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GUIDANCE ON MAKING CHANGES TO EMERGENCY PLANS FOR NUCLEAR POWER REACTORS

A. INTRODUCTION

This guide describes a method that the staff of the U.S. Nuclear Regulatory Commission (NRC) considers acceptable to implement the requirements in Title 10, Section 50.54(q), of the *Code of Federal Regulations* (10 CFR) Part 50, "Domestic Licensing of Production and Utilization Facilities" (Ref. 1). Requirements in 10 CFR 50.54(q)), "Conditions of Licenses," relate to emergency preparedness and specifically to making changes to emergency response plans.

The NRC staff provided this draft guidance document to the Advisory Committee on Reactor Safeguards in preparation for the subcommittee meeting on November 1, 2010.

NOTE: The NRC is making this document available for public viewing only. The release of this document is intended to inform stakeholders of the current status of some of the NRC's activities related to the Emergency Preparedness rulemaking. This document may be subject to significant revisions as a result of the final rulemaking process. The NRC is not soliciting formal public comments on this document, and no stakeholder requests for a comment period will be granted. This document reflects the NRC's consideration of stakeholder comments throughout this rulemaking process.

Any questions on this draft guidance may be addressed to Steve LaVie (301-415-1081; Steve.LaVie@nrc.gov).

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The NRC issues regulatory guides to describe and make available to the public methods that the NRC staff considers acceptable for use in implementing specific parts of the agency's regulations, techniques that the staff uses in evaluating specific problems or postulated accidents, and data that the staff needs in reviewing applications for permits and licenses. Regulatory guides are not substitutes for regulations, and compliance with them is not required. Methods and solutions that differ from those set forth in regulatory guides will be deemed acceptable if they provide a basis for the findings required for the issuance or continuance of a permit or license by the Commission.

This guide was issued after consideration of comments received from the public.

Regulatory guides are issued in 10 broad divisions: 1, Power Reactors; 2, Research and Test Reactors; 3, Fuels and Materials Facilities; 4, Environmental and Siting; 5, Materials and Plant Protection; 6, Products; 7, Transportation; 8, Occupational Health; 9, Antitrust and Financial Review; and 10, General.

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The NRC's objectives for 10 CFR 50.54(q) are to ensure that licensees (1) follow and maintain the effectiveness of their approved emergency plans, (2) evaluate proposed changes to these plans for their impact on the effectiveness of the plans, and (3) obtain prior NRC approval for changes that would reduce the effectiveness of the plans. These actions are essential if these plans are to continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

This regulatory guide addresses information collections covered by the requirements of 10 CFR Part 50 that the Office of Management and Budget (OMB) approved under OMB control number 3150-0011. The NRC may neither conduct nor sponsor, and a person is not required to respond to, an information collection request or requirement unless the requesting document displays a currently valid OMB control number.

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B. DISCUSSION

Adopted in 1980 (Volume 45 of the *Federal Register*, page 55,409 (45 FR 55409); August 19, 1980) (Ref. 2) and amended in 2011 **(FR ;)** (Ref. 3), 10 CFR 50.54(q) requires licensees that are authorized to possess and operate a nuclear power reactor to follow and maintain the effectiveness of an emergency plan that meets the standards in 10 CFR 50.47(b) and the requirements in Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities," to 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities." This section also contains requirements for the process by which the licensee may make changes to its emergency plan without prior application to, and approval by, the NRC, provided that the changes do not reduce the effectiveness of the plan and that the plan, as changed, continues to meet the standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50.

The objectives of the change process established in 10 CFR 50.54(q) are to ensure that a holder of a license under 10 CFR Part 50, or a holder of a combined license under 10 CFR Part 52, "Licenses, Certification, and Approvals for Nuclear Power Plants" (Ref. 4), where the Commission has made the finding under 10 CFR 52.103(g), hereafter referred to as "licensee," (1) evaluates proposed changes to its emergency plan for their impacts on the effectiveness of the plan, (2) obtains prior NRC approval for changes that are deemed to reduce the effectiveness of the plan, and (3) documents and reports such changes and the evaluations of these changes.

As a result of lessons learned from operating experience, the NRC determined that additional action was necessary to provide clarity and consistency in the implementation of the rule. In 2010, the NRC amended 10 CFR 50.54(q) to address these concerns. The amended 10 CFR 50.54(q) differs significantly from the former rule. The following items are among the significant changes and clarifications:

- The amended rule replaced the phrase "decrease in effectiveness" with the phrase "reduction in effectiveness." The amended rule defined this phrase and other terms used in 10 CFR 50.54(q).

- The amended rule defined "reduction in effectiveness" as a change in an emergency plan that reduces the licensee's capability to perform an emergency planning function in the event of a radiological emergency. An "emergency planning function" is defined as a capability or resource necessary to prepare for, and respond to, a radiological emergency. This guide identifies the emergency planning functions associated with each planning standard for nuclear power reactors.

- The amended rule language specifies that licensees must use the license amendment process in 10 CFR 50.90, "Application for Amendment of License, Construction Permit, or Early Site Permit," in applying for prior NRC approval of those changes determined to be a reduction in effectiveness.

The emergency planning functions were derived from the planning standard functions that subject matter experts from the nuclear power industry and the NRC established during the development of the emergency preparedness cornerstone of the Reactor Oversight Process (ROP). Regulatory Position 4 of this guide tabulates the emergency planning functions, the supporting requirements in Appendix E to 10 CFR Part 50, and the informing criteria of NUREG-0654/Federal Emergency Management Agency (FEMA)-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," issued November 1980 (Ref. 5) (hereafter referred to as NUREG-0654), for each of the planning standards in 10 CFR 50.47(b) and provides examples of

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emergency plan changes that typically would require prior NRC approval through a license amendment and examples of changes that typically would not require prior NRC approval.

C. REGULATORY POSITION

1. General Guidance

1.1 Relationship between 10 CFR 50.54(q) and the NRC's Reasonable Assurance Finding

a. The NRC's emergency preparedness requirements in 10 CFR 50.47(a) preclude the issuance of an operating or combined license if the NRC cannot make a finding that it has reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Once an operating license is issued, the licensee is required to maintain the effectiveness of its emergency plan (10 CFR 50.54(q)(2)). The emergency preparedness cornerstone of the ROP evaluates whether the licensee continues to be capable of implementing adequate protective measures. If, at any time after the license is issued, the NRC determines that the licensee's state of emergency preparedness does not provide such assurance and the licensee does not correct the deficiency within 4 months, the Commission will determine whether the plant will be shut down or whether other enforcement actions would be appropriate (10 CFR 50.54(s)(2)(ii)).

b. Some changes that a licensee may make to its approved emergency plan warrant prior NRC approval to ensure that the changes would not adversely affect the NRC's reasonable assurance determination. However, other general types of changes may have such a minimal impact on this determination that they would not warrant prior NRC approval. The change process under 10 CFR 50.54(q) enables licensees to make the latter changes without prior NRC approval while requiring prior NRC approval for the former types of changes. For example, changes that reduce the number of personnel available to perform emergency response tasks or that lengthen the time it takes to staff and activate emergency response facilities (ERFs) could impact the NRC's reasonable assurance determination and would require prior NRC staff approval. Minor administrative changes, such as updating a telephone number in a notification procedure, would not warrant prior NRC staff review. Between these extremes is a range of possible changes for which the licensee is required to perform and document a detailed objective evaluation.

c. The change process under 10 CFR 50.54(q) does not establish whether a proposed change would impact reasonable assurance determinations; the change process establishes only whether the licensee has the authority to implement the proposed change without prior NRC approval. The change process uses the characteristic "reduction in effectiveness" to exclude from the requirement to seek prior NRC approval those changes that would not reduce effectiveness. Because these changes would not reduce the effectiveness of the licensee's plan, the NRC expects the changes to have a minimal impact on the agency's reasonable assurance determination. A licensee's determination that the proposed change would reduce the effectiveness of its plan requires an NRC evaluation of the impact of the change on the reasonable assurance determination. A licensee's determination that a proposed change would reduce the effectiveness of the emergency plan does not mean that the licensee could not or would not implement appropriate protective measures to protect public health and safety during an accident but that prior NRC review is required. As described in Regulatory Position 5.3, the licensee would submit a license amendment application in accordance with 10 CFR 50.90 for prior NRC approval of a change that it believes will reduce the effectiveness of its emergency plan. Based on its review, the NRC may conclude (1) that the changes do not reduce the effectiveness of the plan, (2) that the changes do reduce the effectiveness of the plan but that the NRC continues to

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have reasonable assurance that adequate protective measures can and will be taken, or (3) that the change unacceptably affects the NRC's reasonable assurance determination.

1.2 Role of Conservatism in 10 CFR 50.54(q) Change Evaluations

a. The NRC has always expected, and continues to expect, licensees to make conservative decisions for the operation of nuclear power reactors. Conservative decisionmaking is prudent when the data needed for the decision are unknown or uncertain. Nonetheless, licensees need to remain alert to the possibility of unintended consequences and consider these outcomes in their decisions. The emphasis in emergency preparedness is on prudent risk reduction measures. An overly conservative decision during an emergency response could trigger actions that could place the public at unnecessary risk, thus resulting in a *nonconservative* situation. "More" is not always "better." For example, changing a protective action recommendation (PAR) procedure to mandate a default 5-mile, 360-degree evacuation in lieu of considering the actual wind variability at the time of the event may appear conservative because more people would be evacuated. However, the approach could expose individuals upwind of the plant to unnecessary evacuation risks without the benefits of the associated radiation dose avoidance—a nonconservative situation.

1.3 Role of Probabilistic Risk Assessment Insights in 10 CFR 50.54(q) Change Evaluations

a. The NRC policy statement, "Safety Goals for the Operation of Nuclear Power Plants" (51 FR 30028; August 4, 1986) (Ref. 6), states that emergency preparedness is a "defense-in-depth measure." Emergency preparedness is implemented as a matter of prudence rather than in response to a quantitative analysis of accident probabilities. The effectiveness of an emergency plan is independent of probability. The planning basis in NUREG-0654 states that the objective of emergency planning is to provide dose savings for a "spectrum" of accidents that could produce offsite doses in excess of those given in the U.S. Environmental Protection Agency (EPA) protective action guides (Ref. 7). The basis goes on to state that no "single specific accident sequence" should be chosen as the one for which to plan because each accident could have different consequences both in nature and degree. The selected planning basis described in NUREG-0654 is independent of specific accident sequences. The probability of a reactor accident requiring the implementation of a licensee's emergency plan has no relevance in determining whether a particular change reduces the effectiveness of the emergency plan. Accordingly, licensees should not consider risk insights about specific accident initiation or progression in performing 10 CFR 50.54(q) evaluations.

