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Sent: Monday, October 19, 2009 6:07 PM
To: Rulemaking Comments
Subject: NEI Comments on NRC Proposed Rule, "Enhancements to Emergency Preparedness Regulations," 74 Fed. Reg. 23,254
Attachments: 10-19-09_NRC_NEI Comments on NRC Proposed Rule, Enhancements to EP Regulations.pdf; 10-19-09_NRC_NEI Comments on NRC Proposed Rule, Enhancements to EP Regulations_Attachment 1.pdf; 10-19-09_NRC_NEI Comments on NRC Proposed Rule, Enhancements to EP Regulations_Attachment 2.pdf; 10-19-09_NRC_NEI Comments on NRC Proposed Rule, Enhancements to EP Regulations_Attachment 3.pdf; 10-19-09_NRC_NEI Comments on NRC Proposed Rule, Enhancements to EP Regulations_Attachment 4.pdf; 10-19-09_NRC_NEI Comments on NRC Proposed Rule, Enhancements to EP Regulations_Attachment 5.pdf

October 19, 2009

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U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

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OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

ATTN: Rulemakings and Adjudications Staff

Subject: Nuclear Energy Institute Comments on NRC Proposed Rule, "Enhancements to Emergency Preparedness Regulations," 74 Fed. Reg. 23,254 (May 18, 2009) (Docket ID NRC-2008-0122)

Project Number: 689

This cover letter and the enclosed comments on NRC Docket ID NRC-2008-0122 are being submitted by the Nuclear Energy Institute (NEI) on behalf of the nuclear power industry. NEI appreciates the opportunity to comment on both the proposed amendments to the agency's emergency preparedness (EP) rule and the associated draft guidance documents. We also recognize and appreciate the NRC staff's efforts in the preparation and conduct of the numerous public meetings necessary to accommodate both industry and stakeholder inquiries and concerns regarding this rulemaking.

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October 19, 2009

Secretary
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This cover letter and the enclosed comments on NRC Docket ID NRC-2008-0122 are being submitted by the Nuclear Energy Institute (NEI)¹ on behalf of the nuclear power industry. NEI appreciates the opportunity to comment on both the proposed amendments to the agency's emergency preparedness (EP) rule and the associated draft guidance documents. We also recognize and appreciate the NRC staff's efforts in the preparation and conduct of the numerous public meetings necessary to accommodate both industry and stakeholder inquiries and concerns regarding this rulemaking.

NEI's comments address both overarching legal and regulatory concerns relating to the rulemaking as well as specific proposed recommendations that we hope will be useful as the NRC finalizes the amendments. We also request further dialogue with the NRC on the proposed draft Interim Staff Guidance (ISG) prior to its finalization, after the Staff has had an opportunity to consider the industry's input on the proposed rule language.

¹ NEI is the organization responsible for establishing unified nuclear industry policy on matters affecting the nuclear energy industry, including the regulatory aspects of generic operational and technical issues. NEI's members include all utilities licensed to operate commercial nuclear power plants in the United States, nuclear plant designers, major architect/engineering firms, fuel fabrication facilities, nuclear material licensees, and other organizations and individuals involved in the nuclear energy industry.

The detailed comments in the attachments to this letter represent a comprehensive and substantive review of the proposed rule modifications, and were developed by NEI in collaboration with the nuclear industry. In an effort to maximize the clarity and the usefulness of the comments, we have focused largely on those aspects of the proposed rulemaking (as presented in the proposed amendment language and corresponding implementing guidance) that are of significant concern to the industry. The following overview highlights the particular aspects of NEI's comments that we wish to emphasize:

On-Shift Multiple Responsibilities: The proposed amendment to Appendix E to Part 50, paragraph IV.A.9, requiring licensees to "provide a detailed analysis demonstrating that on-shift personnel ...are not assigned any responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan " is unnecessary, because 10 CFR 50.47(b)(2) already requires adequate on-shift staffing. Moreover, the proposed amendment inappropriately specifies a process or method (i.e., a detailed analysis) for demonstrating compliance with existing regulation. Acceptable process and methodologies should be addressed in NRC Regulatory Guides or NUREGs, not in the text of the rule. Therefore, NEI recommends that this part of the proposed rule be deleted.

Licensee Coordination with Offsite Response Organizations (ORO) during Hostile Action Events: Although minor modification of paragraph IV.A.7 of Appendix E to 10 CFR Part 50 may be appropriate, NEI believes that the NRC's proposed changes to this paragraph, as well as much of the draft guidance dealing with offsite response organizations (OROs), are unnecessary and potentially inconsistent with the federal regulatory framework for controlling the performance of OROs. In addition, NEI believes the proposed interpretation of "hostile action" inappropriately requires consideration of beyond design basis threat (DBT) scenarios without providing useful guidance defining the threat levels beyond the DBT to be considered and planned for by licensees. Thus, NEI recommends that the NRC withdraw the affected parts of the proposed rule and modify them as explained in Attachment 1. NEI believes that the modifications proposed in Attachment 1 provide assurance that coordination between OROs and licensees will include consideration of hostile action events, without clouding the federal regulatory framework applicable to OROs.

Challenging Drills and Exercises: NEI has two areas of concern relative to this element of the proposed rule. First, the draft interim staff guidance (ISG) proposes that consecutive hostile action-based (HAB) scenarios cannot have a no-release or minimal radiological release component; therefore, every other HAB exercise scenario must include a significant radiological release. A HAB event sequence leading to a large radiological release would require a highly unrealistic scenario positing, among other things, an extended period of facility control by an adversary force. There is no viable regulatory basis for this proposal and NEI recommends that this aspect of the proposed rule be deleted. HAB-exercises should be limited to no-release or minimal radiological release

options as was demonstrated during the Phase 3 pilot drill program in accordance with NEI 06-04, Revision 1, and as endorsed by the NRC in Regulatory Issue Summary 2008-08.

Secondly, NEI's comments endorse the collaboration between FEMA and the NRC to further the goal of making evaluated emergency exercises less predictable, more challenging, and more valuable to the participants. In order to achieve the scenario variability proposed in the ISG and NUREG-0654, Rev. 1, Supplement 4, NEI recommends the exercise planning cycle to be expanded from six years to eight years. In our view, an eight-year cycle would promote scenario variability and minimize predictability more effectively than the inclusion of the proposed scenario elements (including HAB scenarios) within the existing six-year cycle.

Backup Means for Alert and Notification System: The proposed implementing guidance in the draft ISG would not credit licensees' alert and notification system (ANS) that are designed such that no single point-of-failure would preclude successful alerting or notification. Shared attributes include multiple, independent activation capabilities, battery backup power, overlapping acoustical coverage, multiple broadcast stations, etc. This type of robust primary system can complete alerting and notification functions more effectively than the backup ANS described by the proposed implementing guidance. For this reason, NEI recommends that the guidance be revised to include a set of ANS design criteria or attributes that, if met by a site's ANS configuration, would obviate the need for a backup ANS.

Emergency Declaration Timeliness: The proposed revision to 10CFR 50, Appendix E, paragraph IV.C.2 requiring NRC licensees to "establish and maintain the capability to assess, classify, and declare an emergency condition promptly within 15 minutes . . ." introduces an opportunity to incorporate a more appropriate and risk-informed timeframe for the assessment and declaration of a Notification of Unusual Event (NUE). The allowable declaration timeframe for an NUE should be within 30 minutes, not 15 minutes. There are no expected on-site or offsite actions that compel a 15-minute timeframe for declaring a NUE, and the additional time would improve accuracy. NEI recommends that proposed regulation be amended to allow for a 30-minute time period to assess, classify and declare a NUE.

Evacuation Time Estimate Updating: While a requirement to update Evacuation Time Estimates (ETE) on a defined, periodic basis is desirable, NEI believes that a 10% population change is not an appropriate "trigger" for performing an ETE update. Additionally, the specific criteria necessitating an ETE update is more appropriately addressed in regulatory guidance rather than in the regulation. NEI suggests a graded threshold approach as outlined in Attachment 2 to this letter.

Amended Emergency Plan Change Process: The NRC's proposed amendments relating to 10 CFR 50.54(q) require emergency plan changes that reflect a reduction in effectiveness (RIE) be submitted as a license amendment request (LAR) for approval by the NRC. Contrary to the conclusions drawn in the Supplementary Information published with the proposed rule, NEI does not

believe that the NRC is legally compelled to use the license amendment process to review and approve emergency plan changes. In addition, NEI believes that the modification to the change control process in Section 50.54(q) is a backfit and should have been included in the NRC's backfit analysis. NEI also disagrees with the proposed introduction of the term "emergency planning function," as this term will likely create confusion, rather than improve the regulatory framework governing change control. In our view, the Section 50.54(q) is appropriately patterned after 10 CFR 50.59, in that only changes involving a significant reduction in a licensee's capability to meet an emergency planning standard or the requirements of Appendix E to 10 CFR Part 50 should be submitted for prior NRC approval. In this regard, the term "significant" should be defined or amplified in the NRC's implementation guidance.

The NRC also has issued for comment a draft Revision 1 to NRC Regulatory Issue Summary 2005-02, "Clarifying the Process for Making Emergency Plan Changes" (Docket ID NRC-2009-0365) (Draft RIS), published at 74 Fed. Reg. 42,699 (Aug. 24, 2009)(Draft RIS).² That guidance document addresses many of the same issues, and exhibits many of the same infirmities, as the portions of the proposed rule dealing with Section 50.54(q). NEI plans to submit timely comments on that draft revised RIS on October 23, 2009. In this regard, NEI objects to the Staff's ongoing efforts to compel licensees to prepare LARs in connection with emergency plan changes *in advance of the completion of this rulemaking* via the proposed revisions to RIS 2005-02. Such actions improperly predetermine or assume the outcome of this rulemaking, violate the Administrative Procedure Act, and are clearly inconsistent with the Commission's Principles of Good Regulation. Further, the NRC has inexplicably decided to impose the changes proposed in the Draft RIS and this proposed rulemaking now, before the public comment period on either document has run its course.

Effective Date:

Under the proposed effective date of the EP rule amendments, combined license (COL) and early site permit (ESP) applicants under 10 CFR Part 52 would need to submit revisions to their docketed applications to comply with the amended rules. This result is both overly burdensome and unnecessary. NEI suggests that language be added to allow new plant applicants to address amended regulations after they receive their COL or ESP from the NRC. NEI provides proposed regulatory language to this effect in the detailed comments.

² On September 15, 2009, NEI requested an extension of the comment period for the draft RIS to facilitate better coordination of stakeholder comments on the RIS with comments on the broader NRC emergency planning rulemaking. The NRC subsequently extended the comment period on the Draft RIS from October 8 until October 23, 2009. 74 Fed. Reg. 50,840 (Oct. 1, 2009).

Regulatory Analysis:

NEI collected information related to the cost of rule implementation from 3 commercial nuclear power plant sites for five rulemaking areas. This information was then compared to the costs presented in Regulatory Analysis: Proposed Revisions to Emergency Preparedness Requirements for 5 of the rule areas with the most significant cost impacts. NEI is not in full agreement with 4 of the 5 areas. One area, Backup Means for Alert and Notification appears to provide an estimate that is not fully supported by the rule and ISG. Attachment 5 provides additional details. If necessary, NEI would be willing to gather additional industry-wide cost-related information and details to support a fully-informed rule-making decision by the NRC.

Rule Justification:

For the areas of the proposed rulemaking dealing with On-shift Multiple Responsibilities, Licensee Coordination with OROs, Challenging Drills and Exercises, and the Amended Emergency Plan Change Process, NEI believes that the NRC did not provide a sound justification for the changes being proposed. In each of these areas, NEI is proposing either a deletion of the proposed change or in cases where certain aspects of the change were not justified, a modification to the proposed rule language.

In the area of Emergency Declaration Timeliness, NEI does not believe that codifying the fifteen minute criteria to assess, classify, and declare an NUE was sufficiently justified; however, NEI is taking the opportunity to propose an alternate criterion for the NUE emergency classification level that is commensurate with the associated risk.

NEI is taking this opportunity to provide recommendations to improve either the rule language or the respective implementing guidance on the balance of the rule making issues.

Use of Interim Staff Guidance (ISG) to Promulgate Requirements:

NEI is concerned about the reliance on Interim Staff Guidance (ISG) to promulgate new rule-related requirements to licensees. The ISG material may not be developed and maintained with the same level of staff management review and oversight as that incorporated into a traditional regulatory guidance document (e.g., Regulatory Guide, NUREG, etc.). In addition, absent a defined regulatory guidance document(s), it is not clear what licensees will use as a change basis/justification when processing EP plan and program changes, under 10 CFR 50.54(q), to meet all new rule-related requirements.

NEI's further detailed comments are contained in 5 attachments:

Attachment 1 - Security Related Issues:

- A.1 On-Shift Staffing
- A.2 Emergency Action Levels for Hostile Action Events
- A.3 Emergency Response Organization Augmentation and Alternative Facilities
- A.4 Licensee Coordination with OROs
- A.5 Protective Actions for Onsite Personnel
- A.6 Challenging Drills and Exercises

Attachment 2 – Non-Security Related Issues:

- B.1 Back-up Means for Alert and Notification System
- B.2 Emergency Declaration Timeliness
- B.3 Emergency Operations Facility – Performance Based Approach
- B. 4 Evacuation Time Estimate Updating
- B.5 Amended Emergency Plan Change Process
- B.6 Additional Comments

Attachment 3 - Specific Requests for Comment:

- C.1 Question 1- Inclusion of National Incident Management System/Incident Command System in EP Programs
- C.2 Question 2 – Shift Staffing and Augmentation
- C.3 Questions 3,4, and 5 – Non-power Reactors
- C.6 Question 6 – Effective Date
- C.7 Question 7 – Implementation Schedule

Attachment 4 – NUREG – 0654 / FEMA-REP-1, Supplement 4

Attachment 5 – Comments on NRC Regulatory Analysis Associated with Cost

We would like to thank the NRC in advance for its careful consideration of the concerns outlined in this letter, and our detailed comments provided in the attached five attachments.

Secretary
October 19, 2009
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If you have any questions, please contact Martin Hug at (202) 739-8129, or mth@nei.org.

Sincerely,

A handwritten signature in cursive script that reads "Alex Marion".

Alex Marion

Attachments

c: Mr. Geary Mizuno, Esq., NRC
Mr. Christopher Miller, NRC
Mr. James Kish, FEMA
NRC Document Control Desk

NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE
RULE AREA: A.1. ON-SHIFT STAFFING

The NRC staff is proposing to amend Appendix E to Part 50—Emergency Planning and Preparedness for Production and Utilization Facilities - Section IV.A.9 to require:

Nuclear power plant licensees under this part and Part 52 must provide a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned any responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.

This rulemaking is not required. 10 CFR 50.47(b)(2) already requires adequate on-shift staffing. Specifically, this regulation states,

(b) The onsite and, except as provided in paragraph (d) of this section, offsite emergency response plans for nuclear power reactors must meet the following standards:

(2) 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.

The proposed amendment inappropriately specifies a process or method (i.e., a detailed analysis) for demonstrating compliance with existing regulation. Acceptable process and method requirements should be placed in Regulatory Guides or NUREGS. Therefore, NEI recommends that this proposed rule change be deleted.

Absent NRC agreement on the above recommendation, NEI suggests that the alternate wording shown below be used:

Nuclear power plant licensees under this part and Part 52 must **ensure** ~~provide a detailed analysis demonstrating~~ that on-shift personnel assigned emergency plan implementation functions are not assigned any responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan.

NEI also reviewed the associated inspection guidance presented NSIR/DPR-ISG-01, Interim Staff Guidance, Emergency Planning for Nuclear Power Plants. The following matrix presents industry comments on the draft inspection guidance. The suggested changes improve guidance clarity and workability, and will promote consistent application.

