10 CFR 50.54(t) is still required because there is no performance indicator for this evaluation.

Other Industry Guidelines Endorsed by the NRC Outside of RG 1.101

7. The NRC staff has reviewed the following resources from NEI and found that they contain additional technical information and criteria for the development of emergency plans that licensees and applicants may find useful. The NRC has endorsed these documents in memoranda, as documented below. However, the NRC staff has not endorsed these documents specifically in this revision of RG 1.101.

7.1 **NEI 07-01, Revision 0, "Methodology for Development of Emergency Action Levels, Advanced Passive Light Water Reactors," issued July 2009**

The staff found NEI 07-01, Revision 0 (Ref. 38), an acceptable reference for applicants to review in the development of new reactor applications if they are using the AP1000 or Economic Simplified Boiling Water Reactor design. Additionally, applicants may consider the template provided in NEI 07-01 as a reference for the development of an EAL scheme for any design using digital instrumentation and control, including licensed power reactors considering upgrading to digital instrumentation and control. The NRC endorsed this guidance in a memorandum to NEI, "U.S. Nuclear Regulatory Commission Review and Endorsement of NEI 07-01, 'Methodology for the Development of Emergency Action Levels,'" dated August 12, 2009 (Ref. 39).

7.2 **NEI 10-05, Revision 0, "Assessment of On-Shift Emergency Response Organization Staffing and Capabilities," issued June 2011**

The staff found NEI 10-05, Revision 0 (Ref. 40), acceptable for use by licensees and applicants as a methodology to perform a detailed staffing analysis for on-shift personnel assigned emergency plan implementation duties as required by Section IV.A.9 of Appendix E to 10 CFR Part 50. The NRC endorsed the on-shift staffing method of NEI 10-05 in Section IV.C of the interim staff guidance, NSIR/DPR-ISG-01, "Interim Staff Guidance – Emergency Planning for Nuclear Power Plants," November 2011 (Ref. 41).

7.3 **NEI 13-01, "Reportable Action Levels for Loss of Emergency Preparedness Capabilities," Revision 0, issued July 2014**

The staff found NEI 13-01, Revision 0 (Ref. 42), acceptable for use by licensees and applicants as a methodology that provides specific guidance for reporting the loss of emergency preparedness capabilities under 10 CFR 50.72(b)(3)(xiii). The NRC endorsed NEI 13-01 in NUREG-1022,

Revision 3, Supplement 1, "Event Report Guidelines 10 CFR 50.72(b)(3)(xiii)," September 2014 (Ref. 43).

D. IMPLEMENTATION

Licensees generally are not required to comply with the guidance in this regulatory guide. If the NRC proposes to use this regulatory guide in an action that would constitute backfitting, as that term is defined in 10 CFR 50.109, "Backfitting, and as described in NRC Management Directive 8.4, "Management of Backfitting, Forward Fitting, Issue Finality, and Information Requests" (Ref. 44); affect the issue finality of an approval issued under 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants"; or constitute forward fitting, as that term is defined in Management Directive 8.4, then the NRC staff will apply the applicable policy in Management Directive 8.4 to justify the action. If a licensee believes that the NRC is using this regulatory guide in a manner inconsistent with the discussion in this Implementation section, then the licensee may inform the NRC staff in accordance with Management Directive 8.4.

REFERENCES [1]

1 *U.S. Code of Federal Regulations* (CFR), "Emergency plans," Section 50.47, Chapter I, Title 10, "Energy."

2 CFR, "Emergency Planning and Preparedness for Production and Utilization Facilities," Appendix E to Part 50, Chapter I, Title 10, "Energy."

3 CFR, "Domestic Licensing of Production and Utilization Facilities," Part 50, Chapter I, Title 10, "Energy."

4 Nuclear Energy Institute (NEI), "Enabling a Remote Response by Members of an Emergency Response Organization," Revision 1, September 2024 (ML24274A317).[2]

5 NEI, "Development of Emergency Action Levels for Non-Passive Reactors," NEI 99-01, Revision 7, September 2024 (ML24274A312).