1.4 Timeliness as an Evaluation Consideration

a. By its very nature, an emergency instills a sense of urgency and dictates the necessity for prompt action, which is a fundamental aspect of the licensee's emergency plan. Consistent with this imperative, the NRC has specified timeliness criteria in regulations for three specific emergency response activities: emergency declaration, emergency notifications, and public alerts. The NRC's emergency planning guidance provides additional time-based criteria. Licensees commit to staff augmentation times for their ERFs as part of their compliance with the planning standard in 10 CFR 50.47(b)(2). Licensees' initial emergency notifications must contain a PAR. Because the licensee must make the notification within 15 minutes of the emergency declaration, it must also deliver a PAR within 15 minutes. Proposed changes that could delay emergency declarations, notifications, or PARs may reduce the effectiveness of the emergency plan in that subsequent emergency response actions may not be timely and emergency response personnel, facilities, and equipment may not be in position if it becomes necessary to implement measures to

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protect the public health and safety. Generally, the licensee should view any change that could delay an activity or relax a timeliness criterion for the activity as a potential reduction in effectiveness and should evaluate it accordingly. This evaluation would include any change that modifies how the timeliness criterion is evaluated (e.g., "when the clock starts and stops"). For example, the purpose of the emergency response organization (ERO) activation is to augment the onshift staff and relieve it of those functions assigned to the technical support center (TSC), the operations support center (OSC), and the emergency operations facility (EOF). The ERO activation is not complete until the ERO is actively performing those functions at the TSC, OSC, and EOF; actuating a "clock stop" before this would be premature.

b. The capability to complete an activity within the specified timeframe depends on several factors, including the availability of adequate qualified personnel to perform the activity; the number of multiple duties assigned to these personnel; augmentation time by offshift personnel; and sufficient procedures, tools, instrumentation, equipment, and other material necessary to complete the activity. The licensee needs to evaluate proposed changes that affect these factors for their impact on the timely completion of emergency planning functions during an emergency response.

1.5 Role of the NRC's Review of Emergency Action Level and Emergency Plan Changes Submitted under 10 CFR 50.4

a. The NRC staff screens emergency plan changes and reviews a sample of changes submitted under 10 CFR 50.4, "Written Communications," that could potentially reduce effectiveness. These reviews do not constitute the NRC's approval of the plan changes, and all such changes remain subject to future inspection and enforcement actions. The NRC documents its approval of plan changes under 10 CFR 50.54(q) in its decisions to grant license amendment requests.

1.6 Role of the Facility Licensing Basis

a. The licensee cannot properly evaluate a proposed change to the emergency plan if it has not considered the basis for the staff's approval of the original plan or the basis for any subsequent change, whether it has been approved by the staff or implemented by the licensee under 10 CFR 50.54(q). For example, why did the licensee specify more onshift ERO staff than what was called for in NUREG-0654? Was it a matter of exceeding the regulatory minimum as an operating philosophy, or was it done to compensate for special circumstances that existed when the decision was made (e.g., lengthy ERO augmentation times because of the remoteness of the site)? A decrease in staffing in the first case might not reduce effectiveness; a decrease in staffing in the second case would reduce effectiveness if the special circumstances still existed. The licensee should consider the following licensing-basis documents when informing a 10 CFR 50.54(q) evaluation:

(1) Regulatory Requirements. The Commission's emergency preparedness regulations in 10 CFR Chapter I, "Nuclear Regulatory Commission," are binding on the licensee unless the NRC explicitly exempts them.

(2) License, License Conditions, and License Amendments. The facility's license may contain emergency preparedness commitments and requirements that are binding on the licensee.

(3) Commission Orders. Commission orders may establish specific emergency plan requirements for a particular licensee. On October 31, 1980, the NRC issued Generic Letter 80-90, "Post-TMI Requirements" (Ref. 8), which requires licensees to confirm

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their commitments on various requirements imposed after the Three Mile Island (TMI) accident, including emergency preparedness items. The Commission issued confirming orders to mandate compliance with the commitments. Other Commission orders may apply.

(4) Final Safety Analysis Report (FSAR). Chapter 13.3 of FSARs that are formatted in accordance with the standard format addresses emergency preparedness. However, this discussion may have been replaced with a cross-reference to the standalone plan. Similarly, Chapter 1 of many FSARs contains tabulations of how various regulatory guides (e.g., Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors" (Ref. 9), and NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Chapter 13, "Conduct of Operations," Section 13.3, "Emergency Planning," Revision 3, issued March 2007 (Ref. 10)), were implemented in the design of the plants and in the development of their operating programs.

(5) Upgraded Emergency Plans. Following the TMI accident, regulations required licensees to upgrade their emergency plans and to submit those plans to the NRC for review. A special inspection program involving onsite evaluations of the upgraded plan and facilities augmented these reviews. The submitted plan, NRC requests for additional information, commitments made in responses to the requests for additional information, NRC safety evaluations, NRC denials, and other correspondence between the licensee and the NRC may be useful in informing a 10 CFR 50.54(q) evaluation.

(6) Other Sources of Licensing Information. The following sources of licensing information may be useful in informing 10 CFR 50.54(q) evaluations:

(a) Hearing Dockets (the Atomic Safety and Licensing Board and the Atomic Safety and Licensing Appeal Board). Emergency preparedness contentions have been raised in numerous proceedings associated with licensing and license amendments. The resulting board decision may have been based, in part, on the licensee's (applicant's) statements about its emergency plan made in testimony presented before the board. This testimony and that of the NRC staff witnesses and witnesses for the interveners and resulting board rulings may be useful in informing a 10 CFR 50.54(q) evaluation on a program element addressed in those hearings.

(b) NRC Inspection Findings. Inspection findings, inspection reports, commitments made in licensee response letters, root cause analyses, and supplemental inspection results may be useful in informing a 10 CFR 50.54(q) evaluation of a program element addressed in those findings.

(c) FEMA-Approved Alert and Notification System (ANS) Design Report. If the licensee has committed to install or maintain the ANS on behalf of State or local governments, changes to the licensee's commitments on the design, testing, and maintenance of the ANS identified within the site's FEMA-approved final ANS design report are evaluated against the criteria of 44 CFR 350.14, "Amendments to State Plans." If warranted, the licensee must submit the proposed changes to FEMA via the responsible State official for review and approval.

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1.7 Role of Emergency Preparedness Cornerstone Performance Indicators

a. Representatives of the nuclear power industry developed the emergency preparedness cornerstone performance indicators, and the NRC endorsed them. The nuclear power industry developed these performance indicators and the supporting guidance to monitor licensee performance; however, compliance with a performance indicator does not necessarily demonstrate compliance with regulations. For example, opportunities for demonstrating the capability to notify offsite response organizations (OROs) are considered successful upon notification of the first ORO. However, the NRC expects the licensee to have the capability to notify all OROs within 15 minutes to be in compliance with regulations. Accordingly, the licensee cannot use performance indicators and their guidance as the sole basis for concluding whether a proposed change would reduce the effectiveness of its emergency plan; however, they may be useful in informing such determinations.

1.8 Role of Margin in the 10 CFR 50.54(q) Change Process

a. The 10 CFR 50.54(q) change process establishes a two-factor test to determine when a change to an emergency plan requires prior NRC approval. First, the test assesses whether the emergency plan, as modified, would continue to comply with the planning standards in 10 CFR 50.47(b) or the requirements in Appendix E to 10 CFR Part 50. Second, the test assesses whether the proposed change would reduce the effectiveness of the emergency plan. These two tests are separate and distinct. If the licensee does not meet either test, it must obtain prior NRC approval. Meeting the first test does not imply that the licensee has met the second test, nor does meeting the second test imply that the licensee has met the first test.

b. During licensing, a licensee may have committed to a greater level of capabilities, methods, and resources than what regulation and guidance had explicitly required and subsequently may seek to reduce that level of commitment. Because the original plan "exceeded" the explicit regulatory requirement, the licensee may have enough "margin" to reduce its commitment and still comply with the regulatory requirements. This rationale only considers the first test factor; the second test factor still needs to be evaluated.

   (1) If the licensee's original commitment resulted from a conservative operating philosophy, the licensee may be able to show that the reduction in commitment would not reduce the effectiveness of its emergency plan.

   (2) If the licensee's original commitment resulted from the need to compensate for preparedness or response constraints or vulnerabilities specific to the facility, emergency planning zone (EPZ), and jurisdiction, any reduction in commitment would likely result in a reduction in effectiveness if the constraints or vulnerabilities are still present.

c. In either case, the conclusion is not based on whether "margin" exists but instead on whether the licensee can demonstrate that the change does not reduce the effectiveness of its emergency plan. In the case of Regulatory Position 1.8.b.(1), conditions may have developed since the original commitments were made, thus making them necessary to maintain the effectiveness of the emergency plan. As such, the concept of margin has no role in a 10 CFR 50.54(q) change evaluation.

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2. Emergency Plan Changes for Which a Prior NRC Conference Is Recommended

a. The NRC encourages, but does not require, licensees that are considering the emergency plan changes listed below to arrange a conference call with NRC Headquarters staff for an exchange of information on technical issues related to these emergency plan changes before finalizing a change evaluation that concludes that the changes will not reduce the effectiveness of the plan. The NRC staff recommends this approach based on its experience in reviewing such changes. The purpose of this call is to clarify the 10 CFR 50.54(q) requirements and the guidance in this regulatory guide; the staff cannot comment on whether a proposed change constitutes a reduction in effectiveness or whether it will find the change acceptable if the licensee submits it for review. Licensees should arrange a conference call with NRC Headquarters for the following types of changes to their emergency plans:

(1) changes that increase the activation time of licensee ERFs or a change in how the activation time is measured (e.g., when the activation period starts and when it ends), either of which results in a delay in those facilities' provision of meaningful support to the control room consistent with the facilities' assigned functions and responsibilities,

(2) changes to ERO staffing that eliminate a key position[1] or reduce the licensee's capability to staff those positions 24 hours a day, 7 days a week (i.e., 24/7 support), consistent with the fitness-for-duty requirements in 10 CFR Part 26, "Fitness for Duty Programs,"

(3) changes that combine the plant-specific emergency plan for two or more noncontiguous plant sites into a common emergency plan,

(4) changes that relocate an EOF to a location more than 25 miles from the plant site, and

(5) changes that relocate the TSC to a location outside of the protected area for the plant site.