ISG Section	Document information	Line in / Line out	Basis / Comment
<p>ISG section IV.C, Assignment of Multiple Functions to On-Shift Personnel, Proposed Guidance, page 13, 1st bullet</p>	<p>"Define the spectrum of accidents (i.e., site-specific DBAs and the DBT) that this staffing analysis will consider."</p>	<p>"Define the events that will require a staffing analysis. These events shall include the Design Basis Accidents (DBAs) presented in the Final Safety Analysis Report (FSAR), as updated, and which result in an emergency classification. They shall also include the DBT. A staffing analysis is not required for a DBA if the initial conditions stipulate that any unit on the site is in Mode 5 or 6 (i.e., in an outage)."</p>	<p>Changed language to clarify the intent that a staffing analysis will be performed for the DBT and each DBA. Also clarified that the DBAs to be assessed are those presented in a site/unit FSAR, as updated. This guidance reflects information provided during the NRC public meeting of 9/17/09.</p> <p>The DBA must result in an emergency classification for a staffing analysis to be required. Emergency Plan implementation is not required for non-emergency events.</p> <p>Added statement that a staffing analysis is not required for a DBA if the initial conditions stipulate that any unit on the site is in Mode 5 or 6 (i.e., in an outage). During these modes, there are a significant number of licensee personnel on-site at all times. Outage staffing is much larger than that present during a backshift, weekend or holiday in Modes 1, 2, 3 and 4. This around-the-clock augmented staffing provides high assurance that sufficient resources will be available to promptly support emergency response activities.</p>

ISG Section	Document information	Line in / Line out	Basis / Comment
ISG section IV.C, Assignment of Multiple Functions to On-Shift Personnel, Proposed Guidance, page 13, 2 nd bullet	"Perform a detailed analysis, such as a job/task analysis (JTA) or time-motion study, for this spectrum of accidents to identify the emergency response actions that on-shift personnel must perform during the first 30 minutes of the event (or until augmenting ERO staff arrives)."	"For the DBT and each DBA, identify the emergency response actions that on-shift personnel must perform prior to the arrival of the augmenting ERO staff (as described in the licensee's emergency plan). Action identification may be done by one or more methods including a job/task analysis (JTA), a time-motion study, Operating Experience reviews, document reviews, personnel interviews, etc."	<p>Reworded text for easier understanding.</p> <p>Included additional methods that may be used to identify required "emergency response actions."</p> <p>Deleted "during the first 30 minutes of the event". The appropriate time criterion for this assessment is the period before the arrival of the augmenting ERO staff. In other words, the analysis should be performed using augmenting ERO staffing times as described in the licensee's emergency plan, whether 30 minutes or otherwise.</p>
ISG section IV.C, Assignment of Multiple Functions to On-Shift Personnel, Proposed Guidance, page 13, 4 th bullet	To ensure that adequate on-shift staff is available, compare current minimum on-shift staffing levels with levels determined necessary to cope with the defined spectrum of accidents (DBAs and DBT) until augmenting ERO staff is required to arrive. Additional duties assigned to on-shift staff may be acceptable provided that the same individual is not required to perform the additional duties simultaneously with his or her other duties.	"For the DBT and each DBA, perform a detailed analysis to determine if the current minimum on-shift staff can effectively perform all required emergency response actions in a timely manner until arrival of the augmented ERO. Additional duties assigned to on-shift staff may be acceptable provided that those duties do not detract from the effective and timely performance of other assigned duties. Identify positions which have a collateral duty that could adversely impact the performance of an emergency response function/task. Licensees are expected	<p>Reworded text for easier understanding.</p> <p>Added a goal statement for the process, i.e., identification of positions that have a collateral duty which may impact response performance.</p> <p>Added expectation to address collateral duty issues by entering into the licensee's Corrective Action Program.</p>

ISG Section	Document information	Line in / Line out	Basis / Comment
		to promptly enter any unsatisfactory results into their Corrective Action Program for resolution."	
ISG section IV.C, Assignment of Multiple Functions to On-Shift Personnel, Proposed Guidance, page 13, proposed new bullet(s) or text	N/A	<p>Proposed new bullet(s) or text:</p> <p>"A DBT or DBA event description may not specify the performance of some major functions or tasks listed in NUREG-0654 Table B-1. Examples include 'Repair and Corrective actions', and 'Rescue Operations and First-Aid'. In these cases, the licensee's staffing analysis should specify the resources available to perform these functions and tasks, if needed. They may be assigned as a collateral duty."</p> <p>"With respect to the DBT analysis, it may be assumed that the threat is neutralized with no adverse consequences to plant safety. Licensees must ensure that sufficient staff is available to effectively implement both the Emergency Plan and the Security Plan."</p>	<p>Added guidance on how to address functions or tasks identified in NUREG 0654, Table B-1, for which there is no associated performance requirement in a site-specific DBT or DBA description. This will promote consistent application of the guidance.</p> <p>Added guidance to assist in performance of the staffing analysis for the DBT. This guidance reflects information provided during the NRC public meeting of 9/17/09.</p>

ISG Section	Document information	Line in / Line out	Basis / Comment
<p>ISG section IV.C, Assignment of Multiple Functions to On-Shift Personnel, Proposed Guidance, page 13, proposed new bullet(s) or text</p>	<p>N/A</p>	<p>Proposed new bullet(s) or text:</p> <p>"As used in the context of <u>on-shift</u> staffing capability, the Major Task 'Repair and corrective action' means an action that can be performed promptly to restore a non-functional component to functional status (e.g., resetting a breaker), or to place a component in a desired configuration (e.g., open a valve), and which does not require work planning or implementation of lockout/tagout controls to complete.</p> <p>"The Major Functional Area 'Rescue Operations and First-Aid' may be assigned to a Fire Brigade member(s) as it is assumed that this function, if needed, would commence upon extinguishment of the fire."</p> <p>"Concerning the DBT staffing analyses, it may be assumed that the threat is neutralized in such a manner that responding offsite resources (e.g., law enforcement, Emergency Medical Services, etc.) will perform the Major Functional Area of</p>	<p>Added a working definition for the NUREG-0654, Table B-1, Major Task "Repair and corrective action" as it pertains to on-shift staffing. The proposed definition reflects "real-world" limitations in that the capability to perform this task is constrained until the arrival of the augmented ERO. Also added guidance on an acceptable assignment of the Major Functional Area "Rescue Operations and First-Aid". These changes will promote consistent application of the guidance.</p> <p>Added an assumption to be used in the DBT staffing analysis. Change reflects "lessons learned" from HAB drills and will promote consistent application of the guidance.</p>

ISG Section	Document information	Line in / Line out	Basis / Comment
		'Rescue Operations and First-Aid'."	
ISG section IV.C, Assignment of Multiple Functions to On-Shift Personnel, Proposed Guidance, page 13, forth paragraph.	The results should be documented and available for NRC inspection.	The results should be documented and available for NRC inspection. Staffing analyses and results are not considered to be part of the Emergency Plan.	The added guidance reflects information provided during the NRC public meeting of 9/17/09.
SG section IV.C, Assignment of Multiple Functions to On-Shift Personnel, Proposed Guidance	N/A	<p><u>Proposed change.</u> It is recommended that the staff take this rulemaking opportunity to modify NUREG-0654 (as has been done in other rulemaking areas) by eliminating the 30-minute "Capability for Additions" column from Table B-1.</p> <p>There is no technical basis for existing 30-minute staff augmentation guidance, and it has caused innumerable issues for licensees while adding little to no value to actual response capabilities. This is because several of the positions (expertise) listed in the 30-minute column cannot be utilized until the arrival of additional response personnel at 60-minutes; see examples under Basis/Comment. In addition, some on-shift positions are fully capable of continuous performance of a function well past 30-</p>	<p>Two examples supporting elimination of the 30-minute "Capability for Additions" column in Table B-1 are presented below.</p> <p><u>Offsite Surveys</u> – while the 30-minute column requires 2 individuals for offsite surveys, these individuals would not be dispatched until after the TSC or EOF is activated (at or around 60 minutes). There is no individual available to brief the team members, control their deployment or record their survey/sampling results. Indeed, there would likely be no immediate need for their services – plant instrumentation provides reliable indication of a radiological release and a preferred basis for initial protective action recommendations.</p> <p><u>Repair and Corrective Action</u> – while the 30-minute column requires an Electrical Maintenance individual and an I&C Technician, these individuals would not be dispatched until after the TSC and OSC are activated</p>

ISG Section	Document information	Line in / Line out	Basis / Comment
		minutes into an event (e.g., the STA's Core/Thermal Hydraulics expertise obviates the need for a 30-minute responder with this expertise).	(at or around 60 minutes). The TSC is necessary to assess job priorities, potential hazards and engineering support needs, while the OSC would be required to conduct a team briefing, support collection of tools, parts, procedures, prints, etc., and plan and implement lockout/tagout controls.

NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE
RULE AREA: A.2. EMERGENCY ACTION LEVELS FOR HOSTILE ACTION EVENTS

Changes to the Proposed Regulation

Federal Register/Vol. 74, NO. 94, page 23284 proposed the following revision to Appendix E to Part 50 – Emergency Planning and Preparation for Production and Utilization Facilities, IV. Content of Emergency Plans, B. Assessment Actions:

1. The means to be used for determining the magnitude of, and for continually assessing the impact of, the release of radioactive materials shall be described, including emergency action levels that are to be used as criteria for determining the need for notification and participation of local and State agencies, the Commission, and other Federal agencies, and the emergency action levels that are to be used for determining when and what type of protective measures should be considered within and outside the site boundary to protect health and safety. The emergency action levels shall be based on in-plant conditions and instrumentation in addition to onsite and offsite monitoring. These action levels must include hostile action events that may adversely affect the nuclear power plant. These initial emergency action levels shall be discussed and agreed on by the applicant or licensee and state and local governmental authorities, and approved by the NRC. Thereafter, emergency action levels shall be reviewed with the State and local governmental authorities on an annual basis.

2. A revision to an emergency action level scheme must be submitted as specified in § 50.4 for NRC approval before implementation if the licensee is changing from an emergency action level scheme based upon NUREG-0654 to another emergency action level scheme based upon NUMARC/ NESP-007 or NEI 99-01. The licensee shall follow the change process in § 50.54(q) for all other emergency action level changes.

This rule changes adds the requirements for hostile action based Emergency Action Levels (EAL). EALs for Hostile Action Events are contained in the latest draft of the NEI templates discussed in part 2 of the above rule change. NEI has no recommended specific changes or additions for this area of the proposed rule.

Changes to Interim Staff Guidance

There is no ISG for this rule. Templates contained in NEI 99-01, Revision 5 provide the EALs and the basis for the EALs, therefore no additional guidance is required.

NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE
RULE AREA: A.3. EMERGENCY RESPONSE ORGANIZATION (ERO) AUGMENTATION
AND ALTERNATE FACILITIES

Changes to the Proposed Regulation

Federal Register/Vol. 74, NO. 94, page 23285 proposed the following revision to Appendix E to Part 50 – Emergency Planning and Preparation for Production and Utilization Facilities, IV. Content of Emergency Plans, E. Emergency Facilities and Equipment, 8.d:

“For nuclear power plant licensees and applicants under this part and Part 52, an alternative facility (or facilities) to function as a staging area for augmentation of emergency response staff and having the following characteristics: Accessibility even if the site is under threat or actual attack; communication links with the emergency operations facility, control room, and plant security; the capability to perform offsite notifications; and the capability for engineering assessment activities, including damage control team planning and preparation; for use when onsite emergency facilities cannot be safely accessed during a hostile action event. The alternative facility will also be equipped with general plant drawings and procedures, telephones, and computer links to the site;”

Proposed Rule Implements New Requirements

Proposed 10 CFR 50 Appendix E Section IV.E.8.d would do more than simply “codify certain voluntary protective measures contained in NRC Bulletin 2005-02, ‘Emergency Preparedness and Response Actions for Security-Based Events’ and other generically applicable requirements similar to those previously imposed by Commission orders” (74 FR 94, page 23254). For example, the proposed rule states that “[t]he alternative facility will also be equipped with ... computer links to the site.” This is incongruent with Attachment 5 of Bulletin 2005-02 which stated “[i]t is appropriate for such alternative facilities to have ..., and (ideally) computer links to the site.” The description in Section V of the supplementary information included with the proposed rule (titled: Section-by-Section Analysis) mirrors the bulletin where it states “[t]he alternative facility should also be equipped with ..., and computer links to the site” (74 FR 94, page 23277). However, the proposed rule language would make linking computers at an alternative facility with the site a regulatory requirement. Similarly, the proposed rule would require the alternative facility to have “the capability to perform offsite notifications” where the bulletin and supplementary information allow that this would be necessary if the emergency operations facility is not performing offsite notifications only.

Use of Parenthetical

Proposed 10 CFR 50 Appendix E Section IV.E.8.d contains a parenthetical “(or facilities)” which could be interpreted in at least two ways. One way to interpret this is to indicate licensees may have multiple alternative facilities, all of them required to have the characteristics listed in the rule. Another way to interpret this provision is that licensees may satisfy the characteristics collectively at multiple alternative facilities, e.g., one for staging augmentation staff and another for performing offsite notifications. Page 15 in Section IV.D of the Interim Staff Guidance indicates the former, but the language in Section V of the supplementary information issued with the proposed rule supports this latter interpretation. The plain language of the rule should be clear.

Suggested Changes to Proposed Regulation

The following clarifications to the rule language are proposed to address the dissonance between the bulletin and the rule and to clarify the proposed requirements (Additions to the rule are in **underlined and in bold print** and deletions are ~~struck-out~~).

*"For nuclear power plant licensees and applicants under this part and Part 52, an alternative facility (or facilities) to function as a staging area~~(s)~~ for augmentation of emergency response staff and **collectively** having the following characteristics: Accessibility even if the site is under threat or actual attack; communication links with the emergency operations facility, control room, and plant security; the capability to perform offsite notifications **(if the emergency operations facility is not performing this action)**; and the capability for engineering assessment activities, including damage control team planning and preparation; for use when onsite emergency facilities cannot be safely accessed during a hostile action event. The alternative facility **(or facilities)** ~~will~~ **should** also be equipped with general plant drawings and procedures, telephones, and **(ideally)** computer links to the site;*

Changes to Interim Staff Guidance

Corresponding changes to NSIR/DPR-ISG-01, Section IV.D Emergency Response Organization Augmentation at Alternative Facility, need to be made to reflect these corrections and clarifications to the rule.

Classification Capability

Page 16 of the ISG states:

Although BL-05-02 did not specify event classification as a necessary characteristic of the alternative facility, licensees should strongly consider providing that capability. This is a primary consideration if the EOF is in proximity to the plant and would be inaccessible during a hostile action event. Then the alternative facility would be the backup to the CR if it somehow lost the capability for event classification. If the EOF is a safe distance from the plant, this alternative facility capability might still be necessary if the EOF is not staffed until the Site Area Emergency level, or if established EOF activation times are longer than the typical 60 minutes. In those cases, the EOF would not be available as a backup to the CR at the Alert level and may not be available in a timely enough manner (i.e., within about 60 minutes) to receive TSC/OSC augmenting responders because of the extended activation time (TSC/OSC augmentation time would be less than EOF augmentation time).

The NRC posted draft rule language on the e-rulemaking website on February 29, 2008, and solicited stakeholder comments. NEI had questioned whether the proposal to require licensees to have the capability for event classification and offsite notifications at the alternative facility went beyond what was required in NRC Bulletin 2005-02. (NEI 1 – 4.1a) The NRC responded that it agreed in part and excluded the event classification requirement in the proposed rule published for public comment. Nonetheless, NSIR/DPR-ISG-01, Section IV.D Emergency Response Organization Augmentation at Alternative Facility, suggests "licensees strongly consider providing" event classification capability. The stated purpose of NSIR/DPR-ISG-01 was to provide guidance information for addressing emergency planning requirements. It was described as a tool to "be

used by licensees and applicants as guidance for implementing changes to onsite EP programs based on the proposed EP requirements and by NRC staff for reviewing the adequacy of the revised onsite EP programs." Thus, NSIR/DPR-ISG-01 should not contain suggestions for licensees to strongly consider something NRC agreed did not belong in the proposed rule.

NEI proposed the following changes to the ISG:

~~Although BL-05-02 did not specify event classification as a necessary characteristic of the alternative facility, licensees should strongly consider providing that capability. This is a primary consideration if the EOF is in proximity to the plant and would be inaccessible during a hostile action event. Then the alternative facility would be the backup to the CR if it somehow lost the capability for event classification. If the EOF is a safe distance from the plant, this alternative facility capability might still be necessary if the EOF is not staffed until the Site Area Emergency level, or if established EOF activation times are longer than the typical 60 minutes. In those cases, the EOF would not be available as a backup to the CR at the Alert level and may not be available in a timely enough manner (i.e., within about 60 minutes) to receive TSC/OSC augmenting responders because of the extended activation time (TSC/OSC augmentation time would be less than EOF augmentation time).~~

NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE
RULE AREA: A.4. LICENSE COORDINATION WITH OFFSITE RESPONSE ORGANIZATIONS
DURING HOSTILE ACTION EVENTS

I. Overview

As explained in the Supplementary Information published with the proposed rule, the NRC believes that unique challenges posed by hostile action events at nuclear power plants warrant modification of paragraph IV.A.7 of Appendix E to 10 CFR part 50. 74 Fed. Reg. 23,258 (May 18, 2009). Specifically, NRC is proposing to modify paragraph IV.A.7 to require licensees to ensure that offsite response personnel assigned emergency plan implementation duties would be available during hostile action events.