6 CFR, "Licenses, Certifications, and Approvals for Nuclear Power Plants," Part 52, Chapter I, Title 10, "Energy."

7 U.S. Nuclear Regulatory Commission (NRC) and Federal Emergency Management Agency (FEMA), "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Revision 1, November 1980.

8 NRC and FEMA, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," NUREG-0654/FEMA-REP-1, Revision 2, December 2019.

9 NRC and the U.S. Environmental Protection Agency (EPA), "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," NUREG-0396/EPA 520/1-78-016, December 1978.

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1 Publicly available NRC published documents are available electronically through the NRC Library on the NRC's public Web site at http://www.nrc.gov/reading-rm/doc-collections/ and through the NRC's Agencywide Documents Access and Management System (ADAMS) at http://www.nrc.gov/reading-rm/adams.html. The documents can also be viewed online or printed for a fee in the NRC's Public Document Room (PDR) at 11555 Rockville Pike, Rockville, MD. For problems with ADAMS, contact the PDR staff at 301-415-4737 or (800) 397-4209; fax (301) 415-3548; or e-mail pdr.resource@nrc.gov.

2 Publications from the Nuclear Energy Institute (NEI) are available at its website: http://www.nei.org or by contacting the headquarters at Nuclear Energy Institute, 1201 F Street, NW, Suite 1100, Washington, DC 20004 1218; Phone: 202 739 8000, Fax 202 785 4019.

3. IAEA Safety Requirements and Guides may be found at www.IAEA.org/ or by writing the International Atomic Energy Agency, P.O. Box 100 Wagramer Strasse 5, A 1400 Vienna, Austria; telephone (+431) 2600-0; fax (+431) 2600-7; or e mail Official.Mail@IAEA.Org. It should be noted that some of the international recommendations do not correspond to the requirements specified in the NRC's regulations, and the NRC's requirements take precedence over the international guidance.

10 NRC, “Functional Criteria for Emergency Response Facilities,” NUREG-0696, February 1981 (ML051390358).

11 NRC, “Criteria for Development of Evacuation Time Estimate Studies,” NUREG/CR-7002, Revision 0, November 2011 (ML113010515).

12 NRC, “Criteria for Development of Evacuation Time Estimate Studies,” NUREG/CR-7002, Revision 1, February 2021 (ML21013A504).

13 NRC, “Interim Staff Guidance: Emergency Planning Exemption Request for Decommissioning Nuclear Power Reactors,” NSIR/DPR-ISG-02, issued May 11, 2015.

14 NRC, “Guidance on Making Changes to Emergency Plans for Nuclear Power Reactors,” Regulatory Guide (RG) 1.219, July 2018.

15 NRC, “Frequency of Reviews and Audits for Emergency Preparedness Programs, Safeguards Contingency Plans, and Security Programs for Nuclear Power Reactors; Final rule,” *Federal Register*, Volume 64, Issue No. 59, pp. 14814-14818, March 29, 1999.

16 NRC, “Emergency Response Planning and Preparedness for Nuclear Power Reactors,” RG 1.101, Revision 3 (ML003740302).

17 Nuclear Management and Resources Council (NUMARC), “Methodology for Development of Emergency Action Levels,” NUMARC/NESP-007, Revision 2, January 1992 (ML041120174).

18 NRC, “Emergency Response Planning and Preparedness for Nuclear Power Reactors,” RG 1.101, Revision 4 (ML003740302).

19 NEI, “Methodology for Development of Emergency Action Levels,” NEI 99-01, Revision 4, January 2003.

20 NRC, “Emergency Response Planning and Preparedness for Nuclear Power Reactors,” RG 1.101, Revision 5 (ML050730286).

21 NRC, “Emergency Response Planning and Preparedness for Nuclear Power Reactors,” RG 1.101, Revision 6 (ML21111A090).

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