3. Emergency Plan Change Evaluation Terminology

a. This section provides a definition and discussion of key terms used in evaluating changes in an emergency plan. These definitions are ordered such that each definition builds on the preceding definitions.

3.1 Planning Standard

a. "Planning standards" means the 16 standards delineated in 10 CFR 50.47(b) that onsite and offsite emergency plans must meet in order for the NRC to find reasonable assurance that adequate protective measures can and will be taken. Corresponding sections of Appendix E to 10 CFR Part 50 contain additional requirements applicable to licensees that are associated with these planning standards.

b. The planning standards establish the minimum requirements that onsite and offsite emergency plans must meet. The language of the planning standards is intentionally broad because the planning standards are applicable to both the licensee for the onsite emergency plan and the State and local authorities for offsite emergency plans. The broad language also provides flexibility to

[1] Key positions include those in the (1) control room (shift manager (emergency director) and shift communicator), (2) TSC (senior manager, operations support, radiological controls, TSC communicator, and technical support), (3) EOF (senior manager, protective measures, and EOF communicator), and (4) OSC (OSC operations manager).

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address plant-specific, EPZ-specific, and jurisdictional-specific planning considerations. Individual facilities may have had to provide capabilities, methods, and resources different from those at another facility in order to compensate for facility-specific planning or response constraints or vulnerabilities in demonstrating compliance with the planning standards.

3.2 Emergency Planning Function

a. "Emergency planning function" means a capability or resource necessary to prepare for, and respond to, a radiological emergency, as required by Section IV of Appendix E to 10 CFR Part 50 and the planning standards in 10 CFR 50.47(b) for nuclear power reactors. (See 10 CFR 50.54(q)(1)(iii).)

b. During the development of the emergency preparedness cornerstone of the ROP, a group of emergency preparedness subject matter experts, including NRC staff and industry stakeholders, with input from the public, developed the emergency preparedness significance determination process (Ref. 11). During the development, the group determined that the planning standard language would not be sufficiently clear for use as a basis for significance determination and instead developed a series of planning standard functions. These planning standard functions are paraphrases of the planning standards in terms of the significant functions that need to be accomplished, or the capabilities that need to be in place, to maintain the effectiveness of the emergency plan and the emergency response capability. Within the emergency preparedness cornerstone, the significance of findings depends on whether the planning standards can be accomplished (i.e., loss of planning standard function) or can be accomplished only in a degraded manner (i.e., degraded planning standard function) with greater significance accorded to findings associated with certain planning standards deemed to have greater public safety significance.[2] Any degradation (or loss) of a planning standard function, renamed as an "emergency planning function," corresponds to a reduction in effectiveness (defined below).

3.3 Program Element

a. "Program element" means the items that comprise the implementation aspects of an emergency planning function. These items correspond to the evaluation criteria in NUREG-0654 (or other alternative methods for which the licensee obtained approval) that identify specific acceptable methods for complying with an emergency planning function.

b. Regulatory Guide 1.101 identified NUREG-0654 as providing acceptable methods for demonstrating compliance with the Commission's emergency preparedness regulations. Section II of NUREG-0654 tabulates each of the 16 planning standards and a series of evaluation criteria for each standard. These evaluation criteria identify the minimum functions, resources, or capabilities that are required to demonstrate compliance with planning standards. As with all regulatory guidance, applicants and licensees may propose alternatives to the guidance identified in the guide. A licensee's emergency plan describes how the licensee addresses these evaluation criteria in demonstrating compliance with the planning standards, including any approved alternatives.

c. When considering the impact of a change to one or more program elements, note that a change to a single program element may not always reduce the effectiveness of the associated emergency planning function. This would need to be considered on a case-by-case basis. In addition, a

[2] These standards are 10 CFR 50.47(b)(4) for classification, 10 CFR 50.47(b)(5) for notification, 10 CFR 50.47(b)(9) for dose assessment, and 10 CFR 50.47(b)(10) for protective actions.

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change to a program element under one planning standard may reduce the effectiveness of a different planning standard. For example, a change to a training module for emergency classification could reduce the effectiveness of the emergency classification process if its content is inconsistent with the plan.

3.4 Regulatory Requirement

a. "Regulatory requirement" means any emergency preparedness-related requirement, including the planning standards, Appendix E to 10 CFR Part 50, 10 CFR 50.54(q), 10 CFR 50.54(t), commitments made in the emergency plan, Commission orders, and commitments made with regard to compensatory actions under 10 CFR 50.47(c) or 10 CFR 50.54(s)(2)(ii). "Regulatory requirement" includes a licensee's self-imposed requirements necessary for demonstrating compliance with the planning standards and Appendix E to 10 CFR Part 50.

b. Any licensee that is considering a change to its emergency plan should first review the regulatory requirements (i.e., licensing basis) for its plan to ensure that it understands the basis of the existing program elements and why the elements were incorporated in the plan. In some cases, applicants for licenses may have committed to particular program elements in response to site-specific considerations. For example, a licensee may have increased its commitment for the numbers of onshift ERO personnel to compensate for long staff augmentation times because of the remoteness of a site from residential areas. A change to align the onshift staffing with that of sister plants without compensatory actions to address the long staff augmentation times could reduce the effectiveness of the emergency plan.

c. Section IV.D.3 of Appendix E to 10 CFR Part 50 requires a licensee to demonstrate that it has established the administrative and physical capability necessary to alert and provide prompt instructions to the public within the plume exposure pathway. Many licensees have taken on the responsibility for the maintenance of the ANS on behalf of the offsite authorities. In these cases, commitments made in the FEMA-approved ANS design report constitute regulatory requirements as defined above.[3]

3.5 Emergency Plan

a. "Emergency plan" means the document(s) that the licensee prepared and maintains that identifies and describes its methods for maintaining emergency preparedness and responding to emergencies. An emergency plan includes the plan that the NRC originally approved and all subsequent changes that the licensee made with and without prior NRC review and approval under 10 CFR 50.54(q). (See 10 CFR 50.54(q)(1)(ii).)

b. This definition highlights that "emergency plan" includes any document that describes the programmatic methods that the licensee uses to maintain emergency preparedness and to respond to emergencies. These methods, or program elements, are the implementation aspects of the planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50 and generally correspond to the evaluation criteria of NUREG-0654 or approved alternatives that provide specific acceptable methods for complying with the planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50. Such programmatic documents are subject to the 10 CFR 50.54(q) change process. Nonprogrammatic documents, such as training rosters, equipment and maintenance test reports, lesson plans, and other

[3] However, note that 44 CFR 350.14 describes the process used to effect changes to the FEMA-approved ANS or changes to testing and maintenance commitments made in the ANS design report.

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documents that "document the performance" of the program elements, as opposed to those that "establish" the program elements, are not included.

c. Ordinarily, subtier documents such as emergency plan implementing procedures (EPIPs) are not considered to be part of an emergency plan for the purpose of evaluating proposed changes. If a licensee relocates a programmatic description from the emergency plan to a subtier document, that programmatic description continues to be subject to the 10 CFR 50.54(q) change process. For example, licensees have relocated the details of emergency classification schemes from the emergency plan to an EPIP or to large wall charts maintained in the control room. Because the EPIP or wall chart is now the means to demonstrate compliance with the planning standards in 10 CFR 50.47(b)(4), these subtier documents are subject to 10 CFR 50.54(q). Repeating, as opposed to relocating, program element descriptions in subtier documents does not necessarily make the subtier documents subject to the 10 CFR 50.54(q) change process. However, the descriptions in the various documents must remain consistent.

d. As a simple test, a licensee can consider what programmatic document(s) it would provide during an inspection to demonstrate that its emergency plan meets the regulatory requirements, as informed by the evaluation criteria in NUREG-0654 or by approved alternatives. These documents would likely be subject to the 10 CFR 50.54(q) change process.

e. The definition also highlights the need to consider the NRC-approved plan and the subsequent changes in performing reviews against 10 CFR 50.54(q) to ensure that a series of incremental changes (each determined not to reduce the effectiveness of the plan) do not reduce the effectiveness of the plan when compared to the NRC-approved plan.

3.6 Change

a. "Change" means an action that modifies, adds an element to, or removes an element from the licensee's emergency plan. All such changes are subject to the provisions of 10 CFR 50.54 except in cases in which the applicable regulations establish specific criteria for accomplishing a particular change. (See 10 CFR 50.54(q)(1)(i).)

b. This definition is used in conjunction with 10 CFR 50.54(q)(3), which allows a licensee to make changes to its emergency plan if it can demonstrate through analysis that the change does not reduce the effectiveness of the plan. The 10 CFR 50.54(q) change process starts when a licensee *decides* to make a change to *its* emergency plan—an intentional act on the part of the licensee.

c. Typical emergency plans identify and rely on resources, capabilities, and methods that are not under the cognizance of the licensee's emergency planning group but instead are maintained by other entities that may modify those resources, capabilities, and methods.[4] If the licensee changes its emergency plan under 10 CFR 50.54(q)(2) to reflect these modifications or to implement compensatory actions, the change process in 10 CFR 50.54(q)(3) would apply, and the change analysis would need to address whether the change constitutes a reduction in effectiveness. For example, an offsite fire department identified and relied upon in the licensee's emergency plan is no longer able to respond to the plant site because of conflicting responsibilities assigned in the local ORO plans. When the licensee revises its emergency plan to identify a replacement response capability, the evaluation would need to address the differences in response time, equipment resources, and other elements on the effectiveness of the plan.

[4] Ideally, the plant change control processes would consider the impact of the proposed modifications on the effectiveness of the licensee's emergency plan as part of the evaluation process for the modification.

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d. "Resources" means personnel, procedures, equipment, communications, instrumentation, analytical equipment, transportation, supplies, and other items needed to implement the response actions identified in the emergency plan. "Capabilities" means the capacity to implement the response actions identified in the emergency plan (e.g., the ability to augment onshift personnel in a timely manner, generate timely and accurate PARs, complete notifications within 15 minutes, and maintain a protracted response). "Methods" means the procedural means or manner of implementing the response actions identified in the emergency plan (e.g., emergency classification schemes, notification protocols, and emergency action level (EAL) threshold value bases). These elements are generally interdependent. For example, capability is lost if the needed resources are missing.