NEI believes that modification to paragraph IV.A.7 is warranted, but that the proposed modifications to this paragraph, as well as much of the draft guidance dealing with offsite response organizations (OROs), are unnecessary and potentially inconsistent with the federal regulatory framework for controlling the performance of OROs. In addition, NEI believes the NRC's interpretation of the term of "hostile action" in the proposed guidance inappropriately requires consideration of beyond design basis threat (DBT) scenarios without providing useful guidance defining the threat levels beyond the DBT that must be considered and planned for by NRC licensees. Thus, NEI recommends that the NRC withdraw the affected parts of the proposed rule and modify them as explained below. NEI believes that its proposed modifications provide assurance that coordination between OROs and licensees will include consideration of hostile action events, without clouding the federal regulatory framework applicable to OROs.

II. NRC's Proposed Changes to Paragraph IV.A.7 of Appendix E, Part 50

Paragraph IV.A.7 of Appendix E currently states:

IV. Content of Emergency Plans

The applicant's emergency plans shall contain, but not necessarily be limited to, information needed to demonstrate compliance with the elements set forth below, i.e., organization for coping with radiation emergencies, assessment action, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, and recovery. In addition, the emergency response plans submitted by an applicant for a nuclear power reactor operating license shall contain information needed to demonstrate compliance with the standards described in § 50.47(b), and they will be evaluated against those standards. The nuclear power reactor operating license applicant shall also provide an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations.

A. Organization

The organization for coping with radiological emergencies shall be described, including definition of authorities, responsibilities, and duties of individuals assigned to the licensee's emergency organization and the means for notification of such individuals in the event of an emergency. Specifically, the following shall be included:

7. Identification of, and assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies.

The NRC's proposed rule would modify paragraph IV.A.7 as follows:

7. Identification of, and assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies. Nuclear power plan licensees shall ensure that offsite response organization resources (e.g., local law enforcement, firefighting, medical assistance) are available to respond to an emergency including a hostile action event¹ at a nuclear power plant site.

74 Fed. Reg. 23,284 (footnote omitted).

III. The Proposed Changes to Paragraph IV.A.7 of Appendix E are Unnecessary and Can be More Effectively Addressed by Less Burdensome Means

In the Supplementary Information accompanying the proposed rule, the NRC states “[c]urrently, § 50.47(b)(1) and Appendix E to Part 50 do not explicitly require licensees to coordinate with OROs to ensure that personnel are available to carry out preplanned actions, such as traffic control and route alerting by LLEAs, during a hostile action event directed at the plant.” 74 Fed. Reg. 23,258. But, in the very next paragraph, the NRC goes on to explain that licensees are currently required to identify ORO emergency response support and to demonstrate that ORO capabilities exist through biennial evaluated exercises. *Id.* at 23,258-59. Specifically, the current version of paragraph IV.A.7 already requires that licensee emergency plans identify – and articulate the assistance expected from – State, local, and Federal agencies with responsibilities for coping with emergencies. Indeed, in the draft guidance the NRC staff explicitly recognized the adequacy of the existing regulations with respect to coordination, stating:

Functionally, licensees are required to establish relations with OROs to coordinate emergency response efforts should they ever be needed. The scope of ORO support includes the implementation of State and local response plans to protect public health and safety in the event of severe reactor accident and to provide fire, medical, and [local law enforcement agency] LLEA support at the [nuclear power plant] NPP site. All NPPs have established such relations, and their response to integrated exercises is evaluated biennially.

NSIR/DPR-ISG-01, “Interim Staff Guidance: Emergency Planning for Nuclear Power Plants,” at 17 (ISG-01)(emphasis added).

While recognizing that licensees are already required to coordinate with OROs, the NRC notes that the regulations do not specifically address the potential for hostile action events to disrupt emergency plan implementation. 74 Fed. Reg. 23,258. Thus, it seems that the NRC's primary concern in this area is ensuring that hostile action events are considered as part of the coordination that is already required. This objective can be effectively met, however, without imposing a new, additional requirement for licensees to coordinate with OROs. Specifically, NEI believes that this concern can be addressed by modifying paragraph IV.A.7 as follows:

Identification of, and assistance expected from, appropriate State, local, and Federal agencies with responsibilities for coping with emergencies, including hostile action events.

¹ A “hostile action” is defined as “an act directed toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes an attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.” 74 Fed. Reg. 23,284, footnote 3.

This modification, read together with the proposed revisions to Appendix E, paragraph IV.F., which requires that exercise scenarios include hostile action events, will give the NRC assurance that hostile action is affirmatively considered during the coordination between licensees and OROs, which is already effectively required by the existing regulations. In addition to eliminating the need for unnecessary changes to the language of paragraph IV.A.7, this approach also avoids the pitfalls described below.

IV. The Proposed Changes to the EP Rule and Guidance Blur the Lines of Responsibility Between the Licensee, NRC, and FEMA.

In addition to being unnecessary, the proposed revisions to paragraph IV.A.7 blur the lines of responsibility between the licensee, Federal Emergency Management Agency (FEMA), and the NRC. As explained above, the NRC's proposed revision to paragraph IV.A.7 would require licensee to not only coordinate with OROs, but also to *ensure that OROs are available to respond during a hostile action event*. The NRC recently explained its lack of authority over OROs in the denial of a petition for rulemaking submitted by David Lochbaum on behalf of the Project for Government Oversight and the Union of Concerned Scientists. 73 Fed. Reg. 54,744 (Sept. 23, 2008) (Lochbaum Petition). That petition requested that the NRC amend 10 CFR part 50 to require periodic demonstrations by local, State, and Federal entities to ensure that nuclear power plants could be adequately protected from attacks by adversaries with capabilities exceeding those posed by the design basis threat (DBT). After explaining that FEMA has lead federal responsibility for all offsite nuclear emergency planning and response, the Commission denied the petition, stating:

While licensees must make a good faith effort to secure the participation in emergency preparedness demonstrations of offsite authorities having a role in the emergency preparedness plan, Section IV.F.2.h of Appendix E and 10 CFR 50.47(c) recognize that such entities are at liberty to refuse to participate. *This recognition is based on the fact that the NRC does not have the authority to require offsite authorities to participate in a nuclear power reactor licensee's exercises.* Thus, the petitioner's reliance of Appendix E to 10 CFR Part 50 to support the request that NRC require local, State, and Federal governments to participate in demonstrations of their capability to respond to beyond-DBT events is misplaced because *the NRC cannot compel local, State, or Federal entities to take part in biennial emergency exercises if those entities do not choose to participate in emergency planning activities.*

73 Fed. Reg. 54,745 (emphasis added). Thus, in denying the Lochbaum Petition the Commission clearly articulated its lack of authority with respect to OROs.

While the NRC is not proposing to directly compel action by the OROs in this rulemaking, the proposed modification to paragraph IV.A.7 and the associated guidance can be read as an attempt to do so indirectly. For example, as mentioned above, the proposed revision to paragraph IV.7.A would require licensees to *ensure that OROs are available to respond to the nuclear power plant site during a hostile action event while also implementing protective actions for the public*. This proposed requirement is inconsistent with existing provisions like § 50.47(c) and paragraph IV.F.2.h of Appendix E, which expressly recognize that neither the licensee nor the NRC itself can compel an ORO to participate in emergency planning. While licensees are required to coordinate with OROs to confirm that they have the capability to execute functions credited in the licensee's emergency plan, this proposed new requirement goes further by requiring licensees to *ensure the availability* of ORO resources – a responsibility that belongs to Department of Homeland Security (DHS) for beyond

design basis threat events. Likewise, the responsibility to provide reasonable assurance of the adequacy of ORO plans and resources belongs to FEMA.²

The proposed guidance provided in ISG-01 reinforces industry's concern. Specifically, certain passages in ISG-01 seem to provide guidance on appropriate *ORO action*:

OROs should address the training of the alternate personnel. It may be most effective if personnel are used in functions that are similar to their normal duties to minimize the training that would be necessary. Radiological training would be necessary for some functions, but could potentially be delivered through an online course or in the classroom with a longer than normal period (e.g., every 3 years), with a refresher briefing on radiological monitoring and exposure control provided to alternate personnel when they respond to an event. Drill and exercise participation, perhaps as an observer of the primary assignee, should be encouraged.

OROs should address the maintenance of additional duty rosters of qualified personnel. It may be efficient to simply list whole departments rather than tracking specific individuals.

Timeliness of activation of the alternate personnel should be addressed. The activation time for alternate personnel is not required to be the same as the time for primary personnel. However, a reasonable effort should be made to develop timely activation through callout trees or other methods normally used by the ORO. This effort should be automatically initiated when the EAL and event classification are for a hostile action event that would divert the normally assigned ORO resources from emergency plan implementation.

ISG-01, at 19 (emphasis added). Contrary to this guidance, in denying the Lochbaum Petition the Commission reaffirmed that the primary responsibility for offsite nuclear emergency planning and response resides with FEMA. See 73 Fed. Reg. 54,745. And, as the Commission expressly stated in the Lochbaum Denial, the agency's emergency planning regulations cannot and do not attempt to compel participation by local, State, or Federal entities in emergency planning activities. Statements in the proposed guidance, such as those quoted above, conflict with the Lochbaum Denial and in the current emergency planning regulations by recommending that licensees direct or compel OROs to take certain actions. Historically, responsibility for assisting and supporting State and local governments has belonged to DHS and other federal agencies. This responsibility has been executed through the Comprehensive Review, and other outreach efforts. In the longstanding, public/private partnership between State and local governments and the nuclear industry, licensees have never been responsible for ensuring the adequacy of State and local resources.

NEI believes that it is inappropriate for the NRC to attempt to indirectly compel specific actions by OROs through its licensees. As the NRC recognizes in the proposed rule and ISG-01, Appendix E to 10 CFR Part 50 already requires that licensees coordinate with OROs to confirm that the licensees' onsite plan can be effectively executed in the event of an emergency. More specifically, under the current regulations, if a licensee relies on offsite responders as part of its onsite emergency plan,

² For example, States certify the adequacy of offsite resources in an annual letter of certification to FEMA. It is inappropriate for NRC to require that licensees ensure that State resources are adequate because resource issues associated with additional demands placed on OROs due to hostile actions should be addressed in the annual letter of certification to FEMA. In addition, the proposed rule does not appear to be cognizant of state and local laws that enable and govern mutual aid agreements among law enforcement and other public safety agencies. These laws define how public safety resources can be utilized on a shared basis and the jurisdictional authority they can exercise on a shared basis.

then the licensee must ensure that the plan – including portions calling for action by offsite responders – can be successfully executed. Licensees, however, may address any deficiencies in ORO performance in a number of ways, including further interaction with OROs or the development of compensatory measures that do not involve OROs at all. While licensees are responsible for ensuring that their emergency plans can be executed, responsibility for identifying and ensuring the correction of deficiencies in ORO resources properly lies with FEMA – not NRC licensees.

NRC's expectation should be that licensees: (1) continue to use the methods currently employed to successfully coordinate with OROs (i.e., confirming the existence of mutual aid and other types of agreements describing ORO resources), and (2) confirm that these existing methods are adequate to cover the needs at the nuclear power plant including the demands posed by potential hostile action based events. Thus, NEI recommends that the NRC adopt the revisions to paragraph IV.A.7 described above, and modify ISG-01 as follows:³

Proposed Guidance: [The following guidance would address concerns identified in recent Comprehensive Reviews and RIS 2004-15 regarding the availability of offsite resources to perform emergency response activities during hostile action events. NUREG-0654, Section II.C, "Emergency Response Support and Resources," addresses provisions for adequate emergency response support and resources in general. As such, this proposed guidance would be incorporated into a future update of NUREG-0654 without replacing or superseding any existing guidance.]

Licensees should **continue to coordinate with OROs** ~~verify that OROs~~ **to confirm that adequate resources are available to successfully execute their emergency preparedness plan in the event of an emergency, including a hostile action event.** ~~have plan and procedure elements to address the need for emergency plan implementation support during all contingencies, including hostile action events. Routine evaluation of ORO performance during biennial exercises addresses ORO ability to implement plans during reactor accidents not involving hostile action. The concern is that, In the event of a hostile action event at a nuclear plant, LLEA (and perhaps other) resources may be assigned duties that would prevent them from implementing the NPP emergency plan. If such conflicts are uncovered as a result of licensee coordination with OROs, this is the case the licensee would need to take action to ensure that the onsite plan can be successfully implemented in the event of a hostile action. In these situations, licensees should work with OROs, or take other compensatory action, to identify solutions that will ensure timely implementation of the emergency plan. If this issue does not apply to the licensee site, the licensee should document and append the supporting analysis to the site emergency plan.~~

³ The following documents were reviewed to identify any potential conflicts with NEI's proposed revisions. No conflicts were identified.

- Order EA-02-26, Commission Order Modifying Licenses (February 25, 2002)
- RIS 2004-15, Emergency Preparedness Issues : Post 9/11 (October 18, 2004)
- Bulletin 2005-02, Emergency Preparedness and Response Actions for Security-based Events (July 18, 2005)
- NEI White Paper, Enhancements to Emergency Preparedness for Hostile Action (November 18, 2005)
- RIS 2006-02, Good Practices for Licensees during EP Part of FOF Exercises (February 23, 2006)
- RIS 2006-12, Endorsement of NEI Guidance, Enhancements to Emergency Preparedness for Hostile Action (July 19, 2006)
- NUREG -0654, Criterion C Emergency Response Support and Resources

The issue has **There are** many potential solutions **to planning conflicts that may arise as the result of a hostile action event. Further, the most effective solutions to these planning conflicts will likely be driven by** and the **local, site-specific circumstances.** specific local situation can dictate the most effective one. **In any event,** it would be expected that alternate personnel be assigned the duties normally assigned to any **resources that may be unavailable in the event of a hostile action. For example, mutual aid agreements with neighboring jurisdictions could satisfy the need to supplement local resources in the event of a hostile action. Such agreements may include** This might include, for example, State or local department of transportation personnel or fire department personnel for traffic control duties, deputized private guard security personnel or National Guard personnel for duties related to security of facilities, and emergency management staff for liaison functions. **In addition, annual certifications of the adequacy of offsite resources provided by the State to FEMA may be adequate to confirm availability of ORO resources.**

OROs should address the training of the alternate personnel. It may be most effective if personnel are used in functions that are similar to their normal duties to minimize the training that would be necessary. Radiological training would be necessary for some functions, but could potentially be delivered through an online course or in the classroom with a longer than normal period (e.g., every 3 years), with a refresher briefing on radiological monitoring and exposure control provided to alternate personnel when they respond to an event. Drill and exercise participation, perhaps as an observer of the primary assignee, should be encouraged.

OROs should address the maintenance of additional duty rosters of qualified personnel. It may be efficient to simply list whole departments rather than tracking specific individuals.

Timeliness of activation of the alternate personnel should be addressed. The activation time for alternate personnel is not required to be the same as the time for primary personnel. However, a reasonable effort should be made to develop timely activation through callout trees or other methods normally used by the ORO. This effort should be automatically initiated when the EAL and event classification are for a hostile action event that would divert the normally assigned ORO resources from emergency plan implementation.

Licensees should complete the following actions to verify **confirm** that adequate ORO resources would be available and **actions credited to OROs in the licensee's emergency** plan pre-planned actions, such as traffic control and route alerting, **could** would be carried out **executed** when needed during hostile action events. **Specifically, licensees should:**

- Review ORO resources with offsite officials to verify that alternate resources have been identified to support implementation of ORO emergency plans during hostile action events.
- **Confirm** Verify with offsite officials that mutual aid or other agreements for alternate resources are in effect. The agreements for alternate resources should address arrangements for their notification, activation, training, and maintenance of duty rosters **for any offsite resources that are necessary to ensure that ORO actions credited in the licensee's emergency plan can be successfully executed in the event of a hostile action.**
- Verify that ORO plans and/or procedures have been updated to document the arrangements for alternate resources.