3.7 Reduction in Effectiveness

a. "Reduction in effectiveness" means a change to an emergency plan that results in reducing the licensee's capability to perform an emergency planning function in the event of an emergency. (See 10 CFR 50.54(q)(1)(iv).)

b. "Reduction in effectiveness" is an evaluation concept that is used with 10 CFR 50.54(q) to differentiate between changes that a licensee is allowed to make without prior NRC approval and those that require prior NRC approval. (See Regulatory Position 1.1.) As used here, "emergency" means any condition that would result in the declaration of any emergency classification level and the implementation of the licensee's emergency plan. An emergency is not based on a single accident sequence but instead on the spectrum of accidents addressed in the planning basis described in NUREG-0654. As noted above, "capabilities" means the capacity to implement the response actions identified in the emergency plan to meet the emergency planning functions (e.g., the ability to augment onshift personnel in a timely manner, generate timely and accurate PARs, complete notifications within 15 minutes, and maintain a protracted response).

c. The linkage between a proposed change and a possible degradation in the licensee's capability may not always be obvious, and many such decisions would involve a significant evaluation by the reviewer.

4. Emergency Planning Functions

a. Regulatory Position 3.2 defines emergency planning functions. Regulatory Position 4 provides the individual emergency planning functions along with explanatory guidance. It offers and explains examples of changes that could require prior NRC approval and those that would generally not require prior NRC approval. Licensees should not view these examples as being all inclusive or exclusive; instead, they should use them to inform decisions involving various changes under consideration. Site-specific situations may possibly make a particular example inapplicable to that site. Even if a particular example completely encompasses the change under consideration, the licensee's 10 CFR 50.54(q) evaluation must explain why the site-specific implementation of the change would not reduce the effectiveness of the emergency plan for that particular site. Such an analysis cannot simply cross-reference an example in this guide.

b. In evaluating proposed plan changes, the licensee may need to consider the impact of the proposed changes on more than one emergency planning function. For example, an evaluation of a proposed change to the ERO that reduces the number of persons assigned to perform dose assessments needs to consider the potential effect not only on the emergency planning functions for the planning standard in 10 CFR 50.47(b)(2) but also on the functions for the accident

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assessment planning standard in 10 CFR 50.47(b)(9). If ERO personnel who perform emergency notifications are given the added responsibility of performing dose assessments, the licensee also needs to evaluate the potential effect of this added responsibility on the notification functions (10 CFR 50.47(b)(5)).

c. The remainder of this section is arranged in the order of the planning standards in 10 CFR 50.47(b).

4.1 10 CFR 50.47(b)(1)—Assignment of Responsibility/Organizational Control

a. The regulation at 10 CFR 50.47(b)(1) states the following:

> Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations within the Emergency Planning Zones have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.

b. Two emergency planning functions have been defined for this planning standard:

(1) Responsibility for emergency response is assigned.

(2) The response organization has the staff to respond and to augment staff on a continuing basis (i.e., 24/7 support).

c. Sections IV.A.1–IV.A.9 of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.A of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the authority and responsibility of persons filling key positions to perform their emergency assignments in accordance with the emergency plan.

(2) A change could require prior NRC approval if it assigns major functional areas or major tasks to two or more onsite organizations simultaneously such that it would not be clear to ERO members and the OROs which organization has the authority and responsibility for the activity at any point in the response. An example of this type of change could be one in which the TSC and EOF would perform dose projection functions concurrently without assigned hierarchical responsibility.

(3) A change could require prior NRC approval if it would reduce the licensee's capability to staff key ERO positions identified in the plan on a 24/7 basis in accordance with the licensee's fitness-for-duty requirements.

d. Proposed changes to ERO names or titles would generally not require prior NRC approval if they do not change the functional relationships, authorities, competencies, or responsibilities for key positions identified in the plan.

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4.2 10 CFR 50.47(b)(2)—Onsite Emergency Organization

a. The regulation at 10 CFR 50.47(b)(2) states the following:

> On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.

b. Two emergency planning functions have been defined for this planning standard:

(1) The process ensures that onshift emergency response responsibilities are staffed and assigned.

(2) The process for timely augmentation of onshift staff is established and maintained.

c. Sections IV.A.2.a–c, IV.A.3, and IV.C of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.B of NUREG-0654 and the licensee's emergency plan. Changes to the ERO have the potential to affect its performance in the major functional areas and major tasks, and evaluations of the impact of such changes would necessarily involve other emergency planning functions. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would cause any of the major functional areas or major tasks identified in the emergency plan to be unassigned. An example of this type of change would be replacing qualified radiation protection technicians with other personnel who do not have the requisite qualification to provide radiation protection coverage to personnel other than themselves (e.g., coverage for an offsite fire department responding onsite).

(2) A change that increases the ERO augmentation time or a change in how the augmentation time is determined (e.g., when the augmentation period starts and when it ends) could require prior NRC approval if either one would increase the delay in providing meaningful support to the onshift organization beyond the times currently established in the emergency plan. An example of this type of change would be one in which the committed augmentation time is extended by 10 minutes to account for traffic delays or ERO notification or one in which the EOF is relocated such that the augmentation times can no longer be met because of increased ERO travel distances.

(3) A change could require prior NRC approval if it eliminates key positions identified in the plan and reassigns the responsibilities of the eliminated positions to other key positions (e.g., multiple functions) and if it would result in an ERO member being assigned duties that could be expected to be performed concurrently rather than sequentially. An example of this type of change would be one in which control room communicator responsibilities are assigned to a fire brigade member or one in which dose assessment responsibilities are assigned to a shift technical advisor.

(4) A change could require prior NRC approval if it would reduce the availability, or timeliness, of offsite corporate support resources relied on in the plan. An example of

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this type of change would be a consolidation of corporate entities that relocates material, equipment, or personnel relied on in the plan and that impedes the timely availability of these elements to the ERO.

d. A change to ERO staffing levels resulting from changes in circumstances or gains in efficiency would generally not require prior NRC approval provided that it does not impact the timeliness and accuracy of the ERO's performance of major functional areas or major tasks in accordance with the emergency plan. The installation of digital display screens that eliminate the need for status board keepers, the collocation of offsite personnel at the EOF that eliminates the need for liaison positions, and the installation of messaging systems that reduce the needed number of communicators are examples of this type of change.

4.3 10 CFR 50.47(b)(3)—Emergency Response Support and Resources

a. The regulation at 10 CFR 50.47(b)(3) states the following:

> Arrangements for requesting and effectively using assistance resources have been made, arrangements to accommodate State and local staff at the licensee's Emergency Operations Facility have been made, and other organizations capable of augmenting the planned response have been identified.

b. Two emergency planning functions have been defined for this planning standard:

(1) Arrangements for requesting and using offsite assistance have been made.

(2) State and local staff can be accommodated at the EOF in accordance with the emergency plan.

c. Sections IV.A.6 and IV.A.7 of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.C of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it reduces the availability or scope of the onsite services provided by local agencies (e.g., local law enforcement and fire fighting).

(2) A change could require prior NRC approval if it would delay the in-processing of offsite assistance relied on in the emergency plan. For example, health physics personnel are not available to provide radiological coverage to ambulance crews because of staffing changes.

(3) A change could require prior NRC approval if it replaces an offsite radiological laboratory relied on in the emergency plan with a laboratory that does not have the capabilities or licenses that allow it to receive and analyze the radioactive samples anticipated in the emergency plan.

d. A change to the EOF structure, organization, or location that would impede the principal OROs from participating in the response at the EOF would generally not require prior NRC approval provided that these organizations accept the availability of reliable telecommunications capabilities (e.g., videoconferencing, WebEOC™, or digital display boards connected via a data link) as viable alternatives.

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4.4 10 CFR 50.47(b)(4)—Emergency Classification System

a. The regulation at 10 CFR 50.47(b)(4) states the following:

> A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and State and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

b. The following emergency planning function has been defined for this planning standard:

(1) A standard scheme of emergency classification and action levels is in use.

c. Sections IV.B and IV.C of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.D of NUREG-0654 and the licensee's emergency plan.

d. When considering proposed changes associated with EALs, the licensee must consider the impact of the change on the accuracy of the classification and the timeliness of the classification. Section IV.C.2 of Appendix E to 10 CFR Part 50 requires the licensee to have the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications that an EAL has been exceeded and to declare the emergency as soon as possible following the identification of the appropriate emergency classification level. Accurate classifications are also important to avoid underclassifications and overclassifications.

e. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the licensee's capability to assess, classify, and declare an emergency condition within 15 minutes of the availability of indications that an EAL has been exceeded and to promptly declare the emergency condition as soon as possible following the identification of the appropriate emergency classification level. Examples include the following:

(a) a change to the normal shift complement that would delay the licensee's capability to classify an emergency condition by making the expertise to read or interpret a seismic instrument reading cited in the EAL scheme unavailable on shift,

(b) a change to the EAL scheme that would eliminate all predetermined radiation monitor EAL thresholds and rely instead on manually initiated dose projections,

(c) a change to ERO staffing that would impact the timeliness of emergency declaration by assigning competing duties to the ERO positions that are responsible for performing emergency classifications, and

(d) a change to a facility procedure that directs that the 15-minute declaration period starts only after the duration of the condition incorporated in the EAL (e.g., a fire lasting for 10 minutes) has elapsed.

(2) A change to a particular EAL could require prior NRC approval if it renders it ineffective

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such that an accurate classification and timely declaration would not occur as required for an event. Examples include the following:

(a) a change to mode applicability of the EAL that excludes an operating mode in which the EAL should be applicable,

(b) a change to the logic of an EAL that would result in a particular event not being declared when the declaration would have occurred before the change,

(c) a change that would replace a viable quantifiable EAL threshold (e.g., an instrument reading or alarm) with a qualitative EAL that relies on user judgment to reach a declaration,

(d) a change that reexpresses field monitor EALs in radiation units (e.g., total effective dose equivalent) that could not be measured directly in the field and for which monitoring procedures provide no conversion algorithm, and

(e) a change to the language of a particular EAL that would render the classification logic unclear and could potentially result in an inaccurate classification (e.g., a site area emergency EAL that reads "vandalism to safety-related equipment" without further qualification or quantification could be applied to events as diverse as someone putting graffiti on an inverter cabinet surface or someone hitting a safety injection pump casing with a sledge hammer).