- Update licensee agreements with OROs (e.g., memoranda of understanding or letters of agreement), as needed, to ~~reflect the arrangements for this contingency~~ **confirm that any offsite actions credited in the licensee's emergency plan can be successfully executed in the event of a hostile action.**

Licensees should verify that arrangements for adequate ORO resources remain in effect as part of the annual update of the emergency plan and agreements. ~~in accordance with Evaluation Criterion P.4 of NUREG-0654, Section II.P, "Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans."~~

V. NRC's Expectations Related to Hostile Actions Resulting in Radiological Release Are Unclear

The term "hostile action" is defined as:

[A]n act directed toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force.

74 Fed. Reg. 23,284 at FN 3. Read together with the proposed revisions to paragraph IV.F.2.i of Appendix E and the draft guidance applicable to that paragraph, it appears that the NRC intends that hostile actions include threats that are currently beyond the DBT and result in large radiological releases. NEI believes that it is inappropriate for the NRC to require licensees to plan for such threats and assume large releases without providing some criteria that define the threat levels beyond the DBT that emergency planning exercises would have to cover. In response to a comment on the Lochbaum Petition, the Commission explicitly recognized the difficulties associated with developing such criteria, stating:

This commenter also states that the proposed requirement [for demonstrations by OROs to ensure that plants can be protected against adversaries with capabilities beyond the DBT] is too vague in that it does not define how far beyond the DBT adequate protection should be demonstrated. With respect to the specificity of the petition, the NRC concurs that it would be difficult to construct criteria defining levels beyond the DBT for which demonstrations would be required.

73 Fed. Reg. 54,745 (emphasis added). The NRC's proposed emergency planning rule suffers from the same vagueness referenced by the Commission in denying the Lochbaum Petition.

In order to understand the NRC's expectations regarding OROs, licensees need guidance clarifying the extent of the radiological release that must be planned for in the event of a hostile action event. Based on NRC's response to questions at a public meeting held on September 17, 2009, the proposed rule and guidance would require licensees to prepare for an event that far exceeds the DBT and may even include situations covered by the Commission's "enemy of the state" rule. See 10 CFR 50.13.⁴ Scenarios resulting in a large radiological release assume that the DBT is exceeded

⁴ 10 CFR 50.13 states:

An applicant for a license to construct and operate a production or utilization facility, or for an amendment to such license, is not required to provide for design features or other measures for the specific purpose of protection against the effects of (a) attacks and destructive acts, including sabotage, directed against the

and the hostile action event continues with protracted adversarial control of the plant. Further, the proposed rule assumes that EPZ police, fire and emergency medical resources would be consumed by such a hostile action and would be unavailable to support offsite protective actions. This is not necessarily the case. In some situations local public safety resources would not be consumed in a response to a hostile action at the plant. For example LLEA resources could include the local incident commander and specialized SWAT units made up of specially assigned personnel from many area law enforcement agencies (both EPZ and non-EPZ). For the most part, local public emergency response personnel would remain in place in their local communities.⁵

In addition, during the September 17, 2009, public meeting the NRC appropriately stated that licensees *should not assume* that the DBT is defeated for purposes of complying with the on-shift staffing requirements. It is inconsistent to require licensees to assume an attack by undefined forces that far exceed the DBT for purposes of coordination with OROs, while allowing licensees to protect the plant from the DBT for purposes of on-shift staffing.

At a minimum, more specific guidance providing some criteria bounding the threat levels beyond the DBT that emergency planning exercises would have to cover should be provided before licensees are required to assume more than minimal releases for exercise purposes. Thus, NEI recommends that the NRC remove the requirement to perform hostile action based exercises where more than a minimal radioactive release is assumed until more specific guidance bounding such exercises is developed.

facility by an enemy of the United States, whether a foreign government or other person, or (b) use or deployment of weapons incident to U.S. defense activities.

⁵ In addition, the proposed rule seems to assume that evacuation would be necessary in the event of a hostile action resulting in a radiological release. In lieu of the proposed rule, planning guidance should encourage licensees to incorporate in their protective action recommendation procedures the option to recommend that offsite authorities direct the public to take shelter in the event of a hostile action event, and to remain cognizant of conditions (i.e., listen to EAS broadcast) and additional public protective action instructions as the event develops. FEMA should complement this approach with similar protective action decision making guidance for offsite authorities during hostile action events.

NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE
RULE AREA: A.5 PROTECTIVE ACTIONS FOR ONSITE PERSONNEL

I. Changes to the Proposed Regulation

Federal Register/Vol. 74, NO. 94, page 23286 proposed the following revision to Appendix E to Part 50 – Emergency Planning and Preparation for Production and Utilization Facilities, IV. Content of Emergency Plans, I. Onsite Protective Actions During Hostile Action Events.

For nuclear power plant licensees under this part and Part 52, a range of protective actions to protect onsite personnel during hostile action events must be developed to ensure the continued ability of the licensee to safely shut down the reactor and perform the functions of the licensee's emergency plan.

A. Rule Codifies Bulletin Requirements

The proposed rulemaking for Onsite Protective Actions is consistent with the current guidance it is meant to codify. NEI provides no comments on the proposed rule.

II. Changes to Interim Staff Guidance

The following changes are recommended to NSIR/DPR-ISG-01, "Interim Staff Guidance Emergency Planning for Nuclear Power Plants, section IV.F Protective Actions for Onsite Personnel

A. Developing Procedures

NSIR/DPR-ISG-01 rev 0/ Section IV.F states:

Licensees should consider developing an operations procedure outlining station actions in response to security events.

NEI guidance doesn't specifically require the development of a single operation procedure (the key words being single and operating.) Though it is reasonable to assume everyone has proceduralized the actions in the NEI White paper, if the NRC chooses to enforce the concept of single operations procedure (versus multiple or EP-based procedures), a licensee could be out of compliance, though this is unlikely. NEI suggests the following change:

Licensees should consider developing ~~an operations procedure~~ procedures outlining station actions in response to security events.

B. Communications Example

NSIR/DPR-ISG-01 rev 0/ Section IV.E states:

Site management should be continually aware of the site security status and avoid actions that would potentially place onsite personnel in a dangerous environment.

The NEI white paper does not explicitly detail suggestions or requirements for tactical communications between security and "site management". To assure compliance with the rulemaking, licensees would need to verify that such communications were proceduralized. NEI recommends the following change to the ISG:

Site management should be continually aware of the site security status and avoid actions that would potentially place onsite personnel in a dangerous environment. **Examples of these communications should be placed in site procedures.**

**NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE
RULE AREA: A.6 CHALLENGING DRILLS AND EXERCISES**

NEI 06-04, Conducting a Hostile Action-Based Emergency Response Drill, Revision 1

Following the conclusion of the Phase 3 Pilot Drill Program, NEI commits to revising NEI 06-04 to include lessons learned from the pilot as well as other enhancements to the conduct of these drills. NEI seeks to continue to engage the NRC and FEMA in the development of the next revision.

General Comments:

The proposed changes to 10 CFR 50, Appendix E, Section IV pertaining to drills and exercises as documented in the Federal Register/Vol. 74, No. 94 are generally acceptable to the industry. However, there are two overarching comments concerning the corresponding implementation guidance that need to be emphasized in this comment submittal.

Exercise Planning Cycle

The industry endorses the collaboration between FEMA and the NRC towards the goal of making evaluated exercises less predictable, more challenging and most importantly, more valuable to the participants. Given the new exercise requirements, and the desire to make scenarios less predictable, the exercise planning cycle should be increased from six-years to eight-years, with all required elements to be demonstrated at least once in a cycle. Implementation of the new scenario elements, along with existing exercise requirements, within 3 evaluated exercises (per the existing six-year cycle) will create more predictable scenarios and runs counter to the stated intent of the rule change.

For those states that have multiple NPPs within their jurisdiction, the requirement to include an HAB exercise within the 6-year exercise cycle for each NPP adds a costly and unnecessary burden. It would require many of the same ORO assets to demonstrate the same responses several times in any given six-year period. An eight-year cycle would help to address this issue.

Another advantage of an eight-year exercise cycle is that it would allow for closer alignment to the Homeland Security Exercise Evaluation Process (HSEEP) principle of objective-driven scenarios. The NRC and FEMA's proposed prescription for scenario variables in a three-exercise/six-year cycle makes the exercises driven solely by scenario tracking. The HSEEP process focuses on objective development that is based upon capabilities and training needs; and is NOT scenario driven. What's being proposed by both the NRC and FEMA is a scenario driven approach to exercises that is not in conformance with HSEEP. An eight year exercise cycle would enable licensees and OROs more flexibility to address performance needs and specific capability demonstrations that would provide a more valuable performance opportunity.

Hostile Action-based Exercises and Radiological Releases

In the draft NRC ISG, NUREG -0654, Supplement 4, and the draft FEMA REP Program Manual, the NRC and FEMA are proposing that consecutive hostile action-based scenarios can not have a no-release or minimal radiological release component; thus, every other HAB exercise will be required to include a radiological release.

Draft NRC ISG: "Scenarios with no or an unplanned minimal radiological release should not be used in consecutive hostile action-based exercises."

NUREG 0654, Rev. 1, Supplement 4: "An HAB exercise can coincide with either a release scenario or a "no release" scenario; however, consecutive "no release" HAB scenarios should not occur."

These statements are counter to the philosophy of the rule change area regarding "Challenging Drills and Exercises" in that they specify a sequence associated with hostile action based exercises that allows the emergency response organizations to anticipate scenario design with respect to radiological releases.

This requirement would have significant implications on the exercise submittal, review, approval and implementation process. The contents of these scenarios could meet the Safeguards threshold (e.g., target set information) or otherwise provide information advantageous to an adversary. Unlike FOF exercises, emergency preparedness exercise scenario materials are provided to personnel outside of the licensee's control. In addition, due to the new exercise scenario approval requirements, NRC staff would be required to approve scenarios with implausible accident sequences and consequences.

Moreover, this specific event that the NRC suggests here would require licensees to prepare for an event that far exceeds the DBT. It assumes the DBT is not mitigated and a hostile action event ensues with protracted adversarial control of the plant, resulting in a radiological release that would consume LLEA resources over an extended period of time.

In addition, NEI believes the definition of "hostile action" inappropriately requires consideration of beyond design basis threat (DBT) scenarios without providing useful guidance defining the threat levels beyond the DBT that must be considered and planned for by licensees.

Hostile action based exercises should be limited to no or minimal radioactive releases that was demonstrated during the Phase 3 Pilot in accordance with NEI 06-04, Revision 1 endorsed by the NRC (RIS 2008-08). A hostile action based event which leads to a large radioactive release is overly complicated and is a scenario that is beyond DBT and beyond responsible demonstration of adequate protection.

To that end, NEI recommends that the two statements in the draft NRC ISG and NUREG-0654, Rev. 1, Supplement 4 regarding radiological releases and hostile action-based exercises be deleted.

Comment Matrix

NEI is providing additional comments to the Challenging Drill and Exercises rule area in the attached matrix. The matrix includes proposed changes to the implementing guidance provided in the NRC Draft ISG and NUREG 0654, Revision 1, Supplement 4.

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>Appendix E, Section IV.F.2.j</p> <p><u>ISG:</u> Section IV.G, Challenging Drills and Exercises, page 27, new N.1.b criteria</p> <p>NUREG 0654, Supplement 4, new N.1.b criteria</p>	<p>"The exercises conducted under paragraph 2 of this section by all nuclear power plant licensees under this part and Part 52 must use scenarios with the following elements in each exercise planning cycle....."</p> <p><u>ISG:</u> "The scenario shall be varied such that the major elements of the plans and preparedness organizations are tested within each six-year exercise planning cycle."</p> <p>AND</p> <p>"The following scenarios shall occur at least once every eight years:"</p> <p><u>Supplement 4, N.1.b:</u> "An exercise shall include mobilization of State and local personnel and resources adequate to verify the capability to respond to an <u>accident incident</u> scenario requiring response. <u>Federal, State, and local personnel shall critique</u> The scenario should shall be varied from year to year such that the major elements of the</p>	<p>No proposed change to rule.</p> <p><u>ISG:</u> "The scenario shall be varied such that the major elements of the plans and preparedness organizations are tested within each six <u>eight</u>-year exercise planning cycle."</p> <p>AND</p> <p>Delete: "The following scenarios shall occur at least once every eight years:"</p> <p><u>Supplement 4, N.1.B:</u> The scenario should shall be varied from year to year such that the major elements of the plans and preparedness organizations are tested within a five year period <u>six year planning cycle</u>. <u>eight-year cycle.</u></p> <p>AND,</p> <p>Delete: "..... The following scenarios shall occur at least once every eight years:</p>	<p>Given the new exercise demonstration requirements, and the desire to make scenarios less predictable, the exercise planning cycle should be increased from six-years to eight-years, with all required elements to be demonstrated at least once in a cycle. Implementation of each scenario element in 3 evaluated exercises (per the existing 6-year cycle) will create more predictable scenarios and runs counter to the stated intent of the rule change. Expanding the exercise cycle to 8-years will increase opportunities for scenario variability.</p> <p>For those states that have multiple NPPs within their jurisdiction, the requirement to include an HAB exercise within the 6-year exercise cycle for each NPP adds a costly and unnecessary burden. It would require many of the same ORO assets to demonstrate the same responses several times in any given 6-year period.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
	<p>plans and preparedness organizations are tested within a five year period <u>six-year planning cycle</u>. <u>The scenario variations shall include, but not be limited to, the following:....."</u></p> <p><u>"..... The following scenarios shall occur at least once every eight years:</u></p> <ul style="list-style-type: none"> ▪ <u>Hostile action directed at the plant site;</u> ▪ <u>An initial classification of or rapid escalation to a Site Area Emergency or General Emergency"</u> 	<p>*-Hostile action directed at the plant site; An initial classification of or rapid escalation to a Site Area Emergency or General Emergency"</p>	
<p>Appendix E, Section IV.F.2.j</p> <p>AND,</p> <p><u>ISG:</u> Section IV.G, Challenging Drills and Exercises, page 27, new N.1.b criteria, 6-year cycle requirements, 4th bullet</p>	<p><u>".....(5) implementation of mitigative strategies to respond to the loss of large areas of the plant under §50.54 (hh),"</u></p> <p><u>ISG:</u> "Implementation of strategies, procedures, and guidance developed under 10 CFR 50.54(hh)".</p>	<p>No proposed change to rule</p> <p><u>ISG:</u> "Implementation of strategies, procedures and guidance developed under 10 CFR 50.54(hh). <u>Actual movement and operation of equipment may be simulated.</u></p>	<p>Clarify that the movement and operation of plant equipment (e.g., diesel-powered pumps, fire hoses, valves, headers, etc.) is optional (i.e., may occur or may be simulated) at the licensee's discretion. Movement and operation of this equipment presents significant resource and safety issues.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>ISG, Section IV.G, Challenging Drills and Exercises, page 27, new N.1.b criteria, 6-year cycle requirements, 4th bullet</p>	<p>"Implementation of strategies, procedures, and guidance developed under 10 CFR 50.54(hh); and"</p>	<p>"Implementation of strategies, procedures, and guidance developed under 10 CFR 50.54(hh) (2); and"</p>	<p>10 CFR 50.54(hh) (1) addresses responses to an aircraft threat and (2) a loss of large areas of the plant due to explosions or fire. See full text below. As currently written, the ISG would require a licensee to conduct of an aircraft threat HAB exercise once every six years [as a result of (hh) (1)]; land or waterborne threat scenarios could not be used.</p> <p>10 CFR 50.54(hh) states, in part, "(1) Each licensee shall develop, implement and maintain procedures that describe how the licensee will address the following areas if the licensee is notified of a potential aircraft threat:" and "(2) Each licensee shall develop and implement guidance and strategies intended to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities under the circumstances associated with loss of large areas of the plant due to explosions or fire, to include strategies in the following areas:."</p> <p>The staff should carefully consider the various implications of this requirement on the exercise submittal, review, approval and implementation process. The contents of these scenarios could meet the Safeguards threshold (e.g., target set information) or otherwise provide information advantageous to an adversary. Unlike FOF exercises, emergency preparedness exercise scenario materials are provided to personnel outside of the licensee's control. In addition, due to the new exercise scenario</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
			approval requirements, NRC staff would be required to approve scenarios with implausible accident sequences and consequences.