(3) A change could require prior NRC approval if it would result in an EAL that deviates from the meaning or intent of the approved EAL bases such that the classification of the event would be different from that approved by the NRC in a site-specific application or from an endorsed industry EAL scheme that had been approved for licensee use.

f. The following examples would generally not require prior NRC approval:

(1) A change to an EAL numeric threshold to reflect an approved change in a technical specification would generally not require prior NRC approval provided that the basis of the approved EAL is unchanged (e.g., an EAL basis refers to a particular technical specification but not a limiting condition for operation value).

A change to an EAL numeric threshold to reflect a change in a plant design parameter, instrument response characteristics, or design calculation would generally not require prior NRC approval provided that the meaning or intent of the basis of the approved EAL is unchanged.

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4.5 10 CFR 50.47(b)(5)—Emergency Notifications

a. The regulation at 10 CFR 50.47(b)(5) states the following:

> Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations and the public has been established; and means to provide early notification and clear instruction to the populace within the plume exposure pathway Emergency Planning Zone have been established.

b. Three emergency planning functions have been defined for this planning standard:

(1) Procedures for notification of State and local governmental agencies are capable of initiating notification within 15 minutes after declaration of an emergency.

(2) Administrative and physical means have been established for alerting and providing prompt instructions to the public within the plume exposure pathway.

(3) The public ANS meets the design requirements of FEMA-REP-10, "Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants" (Ref. 12), or is compliant with the licensee's FEMA-approved ANS design report and supporting FEMA approval letter.

c. Sections IV.D.1 and IV.D.3 of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.E and Appendix 3 to NUREG-0654 and the FEMA-approved ANS design report.

d. Because the performance of an ANS is an offsite concern, FEMA has the primary responsibility and authority for evaluating the design of an ANS. If the licensee has assumed responsibility for the installation and maintenance of the ANS on behalf of the State or local government, the licensee will have prepared a site-specific ANS design report. The State would submit this report to FEMA for its review. The ANS design report defines the design of the ANS, including the alerting system (e.g., sirens, tone alert radio, and route alert) and the notification system. The ANS design report identifies commitments for testing and maintenance. The NRC considers the approved ANS design report to be part of the facility's licensing basis because it establishes the basis of the NRC's determination that the licensee has complied with Section IV.D.3 of Appendix E to 10 CFR Part 50. Changes to the licensee's commitments documented in the approved ANS design report are evaluated against the criteria of 44 CFR 350.14. If warranted, the responsible State official must submit the proposed changes to FEMA for review and approval in accordance with 44 CFR 350.14.

e. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the licensee's capability to promptly make emergency notifications to responsible OROs within 15 minutes after declaring an emergency. Examples include the following:

(a) a change to notification forms and their processing that reduces the accuracy or timeliness of emergency notifications,

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(b) a change to the description of communications hardware that would reduce the capability to initiate and complete required emergency notifications within 15 minutes of the emergency declaration,

(c) a change that directs the restart of the 15-minute criterion clock if the condition escalates before the notifications for the prior emergency level are made,

(d) a change that eliminates one or more components of initial or followup notifications specified in Section II.E of NUREG-0654 or the licensee's approved emergency plan (e.g., an omission of whether protective actions are necessary), and

(e) a change to ERO staffing that affects the timeliness of emergency notifications by assigning collateral duties to the ERO positions that are responsible for performing emergency notifications.

f. The following examples would generally not require prior NRC approval:

(1) A change to emergency notification forms to implement an EAL designation scheme that was coordinated with the OROs would generally not require prior NRC approval.

(2) A change to emergency notification protocols requested by a State to have a followup verbal discussion between the licensee and the State to discuss the licensee's PAR would generally not require prior NRC approval provided that the initial notification, including the PAR, continues to be made promptly within 15 minutes of the emergency declaration.

4.6 10 CFR 50.47(b)(6)—Emergency Communications

a. The regulation at 10 CFR 50.47(b)(6) states the following:

> Provisions exist for prompt communications among principal response organizations to emergency personnel and to the public.

b. Two emergency planning functions have been defined for this planning standard:

(1) Systems are established for prompt communication among principal emergency response organizations.

(2) Systems are established for prompt communication to emergency response personnel.

c. Section IV.E.9 of Appendix E to 10 CFR Part 50 provides supporting requirements. Informing criteria appear in Section II.F of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the availability and reliability of primary and backup communications systems used to (1) notify and activate State and local emergency response centers or (2) enable communications between the licensee's ERFs and with ORO and Federal emergency operating centers in accordance with the emergency plan (e.g., replacing dedicated private lines with a public exchange service).

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(2) A change to ERO callout procedures or hardware could require prior NRC approval if it would delay ERO notification such that the augmentation times in the emergency plan can no longer be achieved.

(3) A change could require prior NRC approval if it adjusts the frequency of communication testing or maintenance to a level that the site's experience with system reliability does not support. An example of this type of change would be a scheduled maintenance interval that is greater than the observed mean time between failures of the equipment or a reduction in the availability of backup capabilities.

d. A change to replace the phone-talker relay of interfacility communications with digital data communication would generally not require prior NRC approval provided that the replacement is equivalent to, or better than, the current system with regard to timeliness, accuracy, and reliability. (The licensee's 10 CFR 50.54(q) evaluation should address the requisite equivalency.)

4.7 10 CFR 50.47(b)(7)—Emergency Public Information

a. The regulation at 10 CFR 50.47(b)(7) states the following:

> Information is made available to the public on a periodic basis on how they will be notified and what their initial actions should be in an emergency (e.g., listening to a local broadcast station and remaining indoors), the principal points of contact with the news media for dissemination of information during an emergency (including the physical location or locations) are established in advance, and procedures for coordinated dissemination of information to the public are established.

b. Two emergency planning functions have been defined for this planning standard:

(1) Emergency preparedness information is made available to the public on a periodic basis within the plume exposure pathway EPZ.

(2) Coordinated dissemination of public information during emergencies is established.

c. Section IV.D.2 of Appendix E to 10 CFR Part 50 provides supporting requirements. Informing criteria appear in Section II.G of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the licensee's capability to disseminate information to the public in a timely and accurate manner during emergencies in accordance with the emergency plan. Examples include the following:

(a) Media contact lists would not be kept up to date.

(b) Procedural approval protocols cannot be implemented because of organizational changes.

(c) Corporate spokespersons would not be familiar enough with a particular site and its reactors to be credible spokespersons.

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(d) Sufficient staffing would not be available to adequately perform assigned functions and tasks related to public information.

(e) News releases would not be released in a timely manner such that outdated information could be released after it has been superseded by subsequent events (e.g., a press release addressing the declaration of a notification of an unusual event would be released after the ERO has already declared a site area emergency).

(f) News releases and briefings would not be routinely coordinated with those provided by OROs.

(2) A change to annually disseminate public emergency information material or postings could require prior NRC approval if it would result in the material not containing the minimum information identified in Section II.G of NUREG-0654 or an NRC-approved alternative.

(3) A change in the means of distributing the annual information materials could require prior NRC approval if it would reduce the assurance that the permanent and transient adult population within the plume exposure EPZ has been given an adequate opportunity to become aware of the information.

d. A revision to the annual emergency information packet that changes the format from a brochure to a calendar would generally not require prior NRC approval provided that the calendar still includes all required information.

4.8 10 CFR 50.47(b)(8)—Emergency Facilities and Equipment

a. The regulation at 10 CFR 50.47(b)(8) states the following:

> Adequate emergency facilities and equipment to support the emergency response are provided and maintained.

b. Two emergency planning functions have been defined for this planning standard:

(1) Adequate facilities are maintained to support emergency response.

(2) Adequate equipment is maintained to support emergency response.

c. Sections IV.E.1–4, IV.E.8, and IV.G of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.G of NUREG-0654; NUREG-0696, "Functional Criteria for Emergency Response Facilities," issued February 1981 (Ref. 13); and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the capability of the ERO in the TSC, EOF, or OSC to perform assigned functions and tasks in accordance with the emergency plan. Examples include the following:

(a) a reduction in the existing reliability or redundancy of data acquisition, display, and analysis equipment provided in the ERFs,

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(b) a relocation of an EOF that makes it infeasible for State or local ORO personnel to respond to, and participate in, the EOF as they currently do without adequate compensatory measures,

(c) a permanent substitution of personal protective equipment for installed engineered habitability features,

(d) a reduction in the frequency of ERF equipment maintenance, calibration, or testing that is not supported by the site's experience with equipment reliability (e.g., a frequency greater than the observed mean time between failures),

(e) a change to an ERF use that allows nonemergency uses that would decrease the readiness of the ERF for emergency use, and

(f) a change that reduces the inventory or availability of equipment.

d. The following examples would generally not require prior NRC approval:

(1) A change that replaces existing ERF equipment with equipment of like quality, reliability, performance, and user interface would generally not require prior NRC approval. (The licensee's 10 CFR 50.54(q) evaluation must document the basis of this equivalency conclusion.)

(2) A planned change to relocate the EOF that impedes the principal OROs from participating in the response at the EOF would generally not require prior NRC approval provided that these organizations accept the availability of reliable telecommunications capabilities (e.g., videoconferencing, WebEOC™, or digital display boards connected via a data link) as viable alternatives. (However, see Regulatory Position 2.)

4.9 10 CFR 50.47(b)(9)—Emergency Assessment Capability

a. The regulation at 10 CFR 50.47(b)(9) states the following:

> Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.

b. The following emergency planning function has been defined for this planning standard:

(1) Methods, systems, and equipment for assessment of radioactive releases are in use.

c. Sections IV.B and IV.E.2 of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.I of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the capability of the ERO to perform assessments of imminent and ongoing radioactive releases in accordance with the emergency plan. Examples include the following:

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(a) a change that reduces the availability of meteorological data in ERFs where dose assessments are performed and PAR decisions are made,

(b) a change in ERO staffing that would eliminate the onshift capability to make timely and accurate estimates of the actual or potential radiological hazards through liquid or gaseous release pathways,

(c) the reassignment of dose assessment responsibilities from a site-specific EOF member to a common EOF manned with ERO personnel who are not sufficiently competent in the site's radiation monitoring systems, ventilation systems, source terms, or potential release paths to perform a credible dose assessment,

(d) the replacement of a site-specific dose assessment model with a generic model that provides results that have not been shown to be representative for the topography, meteorological regimes (e.g., valley effects or sea breeze), release pathways, or source terms applicable to that plant and its environs,

(e) a change in field-monitoring air sampling media such that the requisite iodine sensitivity could not be met because of interference from the presence of noble gases, and

(f) changes to dose assessment software that would reduce the options available to assessment personnel to perform assessments for releases that have not yet started or that could occur through unmonitored release paths.

d. The following examples would generally not require prior NRC approval:

(1) A change that replaces existing field monitoring equipment with equipment of like quality, reliability, performance, and user interface would generally not require prior NRC approval. (The licensee's 10 CFR 50.54(q) evaluation must document the basis of this equivalency conclusion.)

(2) A change to dose assessment software that updates site parameter files to reflect a change in detector isotopic efficiencies would generally not require prior NRC approval provided that it results from an approved upgrade to the effluent radiation monitoring system.

4.10 10 CFR 50.47(b)(10)—Emergency Protective Actions

a. The regulation at 10 CFR 50.47(b)(10) states the following:

> A range of protective actions has been developed for the plume exposure pathway EPZ for emergency workers and the public. In developing this range of actions, consideration has been given to evacuation, sheltering, and, as a supplement to these, the prophylactic use of potassium iodide (KI), as appropriate. Evacuation time estimates have been developed by applicants and licensees. Licensees shall update the evacuation time estimates on a periodic basis. Evacuation time estimates and updates must be submitted to the NRC for review to confirm adequacy. Guidelines for the choice of protective actions during an emergency, consistent with Federal guidance, are developed and in place, and protective actions for the ingestion exposure pathway EPZ appropriate to the locale have been developed.

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b. Three emergency planning functions have been defined for this planning standard:

(1) A range of public PARs is available for implementation during emergencies.

(2) Evacuation time estimates for the population located in the plume exposure pathway EPZ are available to support the formulation of PARs and have been provided to State and local governmental authorities.

(3) A range of protective actions is available for plant emergency workers during emergencies, including those for hostile action events.

c. Appendix E to 10 CFR Part 50 does not contain any support requirements. Informing criteria appear in NUREG-0654 in Sections II.J.1–8, Section II.J.10, and Supplement 3 and in the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the capability of the ERO to implement timely and appropriate protective actions for onsite employees and other individuals present in the plant areas controlled by the licensee and to make timely and appropriate PARs to State and local officials in accordance with the emergency plans. Examples include the following:

(a) a change that would result in unescorted persons on site not receiving adequate instruction in site evacuation or site accountability,

(b) a change that could result in personnel who are not qualified to wear respiratory protection devices being assigned to ERO positions with functions and tasks that could reasonably require the use of such equipment,

(c) a change that would result in PARs that relax earlier PARs that have already been relayed to OROs and are being implemented by the public,

(d) a change that reduces the availability of ERO personnel who are qualified to wear personal protection equipment (PPE) to perform their assigned functions or that reduces the availability of PPE for use by these personnel,

(e) a change to PAR decision logic that would mandate 5-mile, 360-degree radius evacuations as a minimum PAR even when the actual wind persistence and wind direction forecasts at the time of the emergency do not warrant such an action,

(f) a change to PAR decision logic such that the range of protective actions considered by the ERO would be inappropriately restricted to the extent that the most effective PAR (lowest overall risk to the individual) might not be implemented, and

(g) changes that reduce the control a licensee has over access to the owner-controlled area or exclusion area (e.g., a public roadway traversing the site or a public recreational area located within the exclusion area).

d. The following examples would generally not require prior NRC approval:

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(1) A change that replaces existing PPE with equipment of like quality, reliability, performance, and operation would generally not require prior NRC approval. (The licensee's 10 CFR 50.54(q) evaluation must document the basis of this equivalency conclusion.)

(2) A change to a PAR decision that removes KI as a PAR option for the public following the decision by State officials to no longer issue KI to the public would generally not require prior NRC approval.

4.11 10 CFR 50.47(b)(11)—Emergency Radiological Exposure Control

a. The regulation at 10 CFR 50.47(b)(11) states the following:

> Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.

b. The following emergency planning function has been defined for this planning standard:

(1) The means for controlling radiological exposures for emergency workers are established.

c. Section IV.E.1 of Appendix E to 10 CFR Part 50 provides supporting requirements. Informing criteria appear in Section II.K of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change could require prior NRC approval if it would reduce the capability of the ERO to control the radiological exposures of emergency workers in accordance with the emergency plans. Examples include the following:

(a) radiation exposures incurred during an emergency not being recorded as occupational exposure under 10 CFR Part 20, "Standards for Protection against Radiation,"

(b) radiation dosimetry not being issued in accordance with emergency plans to offsite assistance (e.g., ambulance, fire, or local law enforcement) entering the radiologically controlled area,

(c) personnel decontamination materials and agents not being maintained in a ready state, and

(d) authority to authorize emergency exposure limits not being available 24/7.

d. A change that replaces existing radiological protection instrumentation (e.g., friskers, survey instruments, continuous air monitors, or dosimeters) relied on in the emergency plan with equipment of like quality, reliability, performance, and operation would generally not require prior NRC approval. (The licensee's 10 CFR 50.54(q) evaluation must document the basis of this equivalency conclusion.)

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4.12 10 CFR 50.47(b)(12)—Emergency Medical Support

a. The regulation at 10 CFR 50.47(b)(12) states the following:

> Arrangements are made for medical services for contaminated injured individuals.

b. The following emergency planning function has been defined for this planning standard:

(1) Arrangements are made for medical services for contaminated, injured individuals.

c. Sections IV.E.5–7 of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.L of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change that terminates a letter of agreement with an offsite medical facility relied on in the emergency plan could require prior NRC approval if it would delay medical treatment for contaminated, injured individuals without a viable alternative facility accessible within a timeframe consistent with the urgency of emergency medical treatment.

(2) A change in licensee training assistance to an offsite medical facility identified in the emergency plan could require prior NRC approval if it degrades the ability of hospital personnel to handle contaminated, injured individuals (e.g., training on radiological contamination control involving contaminated, injured individuals or the general primacy of trauma treatment over treatment for radiation exposure).

(3) A change in ERO staffing or in the availability of emergency kits could require prior NRC approval if it would preclude site personnel from ensuring that the receiving medical facility has implemented adequate radiological contamination controls.

(4) A change in ERO staffing or in the availability of emergency kits could require prior NRC approval if it would reduce onsite first aid capabilities identified in the emergency plan.

d. A change in the designation of a replacement offsite medical facility would generally not require prior NRC approval provided that the new facility has equivalent capabilities and is accessible within a timeframe consistent with the urgency of emergency medical treatment. (The licensee's 10 CFR 50.54(q) evaluation must document the basis of this equivalency conclusion.)

4.13 10 CFR 50.47(b)(13)—Recovery and Reentry Planning

a. The regulation at 10 CFR 50.47(b)(13) states the following:

> General plans for recovery and reentry are developed.

b. The following emergency planning function has been defined for this planning standard:

(1) Plans for recovery and reentry are developed.

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c. Appendix E to 10 CFR Part 50 does not contain any supporting requirements. Informing criteria appear in Section II.M of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change to the criteria for terminating the emergency and transitioning to a recovery organization could require prior NRC approval if it reduces the likelihood of an orderly transition, including coordination with State officials, to a recovery organization for the spectrum of accident scenarios enveloped by the NUREG-0654 planning basis.

(2) A change could require prior NRC approval if it would not provide an adequate level of personal protection in uncertain reentry conditions.

(3) A change could require prior NRC approval if it reduces the level of detail in plan provisions for the structure of the recovery organization and the authorities and responsibilities of key personnel assigned such that a reasonable general framework no longer exists.

d. A proposed change to the general framework of a recovery organization to reflect changes in position titles made in the normal operating organizations would generally not require prior NRC approval.

4.14 10 CFR 50.47(b)(14)—Drill and Exercise Program

a. The regulation at 10 CFR 50.47(b)(14) states the following:

> Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.

b. Three emergency planning functions have been defined for this planning standard:

(1) A drill and exercise program (including radiological, medical, health physics, and other program areas) is established.

(2) Drills, exercises, and training evolutions are assessed via a formal critique process in order to identify weaknesses.

(3) Identified weaknesses are corrected.

c. Sections IV.F.1–2 of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.N of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change in the conduct of drills and exercises could require prior NRC approval if it would reduce the challenge to ERO personnel to the extent that they are not provided adequate opportunities over the exercise planning cycle to practice key functional areas and major tasks, including the use of the plan, procedures, and equipment associated with

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those functions and tasks. Examples include the following:[5]

(a) use of the same general scenarios from exercise to exercise,

(b) frequent reuse of a given scenario,

(c) lack of sufficient detail in a scenario on an expected ERO response to the data and situations presented by the scenario,

(d) scenarios and controller conduct that do not cause drill or exercise participants to "work for the information" as they would in an actual event,

(e) an overreliance on player simulation when valid constraints to actual play do not exist (e.g., not obtaining the tools and parts for a simulated repair activity, not obtaining or reviewing the radiation work permit, not donning protective clothing and equipment, not going to the location of the repair, or returning to the OSC sooner than the actual repair would have taken),

(f) scenarios that never allow ERO success to change the course of the exercise, and

(g) scenario objectives that never exercise the use of backup capabilities (e.g., loss of the primary ring-down phone used for initial notifications).

(2) A change in the conduct of drill and exercise critiques could require prior NRC approval if it reduces the ability of the critique to adequately identify weaknesses in the ERO play and to implement necessary corrective actions. An example would be a critique process that does not identify and formally evaluate any deviation in the ERO performance expected by the scenario. The licensee needs to evaluate such situations to determine whether the scenario was wrong or whether the ERO was wrong. In either case, the licensee needs to evaluate the situation and take the appropriate corrective actions.

d. A change in the overall exercise program schedule would generally not require prior NRC approval provided that the program continues to meet the scheduling requirements in Appendix E to 10 CFR Part 50.

4.15 10 CFR 50.47(b)(15)—Emergency Responder Training

a. The regulation at 10 CFR 50.47(b)(15) states the following:

> Radiological emergency response training is provided to those who may be called on to assist in an emergency.

b. The following emergency planning function has been defined for this planning standard:

(1) Training is provided to emergency responders.

[5] The licensee should not construe this list as containing regulatory requirements that it needs to address in each and every exercise but instead as possible reductions in effectiveness if it does not address them in the drill and exercise program as a whole.