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>ISG Section IV.G, Challenging Drills and Exercises, page 28</p> <p>Suggested addition to proposed changes</p>	<p>N/A</p>	<p>It is recommended that the staff take this rulemaking opportunity to modify NUREG-0654 (as has been done in other rulemaking areas) by updating Evaluation Criterion N.2.e. See proposed text below.</p> <p>"Evaluation Criterion N.2.e is being updated to reflect current regulatory positions and industry operating experience.</p> <p>e. <u>Health Physics Drills</u></p> <p>Health Physics drills shall be conducted semi-annually which involve responses to abnormal radiological conditions. These conditions may include simulated elevated airborne and/or liquid radioactivity levels both in-plant or in the environment."</p>	<p>The proposed change updates Evaluation Criterion N.2.e to reflect current regulatory positions and industry operating experience.</p> <p>The revised "e." will promote more realistic scenarios, and allow licensee's to better focus drill events and resources on specific areas needing improvement.</p> <p>The existing "e.(2)" was deleted. Earlier this decade, licensees made changes to reduce or eliminate requirements associated with Post-Accident Sampling Systems (PASS). These changes were supported by owner's groups and endorsed/approved by the NRC. These changes recognized that the majority of the PASS sample results do not aid emergency response personnel in any accident assessment or control function, and thus removed unnecessary regulatory burden. The proposed elimination of e.(2) aligns NUREG 0654 drill requirements with changes made to PASS requirements. It will also allow licensee's to better focus resources on more important drill/response elements.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
ISG Section IV.G, Challenging Drills and Exercises, page 28, 2 nd bullet.	"Shift staff response to accident transients while implementing the emergency plan."	"Shift staff response to <u>an emergency initiating condition (e.g., a plant transient, fire, natural phenomenon, etc.)</u> while implementing the emergency plan."	Some drills/exercises start of with non-operational events that do not cause a plant transient, i.e., a fire, a gas release, a small earthquake, etc.
ISG Section IV.G, Challenging Drills and Exercises, page 28, 7 th bullet.	"Development and implementation of radiological protective actions for onsite workers."	"Development and implementation of radiological protective actions for onsite workers <u>as appropriate to the exercise scenario</u> ."	Added text to clarify intent. The postulated scenario conditions will govern the selection of worker protective measures.
ISG Section IV.G, Challenging Drills and Exercises, page 28, 9 th bullet.	"Accident mitigation through the simulated physical repair of equipment."	"Accident mitigation through the simulated physical repair of equipment."	The term "simulated physical" is confusing. Deleted "physical" since contact with plant equipment is not allowed during drills and exercises.
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle" - 1 st bullet	"Demonstration of all functions in each ERF (e.g., all ERFs that are responsible for dose assessment perform those duties in response to a radiological release)."	"Demonstration of all functions in each ERF (e.g., all ERFs that are responsible for dose assessment perform those duties in response to a radiological release). <u>Demonstration of a function may be performed out-of-sequence from the main scenario timeline, or as a stand-alone activity.</u> "	The suggested approach has been successfully employed by licensees for the demonstration of certain functions. These functions are typically contingent in nature (e.g., a backup process used during unusual circumstances) or require timelines longer than available drill time. The suggested approach will obviate the need to present an unlikely series of events which may have adverse effects on other aspects of the drill, and will promote more realistic scenario content and timing. It is similar to that used for many ORO demonstrations performed for FEMA.

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle" - 3rd bullet</p>	<p>"Engineering assessment, repair plan development, and physical repair of critical equipment damaged by hostile action after the active attack but before the site is secured by LLEAs."</p>	<p>Remove the phrase, "but before the site is secured by LLEAs". Added, "when security and LLEA have determined that the site is secure enough to allow prioritized limited movement of personnel." <u>"The ability to assess and simulate repair of critical equipment damaged by hostile action after the active attack, but before the site is secured by LLEAs. This includes engineering support, repair plan development, and formation and dispatch of repair teams. Dispatch of repair teams would occur when security and LLEA have determined that the site is secure enough to allow prioritized, limited movement of personnel."</u></p>	<p>Reworded to improve clarity. Replaced the term "physical repair" with "formation and dispatch of repair teams" since physical contact with plant equipment is not allowed during drills and exercises. The language proposed by the NRC in this bullet is in direct conflict with the alternate facility Section IV.D where it is stated that personnel would move after or when the site is secured. Physical repair would NOT be conducted until the site is secured by the IC. To require this is unrealistic and would simulate putting employees in a dangerous environment which is also in conflict with Section IV.F, Protective Actions for Onsite Personnel. The Phase 3 Pilot HAB Drill demonstrations revealed that Incident Command and Security will not allow movement of personnel prior to the site being deemed secure enough to do so. Due to inconsistent understanding of the expectation on movement of plant personnel after an active attack is over, this phrase was added for clarity and consistency. This level of detail should not be included in the NRC ISG. NRC is crossing over into law enforcement tactical response and decision making that is outside of an NRC inspector's jurisdiction.</p>

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<p>ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle" - 4th bullet</p>	<p>"Response to a scenario with no radiological release or an unplanned minimal radiological release that does not require public protective actions. The scenario selected for this objective will vary from cycle to cycle."</p>	<p><u>"Response to a scenario with radiological release that requires public protective actions, and response to a scenario with no radiological release or an unplanned minimal radiological release that does not require public protective actions. The scenario selected for this objective will vary from cycle to cycle."</u></p>	<p>The current wording would require 2 out of 3 scenarios, in a six-year cycle, to have a scenario with radiological release that requires public protective actions. The suggested approach will promote greater diversity (and unpredictability) of scenarios. During a six-year cycle, licensees would be required to demonstrate 1) a response to a scenario with radiological release that requires public protective actions, and 2) a response to a scenario with no radiological release or an unplanned minimal radiological release that does not require public protective actions. This would allow the third scenario to include a response to either of previous two scenario types, or to a release with a magnitude somewhere in between these two extremes (e.g., a release driving a Site Area Emergency classification). The statement "The scenario selected for this objective will vary from cycle to cycle." is not required as other elements of the ISG govern scenario reuse. This statement is an unnecessary constraint on scenario development.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle". - 7 th bullet	"The successful repair of simulated damaged equipment to prevent or mitigate core damage, reactor vessel loss, and/or containment loss (twice per exercise cycle)."	"The successful repair of simulated damaged equipment to prevent or mitigate <u>loss of the fuel clad, reactor vessel or containment barriers,</u> and/or restore a 'defense-in-depth' capability (twice per exercise cycle)."	Reworded to improve clarity. Added an additional criterion - "restore a 'defense-in-depth' capability". This would credit repair team actions which restore an inoperable safety-system train to service, close a second in-line containment isolation valve, etc.
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle". - 8 th bullet	"The use of alternative facilities to stage the ERO for rapid activation during a hostile action event."	"The use of alternative facilities to stage the ERO for rapid activation during a hostile action event <u>(need not be performed in an exercise).</u> "	Some licensees activate their alternate (staging) facilities, during normal work hours, only in response to an airborne attack threat. To facilitate diversity of threat-based drill and exercise scenarios, the phrase "(need not be performed in an exercise)" was added. This will allow those licensees the option of demonstrating alternate facilities in an off-hours drill which includes a land or waterborne-based attack.

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle". - 10th bullet</p>	<p>"The ability to provide medical care for injured, contaminated personnel."</p>	<p>"The ability to provide medical care for injured, contaminated personnel (<u>need not be performed in an exercise</u>)."</p>	<p>To allow flexibility in the use of licensee resources and promote realistic training, the phrase "(need not be performed in an exercise)" was added. This will allow the continuation of a current industry practice. The response to, and transport of, an injured/ill and contaminated individual requires several dedicated Radiation Protection resources. During a real emergency, this would not be an issue; however, during an exercise, many licensees would be challenged to provide these resources, in addition to those normally required for an exercise, and still maintain normal plant staffing. In addition, many licensees use their real Control Rooms during these drills to maximize realism and learning. Performance of this objective in an exercise would preclude use of the Control Room.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle". - 11 th bullet	"The use of essentially 100 percent of initiating conditions identified in the site emergency plan implementing procedure for classification of emergencies in drill and exercise scenarios."	"The use of <u>approximately 75%</u> of initiating conditions identified in the site emergency plan implementing procedure for classification of emergencies in <u>training, license exam, drill, or exercise scenarios. The variation of initiating conditions used over a planning cycle should yield the maximum range of realistic, predictable and credible scenarios for that plant's design.</u> "	<p>Use of some Initiating Conditions are problematic in that there may be no realistic way to present them given a plant's design, responses or outcomes may not be predictable and/or they have long lead (evolution) times. Examples include AA3, HU5, SU2, SU3, SU6, SU8, HA6, SA4, HS2, HS3, SS3, SS6, HG2 and SG2. Replaced "essentially 100%" with "approximately 75%". This will allow licensees to select emergency initiating conditions that yield realistic, predictable and credible scenarios consistent with the goal of presenting a wide variety of conditions.</p> <p>Added training and license exams as acceptable settings for presenting an emergency initiating condition. This will allow licensees greater flexibility in use of resources consistent with the goal of this requirement.</p>
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle". - 12 th bullet	"The use of wind direction and persistence representative of the site."	Delete: "The use of wind direction and persistence representative of the site."	There is no clear basis or benefit for this requirement; it should be deleted. The expectation for wind direction is adequately conveyed in the last paragraph of page 29 - "Wind direction should be varied within an exercise cycle such that any radiological release would impact different downwind sectors".
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Pages 29 and 30	<p>"Scenarios would be considered sufficiently diverse when no more than one EAL is shared."</p> <p>"Where the design of plant systems makes variation difficult, circumstances and timing</p>	NRC staff should carefully consider this guidance in light of certain constraints on the availability of Initiating Conditions and EALs for use in drills and exercises. There is a relatively limited number of EALs to select from for	<p>The NEI 99-01 classification scheme contains 9 SAE Initiating Conditions (ICs) and 6 GE ICs. 8 of these ICs are not practical for use in non-HAB combined drills or exercises.</p> <ul style="list-style-type: none"> • HS3 & HG2 – Discretionary classification • HS4 & HG1 – Security event-

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	<p>may be changed to effect the required variation (e.g., a fire or explosion causes the failure rather than a random mechanical fault). Drill scenarios should not be used for a biennial exercise within 3 years of use."</p>	<p>SAE and GE events. See Basis section for details.</p> <p>A licensee will typically run a minimum of 10 to 12 drills and exercises over a 3 year period. There may not be enough usable events to support implementation of these drills and exercises, and still meet the proposed guidance. IC/EAL selection and sequencing is also limited by the goal of maintaining continuity between scenario events, i.e., there are a limited number of logical event timelines. In addition, some regional EP inspectors have indicated a clear preference for LOCAs in exercise scenarios; this presents yet another constraint (e.g., scenarios with a steam generator tube rupture cannot be used in an exercise).</p>	<p>related (attack); used in HAB drills/exercises</p> <ul style="list-style-type: none"> • HS2 – Control Room evacuation and inability to regain plant control • SS3 & SS6 – Loss of DC power and inability to monitor a transient. Not credible at many sites given plant design features. • SG2 – Protracted ATWS with threat of core damage. Not credible (and if you could force it, not recoverable). <p>Two ICs - AS1 and AG1 - have "backup" EALs. In other words, the fission product barrier EALs would drive the emergency classification before the effluent monitor EALs would. This leaves 5 ICs for combined drills and exercises:</p> <ul style="list-style-type: none"> • SAE – SS1, SS2 and FS1 • GE – SG1 and FG1 <p>For SS1, SS2 and SG1 - if the IC is used, all the associated EALs are used. For FS1 and FG1, several EAL statements are redundant (e.g., elevated PWR thermocouple readings and C Orange), discretionary (i.e., ED judgment), require long timeframes not suitable for an exercise (e.g., time to pressurize containment beyond design pressure) or cannot be met in a credible manner due to plant design.</p>
<p>ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29</p>	<p>"Scenarios would be considered sufficiently diverse when no more than one EAL is shared."</p>	<p>"Scenarios would be considered sufficiently diverse when no more than one EAL is shared <u>between consecutive biennial exercises.</u>"</p>	<p>Clarify intent of guidance.</p> <p>This change will help to address the comment above concerning the limited availability of ICs/EALs suitable for full-scale drills and exercises.</p>
<p><u>ISG:</u> ISG Section IV.G, Challenging Drills</p>	<p><u>ISG:</u> "Scenarios with no or an unplanned minimal</p>	<p><u>ISG:</u> Delete: "Scenarios with no or an</p>	<p>These statements are counter to the philosophy of the rule change area on "Challenging Drills and</p>

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<p>and Exercises, Proposed Guidance; Page 29</p> <p><u>NUREG 0654, Rev. 1, Supplement 4</u></p>	<p>radiological release should not be used in consecutive hostile action-based exercises."</p> <p>Supplement 4: "An HAB exercise can coincide with either a release scenario or "no release" scenario; however, consecutive "no release" HAB scenarios should not occur."</p>	<p>unplanned minimal radiological release should not be used in consecutive hostile action-based exercises</p> <p>Supplement 4: Delete: "An HAB exercise can coincide with either a release scenario or "no release" scenario; however, consecutive "no release" HAB scenarios should not occur."</p>	<p>Exercises" in that they specify a sequence associated with hostile action based exercises that allows the emergency response organizations be anticipate scenario design with respect to radiological releases.</p> <p>This requirement would have significant implications on the exercise submittal, review, approval and implementation process. The contents of these scenarios could meet the Safeguards threshold (e.g., target set information) or otherwise provide information advantageous to an adversary. Unlike FOF exercises, emergency preparedness exercise scenario materials are provided to personnel outside of the licensee's control. In addition, due to the new exercise scenario approval requirements, NRC staff would be required to approve scenarios with implausible accident sequences and consequences.</p> <p>Moreover, this specific event that the NRC suggests here would require licensees to prepare for an event that far exceeds the DBT. It assumes the DBT is not mitigated and a hostile action event ensues with protracted adversarial control of the plant, resulting in radiological release that would consume LLEA resources over an extended period of time.</p> <p>In addition, NEI believes the definition of "hostile action" inappropriately requires consideration of beyond design basis threat (DBT) scenarios without providing useful guidance defining the threat levels beyond the DBT that must be considered and planned for by licensees.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
			<p>Hostile action based exercises should be limited to no or minimal radioactive releases as was negotiated and agreed to at the beginning of the pilot program. A hostile action based event which leads to a large radioactive release is overly complicated and is a scenario that is beyond DBT and beyond responsible demonstration of adequate protection.</p> <p>NRC provided discussion pertaining to this point in the Lochbaum petition for rulemaking where a commenter stated that the requirement proposed in the PRM was "too vague in that it [did] not define how far beyond DBT adequate protection should be demonstrated." The NRC's response was, "With respect to the specificity of the petition, the NRC concurs that it would be difficult to construct criteria defining levels beyond the DBT for which demonstrations would be required."</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 30	"Drill scenarios should not be used for a biennial exercise within 3 years of use."	"A complete drill scenario should not be used for a biennial exercise within <u>24</u> <u>months</u> of use."	Inserted "complete"; it should be acceptable to use some elements of a previous drill scenario in an exercise scenario provided other, new or changed material is added. The proposed time frame, 24 months, is sufficient to ensure a high likelihood that a player will not remember a scenario timeline, will facilitate more efficient use of licensee resources (i.e., those resources necessary for scenario development and validation), and can be more precisely tracked given the flexible monthly interval between biennial exercises. This change will also help to address the comment above concerning the limited availability of ICs/EALs suitable for full-scale drills and exercises.