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c. Sections IV.F.1–2 of Appendix E to 10 CFR Part 50 provide supporting requirements. Informing criteria appear in Section II.O of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

(1) A change in the conduct of ERO training could require prior NRC approval if it does not provide ERO personnel sufficient training and other performance development opportunities related to their assigned functions and responsibilities to allow them to perform those functions and responsibilities in an acceptable manner before they are assigned to key ERO positions and periodically as long as they continue to be so assigned. Examples include the following:

(a) a change that reduces the frequency of required training that is not supported by demonstrated ERO performance in drills and exercises or by the frequency of changes in the emergency plan and its supporting procedures,

(b) a change that reduces the frequency at which training materials are updated to reflect changes in the emergency plan and procedures,

(c) a change that lengthens the time to address ERO performance weaknesses attributed to training deficiencies, inconsistent with the significance of the weakness,

(d) a change that eliminates training effectiveness measurements (tests and job performance measurements) that are currently required, and

(e) a change that reduces the availability of site familiarization training that is currently presented to offsite assistance groups (e.g., firefighters, local law enforcement, and medical services, including mutual aid companies that would support these groups onsite).

d. A change to emergency training program lesson plans to conform with approved changes in the emergency plan or to plant systems and equipment relied on in that plan would generally not require prior NRC approval.

4.16 10 CFR 50.47(b)(16)—Emergency Plan Maintenance

a. The regulation at 10 CFR 50.47(b)(16) states the following:

> Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.

b. Two emergency planning functions have been defined for this planning standard:

(1) Responsibility for emergency plan development and review is established.

(2) Emergency planning personnel are properly trained.

c. Appendix E to 10 CFR Part 50 does not contain any supporting requirements. Informing criteria appear in Section II.P of NUREG-0654 and the licensee's emergency plan. The following are examples of changes to the licensee's emergency plan that could require prior NRC approval:

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(1) A change could require prior NRC approval if it reduces management oversight and control over the emergency preparedness program to the extent that the effectiveness of the emergency plan may be reduced. Examples include the following:

(a) a decrease in the scope, periodicity, or independence of the performance of emergency preparedness program reviews,

(b) an increase in the amount of time necessary to implement changes to needed emergency plan and supporting procedures identified as corrective actions for identified plan deficiencies and ERO weaknesses,

(c) changes in the scope or frequency of training and performance enhancement opportunities for emergency preparedness management and staff, and

(d) delegation of responsibility for the performance of various aspects of emergency plan maintenance to contractors or other external groups without adequate supervisory oversight to ensure that program elements continue to be met (e.g., a change delegating the testing and maintenance of the ANS to an external group that is not subject to typical nuclear facility work process and configuration controls).

d. A proposed change that consolidates some site emergency preparedness program maintenance and review activities with those of sister facilities within a corporation would generally not require prior NRC approval provided that site-specific commitments continue to be met.

5. Review Process

a. This section provides an acceptable approach for performing the change review required by 10 CFR 50.54(q)(3), submitting proposed changes for NRC review under 10 CFR 50.54(q)(4), and documenting the changes and their analyses under 10 CFR 50.54(q)(5) and (6). The licensee should use this section in conjunction with Regulatory Positions 1, 3, and 4. Appendix A to this guide provides an illustration of the major steps of this review approach.

5.1 Screening Changes

a. The licensee should screen all proposed changes to the emergency plan to determine whether a 10 CFR 50.54(q) evaluation is necessary and to determine whether another formal change process is applicable. The purpose of this screening is not to decide which proposed changes could reduce effectiveness but instead whether a 10 CFR 50.54(q) change evaluation is necessary. The licensee should screen each proposed change separately and reserve the treatment of changes collectively for (1) repetitive identical changes, (2) editorial or typographical changes such as formatting, paragraph numbering, spelling, or punctuation that do not change intent, (3) conforming changes, or (4) two or more elements that are interdependent (e.g., a change to one element compensates for a change to another element). The licensee should document this screening if it concludes that a 10 CFR 50.54(q) evaluation is not necessary.

b. Does another change process control the proposed change? If so, implement the other change process. If the proposed change is subject to one or more change processes in addition to 10 CFR 50.54(q), compliance with all of the applicable change processes is required. For example, a change to the radiation monitoring system described in the FSAR that is subject to a

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technical specification and that impacts an EAL threshold could be subject to 10 CFR 50.59, "Changes, Tests, and Experiments," 10 CFR 50.90, and 10 CFR 50.54(q). Continue with Regulatory Position 5.1.c..

(1) Does the proposed change affect information provided in the FSAR? If so, the change must be screened for its applicability to 10 CFR 50.59.

(2) Does the proposed change require a revision to a technical specification? If so, a license amendment under 10 CFR 50.90 is required before the licensee can implement the change.

(3) Implement the following change processes as applicable: (1) apply 10 CFR 50.54(a) for quality assurance programs and (2) apply 10 CFR 50.54(p) for a safeguards plan.

(4) The regulation at 44 CFR 350.14 describes the applicable change process for proposed changes that affect the design, operation, testing, or maintenance of the ANS. The cognizant State official(s) must request prior approval from FEMA for implementation of the proposed changes.

c. Does the proposed action meet the definition of "change" to the "emergency plan" in 10 CFR 50.54(q)(1)(i) and (ii), respectively, as expanded on in Regulatory Positions 3.6 and 3.5? If not, the change process in 10 CFR 50.54(q)(3) and (4) is not applicable. Otherwise, continue with Regulatory Position 5.1.d.

d Would the emergency plan, modified as proposed, continue to comply with planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50? If not, the change must be processed as an exemption request under 10 CFR 50.12, "Specific Exemptions," rather than under 10 CFR 50.54(q). Otherwise, continue with Regulatory Position 5.1.e.

e. Does the proposed change involve program elements associated with one or more emergency planning functions as defined in 10 CFR 50.54(q)(1)(iii) and as expanded on in Regulatory Position 4 of this guide? If not, the proposed change may be implemented without prior NRC approval. Otherwise, continue with Regulatory Position 5.2

5.2 <u>Evaluation Process</u>

a. The licensee must evaluate proposed changes to the emergency plan, which the above screening process did not disposition, under 10 CFR 50.54(q)(3) to determine whether the change reduces the effectiveness of the emergency plan. The licensee should submit changes determined to reduce the effectiveness of the emergency plan to the NRC for approval as described in Regulatory Position 5.3.

b. When considering the impact of a change on one or more program elements, note that a change to a single program element may not always reduce the effectiveness of the associated emergency planning function. This would need to be considered on a case-by-case basis. In addition, a change to a program element under one planning standard may reduce the effectiveness of a different planning standard. For example, a change to a training module for emergency classification could reduce the effectiveness of the emergency classification process if its content is inconsistent with the plan.

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c. The evaluation process should address the items listed below.

(1) Identify the individual proposed changes to be evaluated. Each proposed change should be evaluated separately. The treatment of changes collectively should be reserved for (1) repetitive identical changes, (2) editorial or typographical changes such as formatting, paragraph numbering, spelling, or punctuation that does not change intent, (3) conforming changes, or (4) two or more elements that are interdependent (e.g., a change to one element compensates for a change to another element).

(2) For each proposed change, determine the licensing basis for each existing program element that is being changed using the guidance in Regulatory Position 1.6. The impact of a proposed change cannot be adequately assessed without knowledge of the rationale for the original structure of the affected program element.

(3) Identify the emergency planning functions affected by each proposed change. Use the information in Regulatory Position 4 and the evaluation criteria in NUREG-0654 to inform this evaluation. Recognize that a proposed change can impact more than one emergency planning function.

(4) For each proposed change, evaluate whether the proposed change would reduce the capability to perform emergency planning functions (i.e., reduce the effectiveness of the emergency plan). Refer to Regulatory Positions 1–4 in making these determinations.

(5) The NRC expects licensees' 10 CFR 50.54(q) evaluations to be of a level of rigor and thoroughness consistent with the scope of the proposed changes with particular emphasis placed on the risk-significant planning standards (10 CFR 50.47(b)(4), (5), (9), and (10)). The NRC would consider any 10 CFR 50.54(q) evaluation that is of inadequate scope and extent to reasonably assess the impact of the proposed change on the effectiveness of the emergency plan to be a violation of the rule.

(6) In cases in which the licensee is unsure whether the proposed changes constitute a reduction in effectiveness, the NRC suggests that it should arrange a preapplication conference call with the NRC Headquarters staff to discuss the proposed change and ask the staff to clarify the regulatory positions in this guide. Note that this preapplication conference call does not relieve the licensee of its authority and responsibility under 10 CFR 50.54(q)(3) to determine whether the change constitutes a reduction in effectiveness.

(7) In a departure from previous EP guidance, the NRC is no longer separately treating alternative methods for complying with EP regulations. The agency expects the licensee to evaluate all such alternative approaches under 10 CFR 50.54(q)(3), as it would any proposed change, to determine whether the proposed approach reduces the effectiveness of the emergency plan. The licensee must submit proposed changes that it determines to cause a reduction in effectiveness for prior NRC approval under 10 CFR 50.54(q)(4) and Regulatory Position 5.3.

5.3 Approval for Changes That Reduce Effectiveness

a. The regulation at 10 CFR 50.54(q)(4) requires the licensee to submit a license amendment application in accordance with 10 CFR 50.90 for prior NRC approval of a change that it believes will reduce the effectiveness of its emergency plan. In addition to the filing requirements in

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10 CFR 50.90, the application must include all emergency plan pages affected by the change and a forwarding letter identifying the change(s), the reason for the change(s), and the licensee's basis for concluding that its emergency plan, as modified, continues to meet the planning standards in 10 CFR 50.47(b) and the requirements in Appendix E to 10 CFR Part 50. The NRC may approve, deny, or return, as appropriate, the license amendment application in accordance with 10 CFR 50.91, "Notice for Public Comment; State Consultation," and 10 CFR 50.92, "Issuance of Amendment."

5.4 Documentation of Changes

a. The regulation at 10 CFR 50.54(q)(5) requires the licensee to retain a record of each change to the emergency plan made without prior NRC approval for a period of 3 years from the date of the change. This record should explicitly identify each change made and the basis for the licensee's determination that the change would not require prior NRC approval. All conclusions made under 10 CFR 50.54(q) should be supported by defensible rationale statements (e.g., "The proposed change does not affect planning standard (b)(5) because…."). The amount of rationale will necessarily vary with the scope and nature of the change; a simple checkoff is generally not acceptable because it cannot represent what the reviewer considered or explain the reviewer's basis for the conclusion.

b. The regulation at 10 CFR 50.4 requires the licensee to submit a report of each such change, including a summary of its analysis, within 30 days after the change is put into effect.

c. The regulation at 10 CFR 50.54(q)(6) requires the licensee to retain the emergency plan and each change for which it obtained prior NRC approval under 10 CFR 50.54(q)(4) as a record until the Commission terminates the license for the nuclear power reactor. Although the licensee is not required to maintain records of changes made without prior NRC approval beyond 3 years, a lack of change documentation does not absolve the licensee from having to justify any change that is subsequently questioned about its impact on the effectiveness of the licensee's emergency plan. As such, a licensee may find it prudent to save all emergency plan change documentation to facilitate the resolution of such issues.

D. IMPLEMENTATION

The purpose of this section is to provide information on how licensees may use this guide and information regarding the NRC's plans for using this Regulatory Guide. In addition, it describes how the NRC staff has complied with the Backfit Rule, 10 CFR 50.109.

Licensees' Use

Licensees may (i.e., voluntarily) use the information in this Regulatory Guide to develop amendments to licenses or other requests for NRC regulatory approval (e.g., exemptions). Licensees may use the information in this Regulatory Guide for actions which do not require prior NRC review and approval (e.g., changes to an emergency plan under 10 CFR 50.54 which do not require prior NRC review and approval). Licensees may use the information in this Regulatory Guide or applicable parts to resolve regulatory or inspection issues (e.g., by committing to comply with provisions in the regulatory guide).

A licensee who believes that the NRC staff is inappropriately imposing this Regulatory Guide as part of a request for a license amendment or request for a change to a previously issued NRC regulatory approval may file a backfitting appeal with the NRC in accordance with applicable procedures.

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NRC Staff Use

The NRC staff does not intend or approve any imposition or backfitting of the guidance in this Regulatory Guide. The staff does not expect any existing licensee to use or commit to using the guidance in this Regulatory Guide in the absence of a licensee-initiated change to its licensing basis. In such cases, the guidance in this Regulatory Guide would be used to evaluate a licensee's new determination of a reduction in effectiveness resulting from changes to the licensee's emergency plan made by the licensee on or after the effective date of this Regulatory Guide. The NRC staff does not expect or plan to request licensees to voluntarily adopt this Regulatory Guide to resolve a generic regulatory issue. The NRC staff does not expect or plan to initiate NRC regulatory action which would require the use of this Regulatory Guide (e.g., issuance of an order requiring the use of the Regulatory Guide, requests for information under 10 CFR 50.54(f) as to whether a licensee intends to commit to use of this Regulatory Guide, generic communication, or promulgation of a rule requiring the use of this Regulatory Guide) without further back-fit consideration.

This Regulatory Guide will not be applied retroactively in evaluating emergency plan changes that were put into effect before the effective date of this Regulatory Guide. Emergency plan changes made before the effective date of this Regulatory Guide will be evaluated for compliance with the version of 10 CFR 50.54(q) that existed at the time the change was put into effect.

During inspections of specific facilities, the staff may suggest or recommend that licensees consider various actions consistent with staff positions in this Regulatory Guide. Such suggestions and recommendations would not ordinarily be considered backfitting even if prior versions of this Regulatory Guide are part of the licensing basis of the facility with respect to the subject matter of the inspection. However, the staff may not represent to the licensee that: (i) the licensee's failure to comply with the positions in this Regulatory Guide constitutes a violation; (ii) the licensee may avoid the violation by agreeing to comply with this Regulatory Guide; or (iii) the only acceptable way for the licensee to address the NRC-identified non-compliance or violation is to commit to this Regulatory Guide (i.e., including this Regulatory Guide in the facility's licensing basis).

If an existing licensee seeks a license amendment or change to an existing regulatory approval, and the staff's consideration of the request involves a regulatory issue which is directly relevant to this Regulatory Guide and the specific subject matter of the new or revised guidance is an essential consideration in the NRC staff's determination of the acceptability of the licensee's request, the staff may require the licensee to use this Regulatory Guide as a prerequisite for NRC approval. This is not considered backfitting as defined in 10 CFR 50.109(a)(1) or a violation of any of the issue finality provisions in 10 CFR Part 52.

Conclusion

This Regulatory Guide is not being imposed upon current licensees and may be voluntarily used by existing licensees. In addition, this Regulatory Guide is issued in conformance with all applicable internal NRC policies and procedures governing backfitting. Accordingly, the NRC's staff issuance of this Regulatory Guide is not considered backfitting, as defined in 10 CFR 50.109(a)(1).

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REFERENCES[1]

1. 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities," U.S. Nuclear Regulatory Commission, Washington, DC.

2. 45 FR 55409, "Emergency Planning," *Federal Register*, Volume 45, p. 55409, Washington, DC, August 19, 1980.

3. XX FR XXXX, "Enhancements to Emergency Preparedness Regulations," *Federal Register*, Volume XX, p. XXXXX, Washington, DC, AAAAAA XX, 2011.

4. 10 CFR Part 52, "Licenses, Certifications, and Approvals for Nuclear Power Plants," U.S. Nuclear Regulatory Commission, Washington, DC.

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

6. 51 FR 30028, "Safety Goals for the Operations of Nuclear Power Plants," *Federal Register*, Volume 51, p. 30028, Washington, DC, August 4, 1986.

7. EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents," U.S. Environmental Protection Agency, Washington, DC, May 1992. (Available at http://www.epa.gov/radiation/docs/er/400-r-92-001.pdf.)

8. Generic Letter 80-90, "Post-TMI Requirements," U.S. Nuclear Regulatory Commission, Washington, DC, October 31, 1980. (Available at http://www.nrc.gov/reading-rm/doc-collections/gen-comm/gen-letters/1980/gl80090.html.)

9. Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," U.S. Nuclear Regulatory Commission, Washington, DC.

10. NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants: LWR Edition," Chapter 13, "Conduct of Operations," Section 13.3, "Emergency Planning," Revision 3, U.S. Nuclear Regulatory Commission, Washington, DC, March 2007.

11. Inspection Manual Chapter 0609, "Significance Determination Process," Appendix B, "Emergency Preparedness Significance Determination Process," U.S. Nuclear Regulatory Commission, Washington, DC, March 6, 2003. (ADAMS Accession No. ML051400248)

12. FEMA-REP-10, ""Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants," Federal Emergency Management Agency, Washington, DC, November 1985. (ADAMS Accession No. ML102510343)

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1 Publicly available NRC published documents are available electronically through the Electronic Reading Room on the NRC's public Web site at http://www.nrc.gov/reading-rm/doc-collections/. 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; the mailing address is USNRC PDR, Washington, DC 20555; telephone (301) 415-4737 or (800) 397-4209; fax (301) 415-3548; and e-mail pdr.resource@nrc.gov.

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13. NUREG-0696, “Functional Criteria for Emergency Response Facilities,” U.S. Nuclear Regulatory Commission, Washington, DC, February 1981.

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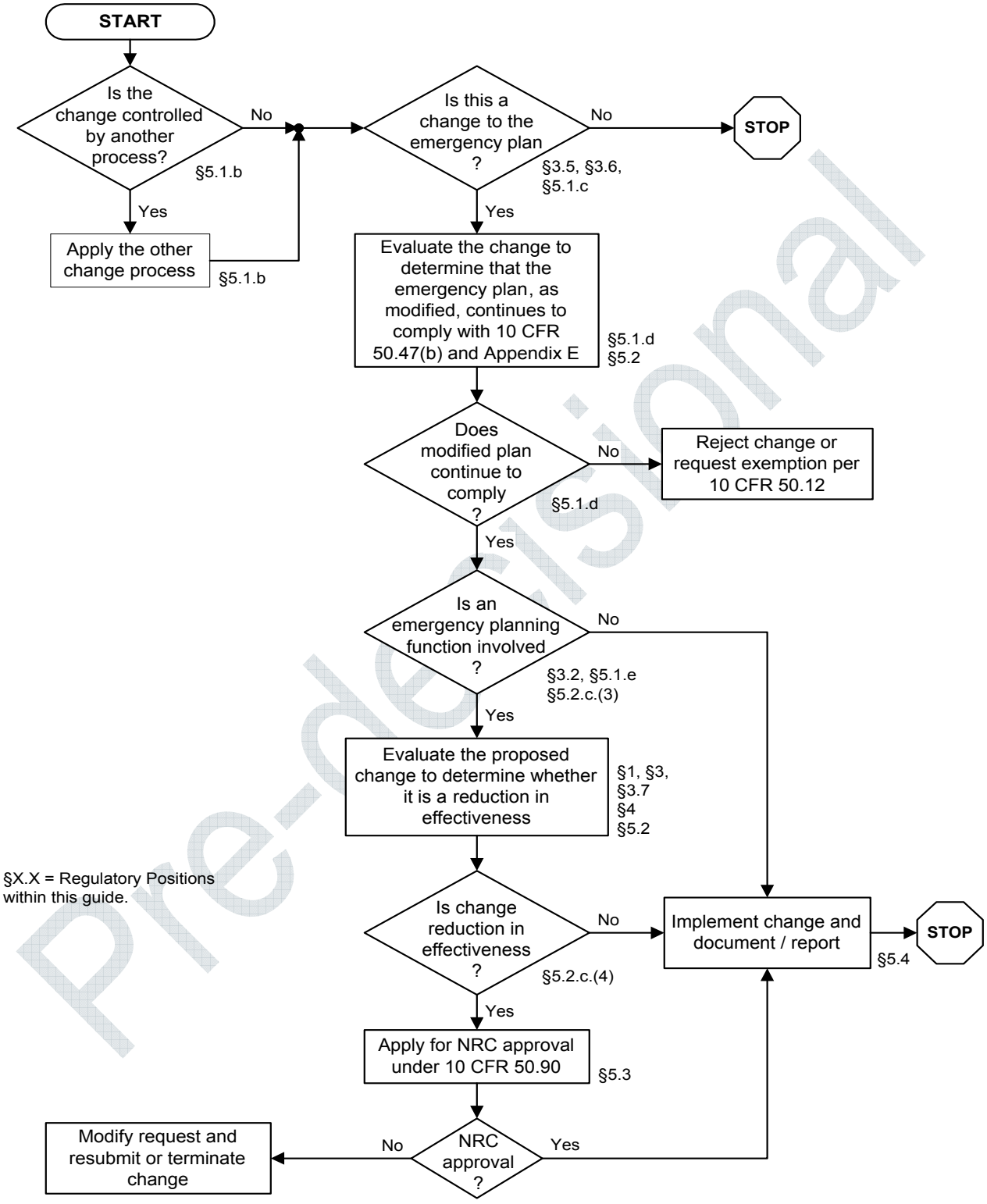
APPENDIX A
10 CFR 50.54(q) PROCESS



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