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance	<p>The guidance makes several references to new criteria intended to ensure varied scenario content, and to preclude or minimize predictability. Guidance also states, "Scenarios must be kept confidential from participants."</p> <p>Related guidance on this subject is presented in NRC Inspection Procedure 71114.01.</p>	<p><u>"A licensee may conduct a Hostile Action-Based (HAB) drill immediately prior to an HAB exercise. The hostile action (attack) should be varied between the two scenarios, e.g., attack type or direction, number of attackers, attack timeline, damage, results and consequences, etc."</u></p> <p><u>"It is recognized that the planning, scheduling and logistical arrangements necessary to conduct a HAB drill or exercise challenge the normal expectations for scenario confidentiality, i.e., some participants may know that an HAB scenario will be used in a drill or exercise. Under no circumstances may a participant know any details of the scenario (i.e., specific event timeline and related information)."</u></p>	<p>Consideration should be given to adding new ISG guidance to address:</p> <ol style="list-style-type: none"> 1) The need by licensees to conduct an HAB Drill prior to an HAB Exercise, and 2) The reality that some participants may know that an HAB scenario will be used in a drill or exercise given the resource planning, scheduling and logistics necessary to conduct this type of event. <p>In the June 9, 2009 Public Meeting (7:00 pm -9:30 pm) FEMA stated that Ingestion Pathway exercise scenarios would be the sole exception for keeping content of scenarios confidential.</p> <p><i>"The sole exception might be the ingestion pathway exercise, since this exercise requires a longer period for performance that would have to be considered at the scheduling meeting; nonetheless, the specific scenario details of the ingestion pathway exercise would not be discussed at the scheduling meeting."</i></p> <p>HAB Exercises would also be an exception due to the need to schedule resources that are not routinely participants in a REP exercise (e.g., FBI, LLEA, EMS, etc.), and the extensive planning that is required for these scenarios.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>Appendix E, Section IV.F.2.b</p> <p><u>ISG:</u> Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 30</p>	<p>Nuclear power plant licensees shall submit exercise scenarios under § 50.4 for prior NRC review and approval.</p> <p><u>ISG:</u> "The NRC staff would review and approve all biennial exercise scenarios. Scenarios should be submitted at least 60 days prior to the exercise date."</p>	<p>No proposed change to the rule.</p> <p><u>ISG:</u> "The NRC staff would review and approve all biennial exercise scenarios. Scenarios should be submitted at least 60 days prior to the exercise date. <u>NRC staff comments on a scenario should be provided to the licensee no later than 45 days prior to the exercise date.</u>"</p>	<p><u>ISG:</u> The proposed change allows the staff two weeks to review and aggregate comments. The 45 day window will allow licensee's adequate time to make and validate changes prior to conducting exercise controller briefings, and providing updated scenario materials to FEMA.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>Appendix E to Part 50 – Emergency Planning and Preparedness for Production and Utilization Facilities * * * * *</p> <p>IV. Content of Emergency Plans</p> <p>AND,</p> <p><u>ISG:</u> Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle" - 1st bullet</p>	<p>Appendix E.IV.F.2 - "[...], including at least one drill involving a combination of some of the principal functional areas of the licensee's onsite emergency response capabilities. The principal functional areas of emergency response include activities such as management and coordination of emergency response, accident assessment, protective action decision making, and plant system repair and corrective actions."</p> <p><u>ISG:</u> "Demonstration of all functions in each ERF (e.g., all ERFs that are responsible for dose assessment perform those duties in response to a radiological release)."</p>	<p>No change to Appendix E, IV.F.2</p> <p><u>ISG:</u> On Page 29 - the list of "scenario elements" that should be included "during the conduct of drills and exercises over the course of an exercise planning cycle" – 1st bullet: (delete this bullet). On Page 29, (<u>insert new paragraph which uses the same wording as Appendix E, IV.F.2.</u>) Alternate proposed change to ISG: "Demonstration of <u>risk significant planning standard</u> functions assigned to each ERF (e.g., all ERFs that are responsible for dose assessment perform those duties in response to a radiological release)."</p>	<p>With respect to function demonstration, Appendix E and the ISG specify two different sets of approaches and terms.</p> <ul style="list-style-type: none"> • Appendix E, IV.G – including "principal functional areas" in a drill during the interval between biennial exercises. • ISG Section IV.G – "Demonstration of all functions" during the conduct of drills and exercises over the course of an exercise planning cycle. <p>The demonstration frequencies are not aligned - "interval between biennial exercises" vs. "over the course of an exercise planning cycle".</p> <p>The term "principal functional areas" is sufficiently defined to promote common understanding and application. The term "all functions" is not defined. [<i>Note – an NRC representative suggested a definition for "all functions" during a recent public meeting. Vetting with industry representatives has concluded that the suggested definition is not workable.</i>]</p> <p>The suggested change aligns the ISG language with that used in Appendix E, IV.F.2. The alternate proposed change inserts a common, defined term.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 30, second paragraph, first sentence	"Mitigative measures in hostile based scenarios should commence after the simulated active attack has ceased, but before LLEAs have swept the site for safe entry or declared the site secure."	"Mitigative measures in hostile based scenarios should commence after the simulated active attack has ceased, but before LLEAs have swept the site for safe entry or declared the site secure. " and <u>LLEAs and site security have determined that the site is secure enough to allow prioritized, limited movement of personnel.</u>	This change reflects "lessons learned" from HAB drills. Station security decision-makers and Incident Commanders would not allow movement of personnel until an initial sweep of the site has been made. The change will also promote consistency with the proposed guidance of Section IV.F, Protective Actions for Onsite Personnel. Specifically, as stated on page 21, <i>"Site management should be continually aware of the site security status and avoid actions that would place onsite personnel in a dangerous environment."</i>

COMMENTS ON EMERGENCY PREPAREDNESS RULEMAKING
RULE AREA: B.1. BACKUP MEANS FOR ALERT AND NOTIFICATION SYSTEMS

I. Changes to the Proposed Regulation

Federal Register/Vol. 74, No. 94, page 23,284 proposed the following revision to Appendix E to Part 50 – Emergency Planning and Preparation for Production and Utilization Facilities, IV. Content of Emergency Plans, D. Notification Procedures

3. The licensee shall identify and demonstrate that the appropriate governmental authorities have both the administrative and physical means for a backup method of public alerting and notification capable of being used in the event the primary method of alerting and notification is unavailable during an emergency to alert or notify all or portions of the plume exposure pathway EPZ population. The backup method shall have the capability to alert and notify the public within the plume exposure pathway EPZ, but does not need to meet the 15-minute design objective for the primary prompt public alert and notification system. When there is a decision to activate the alert and notification system, the appropriate governmental authorities will determine whether to activate the entire alert and notification system simultaneously or in a graduated or staged manner. The responsibility for activating such a public alert and notification system shall remain with the appropriate governmental authorities.

A licensee under this part or Part 52 shall implement the requirements for a backup method of public alerting and notification under Part 50, Appendix E, Section IV.D.3 no later than the first biennial exercise conducted at the site more than one year after [EFFECTIVE DATE OF THE FINAL RULE].

NEI agrees with the rule goal of ensuring completion of the public alerting and notification function in the event of a problem with the primary ANS; however, the rule should recognize that this goal can also be met with a single, highly robust ANS. This type of ANS is designed such that no single failure would preclude successful Alerting or Notification. System attributes common to this type of design include multiple and independent activation points, backup power sources, overlapping acoustical coverage, multiple broadcast stations, etc. A highly robust ANS can always complete alerting and notification functions more effectively than any backup method.

In addition, the proposed rule would essentially require licensees to work with offsite authorities to establish route alerting systems that are manpower intensive or to install reverse 911-type wide-area telephone notification systems. Route alerting methods are of doubtful utility in many climates because people in closed, weather-tight homes would be unlikely to hear them or clearly understand the messages conveyed. FEMA has not endorsed the use of reverse 911-type notification systems because of their unreliable capability to notify essentially 100% of the population in a given area (e.g., not all households use conventional land-line telephones, unpublished telephone numbers, call volume may overwhelm switching equipment, etc.).

Finally, the proposed rule may have the unintended consequence of discouraging licensees from upgrading to higher quality ANS systems by diverting resources to, and/or increasing reliance upon, a backup means that, in the end, would be a less effective in protecting public health and safety.

For these reasons, NEI strongly recommends that the rule be revised to allow for the option of installing a highly robust ANS which would then obviate the need for a backup ANS. This approach

would be consistent with the ANS rulemaking discussion presented in SECY-09-0007. See proposed language below.

3. The licensee shall ~~identify and demonstrate~~ **have a method(s) in place to ensure public alerting and notification in the event of a component failure. To this end, the licensee must demonstrate either** that **(1)** the appropriate governmental authorities have both the administrative and physical means for a backup method of public alerting and notification capable of being used in the event the primary method of alerting and notification is unavailable during an emergency to alert or notify all or portions of the plume exposure pathway EPZ population. The backup method shall have the capability to alert and notify the public within the plume exposure pathway EPZ, but does not need to meet the 15-minute design objective for the primary prompt public alert and notification system **or (2) the primary ANS is designed and installed such that no single failure could preclude the system from meeting its intended function.** When there is a decision to activate the alert and notification system, the appropriate governmental authorities will determine whether to activate the entire alert and notification system simultaneously or in a graduated or staged manner. The responsibility for activating such a public alert and notification system shall remain with the appropriate governmental authorities.

A licensee under this part or Part 52 shall implement the requirements **(1) or (2)** for a backup method of public alerting and notification under Part 50, Appendix E, Section IV.D.3 no later than the first biennial exercise conducted at the site more than one year after [EFFECTIVE DATE OF THE FINAL RULE].

II. Changes to Interim Staff Guidance (ISG)

A. Robust Siren System

In conjunction with the changes discussed above, NEI recommends that the relevant ISG section be revised to recognize that a single, highly robust ANS meets the rule intent. To this end, the guidance should include a set of ANS design criteria or attributes that, if met by a site's ANS configuration, would obviate the need for a backup ANS. Sample criteria or attributes would include multiple and independent activation points, backup power sources, overlapping acoustical coverage, multiple broadcast stations, etc. NEI is willing to convene a task force of industry subject matter experts to assist the staff with the development of new guidance for this area.

B. Many Route Alerting Methods May Work

ISG section IV.J, Backup Means for Alert and Notification Systems, page 46/47 states:

Backup alerting procedures that would be implemented in multiple stages should be structured in a manner in which the population closest to the plant, e.g., within 2 miles, is alerted first and then the alerting process is expanded to populations farther away and downwind from any potential radiological release, e.g., 2 to 5 mile portion of keyhole, then downwind 5 to 10 miles and finally to the remaining population if it is so directed by authorities.

Backup alerting plans will differ from facility-to-facility but should reflect the best judgment of the OROs involved in their development. NEI recommends the following change to the ISG:

Backup alerting procedures that would be implemented in multiple stages should be structured in a manner **that best fits the characteristics of the EPZ as determined by the cognizant ORO officials. As an example** the population closest to the plant, e.g., within 2 miles, is alerted first and then the alerting process is expanded to populations farther away and downwind from any potential radiological release, e.g., 2 to 5 mile portion of keyhole, then downwind 5 to 10 miles and finally to the remaining population if it is so directed by authorities.

C. ISG and REP Manual do not Match

The following statements in the ISG and the FEMA REP manual are potentially in conflict.

ISG: "Route alerting employed during an actual emergency as a backup method if the primary means of notification, such as sirens, is unavailable would not have a specific time limit, and therefore the 45-minute timeframe would not apply."

REP: "As stated above, the suggested time for completion of backup route alerting is 45 minutes."

D. EAS Station

Backup Means for Alert and Notification Systems, page 45. NEI recommends the following clarification:

An ANS has two distinct functions. The alert function provides a warning signal to the population indicating the need to seek additional information regarding an event in progress. By itself, this function provides no information about the type of event or any protective actions that need to be taken. The notification function informs the public about the nature of the event and any protective actions. These functions may be performed by separate means, such as sirens for alerting and EAS broadcasts for notification, or by one method, such as tone alert radios and electronic hailers, that can provide both a warning signal and an instructional message. Although most ANS problems have involved degradation of the alerting capability, both functions are important for protecting public health and safety during an emergency. Therefore, this proposed rule would address backup capabilities for both ANS functions. **An alternate EAS station would be an acceptable means to perform a backup notification function.**

COMMENTS ON EMERGENCY PREPAREDNESS RULEMAKING
RULE AREA: B.2. EMERGENCY DECLARATION TIMELINESS

I. Changes to the Proposed Regulation

Federal Register/Vol. 74, No. 94, page 23,284 proposed the following revision to Appendix E to Part 50 – Emergency Planning and Preparation for Production and Utilization Facilities, IV. Content of Emergency Plans, C. Activation of Emergency Organization:

2. Nuclear power plant licensees and applicants under this part and Part 52 shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15 minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following a determination that an emergency action level has been exceeded.

NEI has three primary concerns with the proposed rule language:

- For a Notification of Unusual Event (NUE), the declaration timeliness criteria is not commensurate with the emergency classification level (ECL) significance.
- The rule could cause a decision-maker to make a rushed and incorrect declaration.
- There are other key ERO members, in addition to "plant operators" that are responsible for making an emergency declaration (e.g., an Emergency Director in the TSC). The regulation should reflect this fact.

A. Declaration Timeliness Criteria

The current emergency declaration time goal is 15 minutes for all ECL's. This goal, along with associated clarifying language, is clearly stated in EPPOS-2 and NEI 99-02. The proposed rule, while codifying this goal, also introduces an opportunity to incorporate a more appropriate and risk-informed timeframe for the assessment and declaration of a NUE.

NEI is proposing that the rule language be revised to change the allowable declaration timeframe for a NUE from 15 minutes to 30 minutes. The timeframe for declaration of an Alert, Site Area Emergency or General Emergency would remain unchanged at 15 minutes.

Many NUE-type events are actually more difficult to correctly classify than higher-level events (which tend to be more "black and white"). NUE events are often in a "gray" area, and may sometimes require consultation with a background document or subject matter expert to ensure a proper classification. The additional 15 minutes for assessing and declaring the NUE would promote greater classification accuracy.

There are no expected on-site or offsite actions that compel a 15-minute timeframe for declaring a NUE. At this ECL, there is no potential for significant impact to the health and safety of either on-site workers or the public. The proposed 30-minute timeframe is fully compatible with the related technical background discussions presented in NUREG-0396 and NURG-0654.

B. Proposed Wording May Cause Incorrect Declaration

The rule, as proposed, could require an emergency classification decision-maker to make a rushed and incorrect emergency declaration. This would not further protection of public health and safety, nor build stakeholder confidence. An emergency declaration rightly occurs following a review of all potentially relevant emergency action levels (EALs) and the selection of the appropriate (highest applicable) ECL. Consider these two examples:

- An accident happens that involves a loss of the RCS and Containment Barriers, and a release is in progress. The Shift Manager assesses the radiological release EALs (from NEI 99-01 Category A) first and determines that the release meets an Alert EAL. At this point, the proposed rule wording would require an Alert declaration (an EAL has been exceeded) even though the Fission Product Barrier EALs have not yet been evaluated and would require a Site Area Emergency declaration.
- An unidentified RCS leak to containment occurs. It is readily apparent to the shift crew that the leak rate exceeds Technical Specification limits and thus exceeds the EAL for NEI 99-01 Initiating Condition SU5. At this point, the proposed rule wording would require an Unusual Event declaration (an EAL has been exceeded) even though the Fission Product Barrier EALs have not yet been evaluated and may require an Alert declaration based on a Loss or Potential Loss of the RCS Barrier.

C. Responsible Emergency Classification Decision-Maker

In the context of assessing conditions and declaring an emergency, the proposed rule uses the term "plant operators". At some point into an event, the emergency classification function will be transferred from the Shift Manager (a plant operator) to another senior decision-maker in the Emergency Response Organization (ERO). This decision-maker may be located in either the Technical Support Center (TSC) or the Emergency Operations Facility (EOF), and is typically not a "plant operator".

D. Suggested Change to Proposed Regulation

To address the above concerns, the following change to the proposed regulation is provided (deletions ~~struck out~~ and additions in **bold type**):

2. Nuclear power plant licensees and applicants under this part and Part 52 shall establish and maintain the capability to assess, classify, and declare a **Notification of Unusual Event within 30 minutes and an Alert, Site Area Emergency and General Emergency** ~~an emergency condition~~ **within 15 minutes** after the availability of indications to plant operators **the responsible emergency classification decision-maker** that an emergency action level has been exceeded. **Declaration** shall **occur** promptly ~~and shall promptly declare the emergency condition as soon as possible following a determination that an emergency action level has been exceeded.~~ **following a review of emergency action levels and identification of the appropriate emergency classification level.**

II. Changes to Interim Staff Guidance

The following changes are recommended to NSIR/DPR-ISG-01, "Interim Staff Guidance Emergency Planning for Nuclear Power Plants, section IV.H. Emergency Declaration Timeliness.

A. Responsible Emergency Classification Decision Maker

Page 30 of the ISG states:

After validating the indication or report, the plant operators then compare the off-normal condition to the EAL thresholds in the emergency classification scheme. Not all off-normal conditions are immediately obvious, and not all indications are unambiguous. While some conditions can be classified upon recognition, others require further assessment.

As discussed on page 3, terminology related to the individuals that make declarations is needed. Therefore the following change is recommended:

*After validating the indication or report, the ~~plant operators~~ then **the responsible emergency classification decision maker**, compare the off-normal condition to the EAL thresholds in the emergency classification scheme. Not all off-normal conditions are immediately obvious, and not all indications are unambiguous. While some conditions can be classified upon recognition, others require further assessment.*

B. Declaration Timeliness Criteria

Page 30 of the ISG states:

A period of 15 minutes was determined to be a reasonable time for assessing and classifying an emergency. EPPOS-2 also stated that this 15-minute period should not be viewed as a grace period in which a licensee may attempt to restore plant conditions and avoid declaring an emergency. A delay in classification of up to 15 minutes was deemed to have minimal impact on the overall emergency response and the protection of public health and safety.

As discussed on page 1, with the introduction of this new rule by the NRC, it is appropriate to examine the consequences of 15 minute declaration time as a binding requirement. It may be more appropriate to require a scaled timing approach. The following is a suggested change to this section of the ISG.

*A period of **30 minutes for Notice of Unusual Event, and 15 minutes for Alert, SAE and GE** was determined to be a reasonable time for assessing and classifying an emergency. These time periods should not be viewed as a grace period in which a licensee may attempt to restore plant conditions and avoid declaring an emergency. A delay in classification of up to **30 minutes for NUE, and 15 minutes for a SAE and GE** was deemed to have minimal impact on the overall emergency response and the protection of public health and safety.*

C. Event Discovery

Page 31 of the ISG states:

The proposed rule would refer to "plant operators." Initially they are the on-shift licensed and non-licensed operators who are responsible for identifying off-normal conditions and bringing them to the attention of shift supervision. The emergency plan charges this shift supervision with the responsibility for declaring the emergency until relieved.

Regardless of the organizational structure, status of emergency plan activation, or the location where the declaration is performed, the Commission's intent is that the applicants or licensees demonstrate the capability to assess, classify, and declare an emergency condition within 15 minutes after information is available to plant operators to recognize that an EAL has been exceeded and to make the declaration promptly once the decision is made that an emergency condition exists.

The emergency declaration period commences when indication of an off-normal condition is available to plant operators to recognize that an EAL threshold has been exceeded.

The ISG as currently written does not recognize issues involved where decision makers can not definitively identify initial time for classification assessment or when the 15 minute timeframe commences. Operating experience under evaluation/critique process, support that the initiating indicator is regularly a function of review and discussion. As compared with the Notification Rule, this is not an issue, whereas the declaration time clearly establishes the 15 minute timeframe for classification notification.

The inability of the decision maker to unquestionably assess the time of event commences introduces an additional false sense that the regulated fifteen minutes requirement will be exceeded and therefore produces more time pressure and increases a higher error likely situation.

Rules should not be developed where the issue of "event discovery" is not and cannot be defined or **constituted by the decision maker**.

Again this inability to clearly and consistently establish an "event discovery" further supports the current process for regulation, the NRC Reactor Oversight Process.

NEI recommends the following changes to the ISG:

*The proposed rule would refer to "plant operators." Initially they are The on-shift licensed and nonlicensed operators ~~who~~ are responsible for identifying off-normal conditions and bringing them to the attention of **operation's** shift supervision. The emergency plan charges this shift supervision **to include a responsible emergency classification decision maker, with the responsibility for declaring the emergency until relieved.***

*Regardless of the organizational structure, status of emergency plan activation, or the location where the declaration is performed, the Commission's intent is that the applicants or licensees demonstrate the capability to assess, classify, and declare an emergency condition within 15 minutes after information is available to **the responsible emergency classification decision maker, providing the function of emergency declaration,** to recognize that an EAL has been exceeded and to make the declaration promptly once the decision is made that an emergency condition exists.*

*The emergency declaration period commences when indication of an off-normal condition is available to ~~plant operators~~ **shift supervision capable of recognizing** that an EAL threshold has been exceeded.*

D. ISG Allowance for Procedural Process

Page 31 of the ISG states:

The declaration period ends when it has been determined that an EAL threshold has been exceeded and that an emergency declaration is warranted. Once this decision has been made, the declaration shall be made promptly.

Licensees must demonstrate the capability to assess, classify, and declare an emergency condition within 15 minutes after information is available to cognizant personnel to recognize that an EAL has been exceeded. The emergency classification process can be summarized as 1) an event occurs, 2) EALs are evaluated, 3) met/exceeded EAL(s) are identified, 4) the appropriate Emergency Classification Level (ECL) is identified and 5) the ECL is declared (typically accomplished by an announcement). Virtually all licensees communicate the ECL declaration time (in step 5) during their ORO notifications. The determination when a declaration is "warranted" is not a clearly defined or readily recognizable event, and occurs before the ECL is actually declared. As discussed in Section V of SECY-09-0007, the emergency classification process (and the associated 15-minute period) ends when the emergency is declared.

Most licensees have a procedural process for making an emergency classification which concludes with a step for making the emergency declaration. This approach promotes consistent performance and evaluation (i.e., a standardized and readily identifiable end point of the classification process). The ISG guidance should be fully compatible with this concept. NEI recommends the following change:

"The declaration period ends when it has been determined that an EAL threshold has been exceeded and that an emergency declaration is warranted the emergency has been declared. Once this decision has been made, the declaration shall be made promptly. Declaration occurs when the appropriate decision-maker makes known the selected Emergency Classification Level (ECL) in accordance with the applicable licensee procedure."

E. Use of the Word Promptly

Page 32 of the ISG states:

"If the fire is still burning after the specified duration has elapsed, the EAL is exceeded, no further assessment is necessary, and the emergency declaration would be made promptly."

Incorporate industry Operating Experience concerning the use of the word promptly into the ISG. The following change is suggested:

If the fire is still burning after the specified duration has elapsed, the EAL is exceeded, no further assessment is necessary, and the emergency declaration would be made promptly. As used here, 'promptly' means at the first available opportunity (e.g., if the Shift Manager is receiving an update from the Fire Brigade Leader at the 15-minute mark, it is expected that declaration would occur as the next action immediately after the call ends)."

F. Early Classification Caution

Page 32 of the ISG states:

If, for example, the fire brigade notifies the shift supervision 5 minutes after detection that the brigade itself cannot extinguish the fire such that the EAL will be met imminently and cannot be avoided, the NRC would not consider it a violation of the licensee's emergency plan to declare the event before the EAL is met (e.g., the 15-minute duration has elapsed). While a prompt declaration would be beneficial to public health and safety and is encouraged, it would not be required by regulation.

The event described in the example is representative of a NOUE. The timeliness of the classification would not produce any beneficial public health and safety protective measures. Declaring the event within 10 minutes or 20 minutes would not change the protective action response to the event. Wrong declaration of the event could result in public concerns.

*If, for example, the fire brigade notifies the shift supervision 5 minutes after detection that the brigade itself cannot extinguish the fire such that the EAL will be met imminently and cannot be avoided, the NRC would not consider it a violation of the licensee's emergency plan to declare the event before the EAL is met (e.g., the 15-minute duration has elapsed). **While a prompt declaration would be beneficial to public health and safety and is encouraged, it would not be required by regulation.***

G. Use of Confirm and Verify

Page 32 of the ISG states:

This situation should not be confused with an analysis performed to *confirm* or an indication (e.g., channel check) or report of an off-normal condition, as opposed to identifying the condition, for which the 15-minute timeliness criterion starts when indication of an off-normal condition is available to plant operators to recognize that an EAL threshold has been exceeded.

Confirm or verify may be a conditional step that is included in the Emergency Action Level and Basis for the classification. In these cases and similar to the condition stated in ISG Comment 8, "The applicable event will be classified with the conditions as specified in the EAL is reached".

In instances where a Decision Maker, upon his own judgment, is introducing a new element into the EAL or basis such as; to confirm or verify an already existing condition, then the 15 minute timeliness criterion starts when indication of an off-normal condition is available that decision maker.

This situation should not be confused with an analysis performed to *confirm* or **verify (Unless the analysis to confirm or verify is a component of the EAL or Basis)** an indication (e.g., channel check) or report of an off-normal condition, as opposed to identifying the condition, for which the 15-minute timeliness criterion starts when indication of an off-normal condition is available to plant operators to recognize that an EAL threshold has been exceeded.

COMMENTS ON EMERGENCY PREPAREDNESS RULEMAKING
RULE AREA: B.3. EMERGENCY OPERATIONS FACILITY – PERFORMANCE BASED
APPROACH

Changes to the Proposed Regulation

Federal Register/Vol. 74, NO. 94, page 23282 proposed the following revision to Part 50 – Domestic Licensing of Production and Utilization Facilities, 50.47 Emergency plans, (d)

(1) Arrangements for requesting and effectively using offsite assistance on site 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 onsite response have been identified.

Federal Register/Vol. 74, NO. 94, page 23282 proposed the following revision to Appendix E to Part 50 – Emergency Planning and Preparation for Production and Utilization Facilities, IV. Content of Emergency Plans, E. Emergency Facilities and Equipment:

8.a. (i) A licensee onsite technical support center and an emergency operations facility from which effective direction can be given and effective control can be exercised during an emergency; (ii) For nuclear power plant licensees and applicants under this part and Part 52, a licensee onsite operational support center;

b. For the emergency operations facility required by paragraph 8.a of this section, either a facility located between 10 miles from the nuclear power reactor site(s) and a backup facility located between 10miles and 25 miles of the nuclear power reactor site(s). An emergency operations facility may serve more than one nuclear power reactor site. An emergency operations facility may be located more than 25 miles from a nuclear power reactor site as long as provisions are made for locating NRC and offsite responders closer to the nuclear power reactor site so that NRC and offsite responders could interact face-to-face with emergency response personnel entering and leaving the nuclear power reactor site. Provisions for locating NRC and offsite responders closer to a nuclear power reactor site that is more than 25 miles from the emergency operations facility shall include the following: (1) Space for members of an NRC site team and Federal, State, and local responders; (2) additional space for conducting briefings with emergency response personnel; (3) communication links with other licensee and offsite emergency response facilities; (4) computer links to the site with Internet access; and (5) access to copying equipment and office supplies;

c. For the emergency operations facility required by paragraph 8.a of this section, a facility having the following capabilities: (1) The capability for obtaining and displaying plant data and radiological information for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves, (2) the capability to analyze plant technical information and provide technical briefings on event conditions and prognosis to licensee and offsite response organizations for each reactor at a nuclear power reactor site and for each nuclear power reactor site that the facility serves, and (3) the capability to support response to events occurring simultaneously at more than one nuclear power reactor site if the emergency operations facility serves more than one site;

NEI has no comments on this rule change.

Changes to Interim Staff Guidance

No changes are recommended to NSIR/DPR-ISG-01, "Interim Staff Guidance Emergency Planning for Nuclear Power Plants, section IV.I Emergency Operations Facility—Performance-Based Approach.

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**COMMENTS ON EMERGENCY PREPAREDNESS RULEMAKING
RULE AREA: B.4. EVACUATION TIME ESTIMATES UPDATING**

Changes to the Proposed Regulation

Federal Register/Vol. 74, NO. 94, page 23282 proposed the following revision to Part 50 – Domestic Licensing of Production and Utilization Facilities, 50.47 Emergency plans, (b)(3):

(10) 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 and must be updated on a periodic basis. Evacuation time estimates and updates must be submitted by applicants and licensees to the NRC for review and approval. 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.

Federal Register/Vol. 74, NO. 94, page 23283 proposed the following revision to Appendix E to Part 50 – Emergency Planning and Preparation for Production and Utilization Facilities, IV. Content of Emergency Plans, C. Activation of Emergency Organization:

The applicant's emergency plans shall contain, but not necessarily be limited to, information needed to demonstrate compliance with the elements set forth below, i.e., organization for coping with radiological emergencies, assessment action, activation of emergency organization, notification procedures, emergency facilities and equipment, training, maintaining emergency preparedness, and recovery. In addition, the emergency response plans submitted by an applicant for a nuclear power reactor operating license under this part, or for an early site permit (as applicable) or combined license under 10 CFR part 52, shall contain information needed to demonstrate compliance with the standards described in § 50.47(b), and they will be evaluated against those standards. The applicant shall also provide an analysis of the time required to evacuate and for taking other protective actions for various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations. NRC-approved evacuation time estimates (ETEs) and updates to the ETEs shall be used by licensees in the formulation of protective action recommendations and must be provided to State and local governmental authorities for use in developing protective action strategies.

Within 180 days of issuance of the decennial census data by the U.S. Census Bureau, nuclear power reactor licensees and license applicants shall develop an ETE and submit it to the NRC for review and approval under § 50.4. During the years between decennial censuses, licensees shall estimate permanent resident population changes at least annually using U.S. Census Bureau data and/or State/ local government population estimates.

Licensees shall maintain these estimates so that they are available for NRC inspection during the period between censuses and shall submit these estimates to the NRC with any updated ETEs. If at any time during the decennial period, the population of either the EPZ or the most populous Emergency Response Planning Area increases or decreases by more than 10 percent from the population that formed the basis for the licensee's currently approved ETE, the ETE must be updated to reflect the impact of that population change. This updated ETE

must be submitted to the NRC for review and approval under § 50.4 no later than 180 days after the licensee's determination that a population change of more than 10 percent has occurred.

Alternative to 10% Criteria

ETEs analyze the time required to evacuate various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations. Clarification needed regarding "time required...for taking other protective actions." The only possible protective actions are evacuate or shelter in place. Time estimates can only be provided for evacuation, be it a full or staged evacuation.

The below suggested text proposes an alternative to the 10% population change ETE update criterion interpreted from the HCM. This suggested alternative supports the assessment of the effect of population change on ETE between decennial Censuses on a site-specific basis, rather than a generic criterion (10% population change).

The applicant shall also provide an analysis of the time required to evacuate ~~and for taking other protective actions for~~ various sectors and distances within the plume exposure pathway EPZ for transient and permanent populations. The analysis shall include a sensitivity study to quantify the effects on ETE of changes (i.e., 10%, 20% and 30%) in permanent population for the 2-mile Region, the 5-mile Region and the Entire EPZ, for the scenario with the longest ETE.

ETE Used By ORO

ETEs are used primarily by offsite officials to determine the most appropriate protective action. The following revision reflects that fact:

NRC-approved evacuation time estimates (ETEs) and updates to the ETEs ~~shall be used by licensees in the formulation of protective action recommendations and~~ must be provided to State and local governmental authorities for use in developing protective action strategies.

The 180 Day Update is Unrealistic

The decennial ETE should be developed after all needed data (to include transients and permanent residents) have been released by the Census Bureau. The 180-day timeframe may be unrealistic for the development of ETE studies for all sites following the release of the Census data. The following revision is recommended:

Within 180 days of issuance of the decennial census data for transient and permanent populations by the U.S. Census Bureau, nuclear power reactor licensees and license applicants shall develop an ETE and submit it to the NRC for review and approval under § 50.4.

Population Sensitivity Methodology

The U.S. Census should be used as it is the nationally recognized and regulated standard. Use of the U.S. Census data would contribute to "consistency across the industry." State/local data typically use different methodologies, are available at different times and may be subject to local influences.

As previously discussed, the suggested population sensitivity study alternative supports the assessment of the effect of population change on ETE between decennial Censuses on a site-specific basis, rather than a generic criterion (10% population change). The following change reflects this methodology:

During the years between decennial censuses, licensees shall estimate permanent resident population changes at least annually using U.S. Census Bureau data and/or State/local government population estimates, and assess the impact on ETE of these population changes using the population sensitivity studies performed during the decennial Census ETE update.

Rulemaking language does not discuss what would be a material impact on ETE. Based on experience of ETE subject matter experts, a material change in ETE would be a change in baseline ETE of 25% or 30 minutes or more, whichever is less.

As previously discussed, the suggested population sensitivity study alternative supports the assessment of the effect of population change on ETE between decennial Censuses on a site-specific basis, rather than a generic criterion (10% population change).

If at any time during the decennial period, the population changes to the extent that the ETE derived from the population sensitivity studies for the 2-mile Region, 5-mile Region or Entire EPZ (for the scenario with the longest ETE) changes by 25% or 30 minutes or more, whichever is less, of either the EPZ or the most populous Emergency Response Planning Area increases or decreases by more than 10 percent from the population that formed the basis for the licensee's currently approved ETE, the ETE must be updated to reflect the impact of that population change. This updated ETE must be submitted to the NRC for review and approval under § 50.4 no later than 180 days after the licensee's determination that the population has changed to the extent that ETE has changed by 25% or 30 minutes or more, whichever is less, that a population change of more than 10 percent has occurred

Draft NUREG/CR-XXXX/SAND2009-XXXX-P

A review of Predecisional Draft NUREG/CR-XXXX/SAND2009-XXXX-P: "Criteria for Development of Evacuation Time Estimate Studies", starts on page B.4.17 following the Federal Register markup.

Federal Register Markup

To facilitate and understanding to the above changes NEI submits comments in the form of the below table on the Federal Register description of the changes.

Rule Language Section	Document information	Line in / Line out	Basis / Comment
FR V74, No. 94, 5/18/2009 pg. 23264	Although some licensees do revise ETEs based on updated census data, the use of ETEs in evacuation planning is inconsistent and they currently do not affect the development of public protective action strategies.	N/A	Although rulemaking language does address consistency in the development of ETEs, it does not address the use of ETEs in the development of public protective action strategies.
FR V74, No. 94, 5/18/2009 pg. 23265	The NRC has traditionally taken the lead in reviewing the ETE analyses with the assistance of a traffic expert contractor, specially for contested licensing cases involving ETE contentions.	The NRC has traditionally taken the lead in reviewing the ETE analyses with the assistance of a traffic expert contractor <u>during the initial licensing of a plant</u> , specially for contested licensing cases involving ETE contentions.	Recommended change in wording to be consistent with previous paragraph in rulemaking language.
FR V74, No. 94, 5/18/2009 pg. 23265	Improving the accuracy and quality of ETE values would help licensees recommend and offsite officials determine the most appropriate protective action.	Improving the accuracy and quality of ETE values would help licensees recommend and offsite officials determine the most appropriate protective action.	ETEs are used primarily by offsite officials to determine the most appropriate protective action. Licensees don't typically use ETEs to recommend PARs.
FR V74, No. 94, 5/18/2009 pg. 23265	Further, the NRC concluded that the effect of population change upon evacuation times should be understood by OROs and incorporated into protective action strategies.	Further, the NRC concluded that the effect of population change upon evacuation times should be understood by OROs and incorporated into <u>offsite</u> protective action strategies.	This revision supports the previous comment in that OROs are primarily responsible for protective action strategies.
FR V74, No.	Based upon their expert	Based upon their expert	Population is more likely to

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94, 5/18/2009 pg. 23265	opinion, SNL confirmed that the major contributor to changes in ETE is changes in population. Although changes in infrastructure can impact the ETE, population is the more important factor.	opinion, SNL confirmed that the major contributor to changes in ETE is changes in population. Although changes in infrastructure can impact the ETE, population is the more <u>important variable factor (i.e., significant population changes can occur over shorter periods of time).</u>	change than infrastructure. There are circumstances when infrastructure change could be considered more important or have more of an impact than population.
FR V74, No. 94, 5/18/2009 pg. 23265	Within the years it takes to plan, budget, and construct highway infrastructure, the opportunity exists to include such improvements in the ETE as planned or constructed, based on the timing of the infrastructure, whereas significant population changes can occur over shorter periods of time.	Within the years it takes to plan, budget, and construct highway infrastructure, the opportunity exists to include such improvements in the ETE as planned or constructed <u>if construction has begun or has been completed prior to commencement of an ETE study, based on the timing of the infrastructure, whereas significant population changes can occur over shorter periods of time.</u>	Planned construction may never begin or come to completion.
FR V74, No. 94, 5/18/2009 pg. 23265	Therefore, with population changes as the major contributor and infrastructure changes as an enveloped contributor, the NRC determined that simplifying the regulations to explicitly require assessment of ETEs based on population changes was adequate for updates to ETEs.	Therefore, with population changes as the major <u>more likely</u> contributor and infrastructure changes as an enveloped contributor, the NRC determined that simplifying the regulations to explicitly require assessment of ETEs based on population changes was adequate	See comment above "Population is more likely to change than infrastructure..."

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FR V74, No. 94, 5/18/2009 pg. 23265	In the case of an infrastructure change due to a catastrophic event, the NRC already has regulations in place to ensure that licensees consult with OROs to consider the impact of offsite events on evacuation routes and ETEs.	for updates to ETEs. N/A	A review of existing ETE regulations was performed and no specific regulations on this issue were found. "Regulations in place" should be cited if applicable. Guidance may be the more appropriate term. NRC's guidance on infrastructure review in response to natural disasters, etc. is found in AL 97-03 and Inspection Manual Chapter 1601.
FR V74, No. 94, 5/18/2009 pg. 23265	The basis for establishing a requirement to update ETEs when the population has changed by at least 10 percent is derived from the U.S. Department of Transportation "Highway Capacity Manual" (HCM), which contains analysis techniques for determining the capacity of a roadway, (i.e., Level of Service (LOS)).	The basis for establishing a requirement to update ETEs when the population has changed by at least 10 percent is derived from the U.S. Department of Transportation "Highway Capacity Manual" (HCM), which contains analysis techniques for determining the capacity of a roadway, (i.e., Level of Service (LOS)). The HCM also discusses Level of Service (LOS), a traffic engineering metric related to the density of vehicles on a given section of roadway.	The rulemaking language as written implies that capacity and LOS are synonymous, which is not correct. Capacity and Level of Service (LOS) are two different concepts. "Capacity" is generally the maximum flow that the highway facility can reasonably be expected to service. LOS is a rating of the quality of flow perceived by drivers, extending from "A" (very good, limited vehicle interaction), to "E" (crowded, approaching capacity), to "F" (demand exceeding capacity). Performance measures to determine LOS can be speed (for urban street), delay (for intersections), or percent of time following (for two-way, two-lane roads). Density is the primary performance measure for freeway segments.
FR V74, No. 94, 5/18/2009 pg. 23265	The analysis applies a series of curves called the "Speed Flow Curves and LOS for Basic Freeway Segments" to roadways	N/A	MAJOR ISSUE #1 The HCM "Speed Flow Curves and LOS for Basic Freeway Segments" (Exhibit 23-3) applies to freeways only. As

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	and determines the LOS for a given traffic volume.		shown in the curve, free-flow speeds range from 55 to 75 mph. Nearly all roadways within an EPZ are two-lane highways, not freeways, with free flow speeds less than 55 mph. Many sites do not have freeways flowing through the EPZ. The use of HCM Exhibit 23-3 as the technical basis for the 10% criterion needs to be re-evaluated.
FR V74, No. 94, 5/18/2009 pg. 23265	The analysis shows that traffic volume is a direct indicator of the population involved in an evacuation given the roadway system in the area of concern.	The analysis shows that Traffic volume is a direct indicator of the population involved in an evacuation given the roadway system in the area of concern.	The HCM analysis focuses on traffic volume; it does not discuss population.
FR V74, No. 94, 5/18/2009 pg. 23265	The HCM analysis shows that an increase in 10 percent of vehicles on roadways that are near capacity (such as would be the case in an evacuation) likely creates a decrease of one level of roadway service (i.e., from Level D to Level E).	The HCM analysis shows that an increase in 10 percent of vehicles on roadways that are near capacity (such as would be the case in an evacuation <u>only for a high population density site</u>) likely creates a decrease of one level of roadway service (i.e., from Level D to Level E).	<p>MAJOR ISSUE #2</p> <p>The language assumes that roadways in all EPZs are near capacity in an evacuation. This is not true for low population density EPZs, which comprise the majority of sites in the country.</p> <p>As previously discussed, Capacity and Level of Service (LOS) are two different concepts. "Capacity" is generally the maximum flow that the highway facility can reasonably be expected to service. LOS is a rating of the quality of flow perceived by drivers, extending from "A" (very good, limited vehicle interaction), to "E" (crowded, approaching capacity), to "F" (demand exceeding capacity).</p> <p>Capacity is defined by the service volume at the upper region of LOS E. Therefore, being near capacity - in traffic</p>

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			<p>engineering terms – would be roadways operating at LOS E. A change in LOS when near capacity would be from LOS E to LOS F.</p> <p>See NEI White Paper – “Review of Predecisional Draft NUREG/CR-XXXX: ‘Criteria for Development of Evacuation Time Estimate Studies,’” which discusses Type I, II, and III sites</p>
<p>FR V74, No. 94, 5/18/2009 pg. 23265</p>	<p>This decrease in roadway service results in slower moving traffic and longer ETES.</p>	<p>This decrease in roadway service results in <u>slightly</u> slower moving traffic and <u>slightly</u> longer ETES.</p>	<p>HCM Exhibit 23-2 shows a decrease in average speed from 61.5 mph at LOS D to 53.3 mph at LOS E for a freeway with a free-flow speed of 70 mph, which would result in a 2.5 minute increase in travel time, assuming a 10-mile evacuation trip. As previously commented, most EPZ roadways are not freeways. It would be more appropriate to use HCM Exhibit 20-3 (LOS criteria for two-lane, two-way highways) and Exhibit 21-2 (LOS criteria for multi-lane highways). Exhibit 20-3 shows a decrease in average travel speed from 42.5 mph at LOS D to 35 mph at LOS E, which would result in a 3 minute increase in travel time for a 10-mile evacuation trip. Exhibit 21-2 shows a decrease in average speed from 52.9 mph at LOS D to 51.2 mph at LOS E for a multi-lane highway with a free speed of 55 mph, which would result in a 23 second increase in travel time for a 10-mile evacuation trip.</p>
<p>FR V74, No.</p>	<p>The decrease in LOS is not</p>	<p>N/A</p>	<p>It depends where the volume</p>

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94, 5/18/2009 pg. 23265	apparent for a vehicle, or population, increase of less than 10 percent.		is on the curves in HCM Exhibit 23-3. For volumes in the upper region of LOS E, a change of less than 10 percent, could cause a change to LOS F.
FR V74, No. 94, 5/18/2009 pg. 23265	Additionally, the NRC believes that the 10 percent threshold would balance potential inadequacies and burdens.	N/A	Based on the major issues discussed above, this statement needs to be re-evaluated.
FR V74, No. 94, 5/18/2009 pg. 23265	Based on the HCM analysis, SNL research, and NRC experience, not requiring licensees to assess their ETEs until the population changes by more than 15 percent or 20 percent would allow too large a population change before assessing the impact on ETEs, thereby potentially reducing the effectiveness of the ETEs.	N/A	The 15 or 20 percent criteria have not been explained or justified sufficiently in the rulemaking language. See NEI White Paper – "Review of Predecisional Draft NUREG/CR-XXXX: 'Criteria for Development of Evacuation Time Estimate Studies,'" which discusses a sensitivity study of Class I site (low population density) where population was increased by 25% and resultant change in ETE was 5 minutes.
FR V74, No. 94, 5/18/2009 pg. 23265	At the same time, requiring an assessment of licensee ETEs for a change in population of less than 10 percent would require licensees to make assessments when the change in population would not likely have a meaningful impact on the ETEs.	At the same time, requiring an assessment of licensee ETEs for a change in population of less than 10 percent would require licensees to make assessments when the change in population would not likely have a <u>meaningful material</u> impact on the ETEs.	Rulemaking language and guidance do not address the use of ETEs in the development of public protective action strategies, nor do they discuss what would be a material impact on ETE. Based on experience of ETE subject matter experts, a material change in ETE would be a change in baseline ETE of 25% or 30 minutes or more, whichever is less.
FR V74, No. 94, 5/18/2009 pg. 23265	Thus the NRC believes that a population change of 10 percent is the adequate threshold for requiring an assessment of licensees' ETEs.	N/A	Based on the major issues discussed above, this statement needs to be re-evaluated. See NEI White Paper – "Review of Predecisional Draft

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			NUREG/CR-XXXX: 'Criteria for Development of Evacuation Time Estimate Studies,'" which discusses a proposed alternative to the 10% criterion.
FR V74, No. 94, 5/18/2009 pg. 23270	Proposed changes to Appendix E to Part 50 would provide the required frequency and details of the ETE updates and submissions.	Proposed changes to Appendix E to Part 50 would provide the required frequency and details of the ETE updates and submissions.	Details of the ETE updates and submissions should be provided in guidance documents. Therefore, future changes to the details of the updates would require revision to guidance documents only, and not require rulemaking.
FR V74, No. 94, 5/18/2009 pg. 23270	This new requirement would ensure that ETEs are reviewed periodically to determine whether population changes have caused significant changes in the ETE.	N/A	"Significant changes in the ETE" has not been defined in rulemaking language or draft guidance document. Based on experience of ETE subject matter experts, a material (or "significant") change in ETE would be a change in baseline ETE of 25% or 30 minutes or more, whichever is less.
FR V74, No. 94, 5/18/2009 pg. 23270	NRC review of ETE updates would ensure they are performed routinely, are consistent across the industry, and are technically sound. NRC guidance would provide more details of NRC expectations for development of an adequate ETE, as well as provide NRC reviewers with guidance on the review of ETE updates.	N/A	Agree that NRC guidance should provide details of the ETE updates and submissions. Therefore, future changes to the details of the updates would require revision to guidance documents only, and not require rulemaking.
FR V74, No. 94, 5/18/2009 pg. 23270	The NRC would expect that the updated ETEs would be shared with OROs to be incorporated into protective action strategies.	The NRC would expect that the updated ETEs would be shared with OROs to be incorporated into <u>offsite</u> protective action strategies.	ETEs are used primarily by offsite officials to determine the most appropriate protective action. Although rulemaking language does address consistency in the development of ETEs, it does not address the use of ETEs in the development of public protective action strategies.

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<p>FR V74, No. 94, 5/18/2009 pg. 23273</p>	<p>The proposed regulation would require that within 180 days of the issuance of the 2010 decennial census data (expected to be available in 2011), ETE revisions be submitted to the NRC under § 50.4 for review and approval.</p>	<p>N/A</p>	<p>The 180-day timeframe may be unrealistic for the development of ETE studies for <u>all</u> sites following the release of the Census data.</p> <p>According to the Census website (https://ask.census2010.gov), the first data available to the public, by law, will be provided by April 1, 2011. It is also indicated on the website that, "[o]ther data products such as demographic profiles, summary files of aggregated data, and reports," which are typically used to support ETE studies, "will be released on a flow basis from April 2011 through September 2013."</p> <p>Rulemaking needs to address the submittal of ETE for new plants that submit COLAs or ESPs between decennial census updates. These ETEs should be submitted using the latest decennial data and guidance available at the time and only updated prior to actual operation.</p> <p>Once reasonable assurance has been given on an ETE, the ETE should not have to be updated until a license has been received, prior to operation. For example, if a COLA was received in 2007, and reasonable assurance has been found on the ETE portion of the COLA in late 2009, the ETE should not have to be updated when new rulemaking and guidance take effect. Rather, the ETE should be updated after the license</p>

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			has been issued and at that time any new guidance or rules will be accounted for in the ETE.
FR V74, No. 94, 5/18/2009 pg. 23273	The NRC would establish a schedule for review and approval of the updated ETEs.	N/A	The timeframe for NRC review should be specified.
FR V74, No. 94, 5/18/2009 pg. 23273	Thereafter, nuclear power reactor licensees and license applicants would be required to annually review changes in the population of their EPZ and most populous Emergency Response Planning Area (ERPA).	Thereafter, nuclear power reactor licensees and license applicants would be required to annually review changes in the population of their EPZ and most populous Emergency Response Planning Area (ERPA).	The most populous Emergency Response Planning Area (ERPA) does not necessarily impact the ETE for the entire EPZ. ETEs are not computed for individual ERPAs, but rather regions comprised of multiple ERPAs. Additionally, the impact on ETE of the most populous ERPA, if any, is incorporated in the ETE for the full EPZ. Therefore, ETE updates should not be based on data for an individual ERPA.
FR V74, No. 94, 5/18/2009 pg. 23273	ERPAs are local areas, typically defined by geographic or political boundaries that are used to communicate protective actions to members of the public in familiar geographic terms.	ERPAs are local areas, typically defined by geographic or political boundaries that are used to communicate protective actions to members of the public in familiar geographic terms.	Based on comment above, definition of ERPA is not needed.
FR V74, No. 94, 5/18/2009 pg. 23273	When the new population, including permanent residents and transient populations, in either the EPZ or most populous ERPA would be less than 90 percent or greater than 110 percent of the population that formed the basis for the currently approved ETE, the licensee or applicant would be required to update the ETE to reflect the impact of this population change.	When the new population, including permanent residents and transient populations, in either the EPZ or most populous ERPA would be less than 90 percent or greater than 110 percent of the population that formed the basis for the currently approved ETE, During the years between decennial	Delete "transient populations" to be consistent with rulemaking language "[d]uring the years between decennial censuses, licensees shall estimate permanent resident population changes at least annually using U.S. Census Bureau data," on page 23283. The most populous Emergency Response Planning Area (ERPA) does not necessarily impact the ETE for the entire EPZ. ETEs are not

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		<p><u>censuses, licensees shall estimate permanent resident population changes at least annually using U.S. Census Bureau data population estimates, and assess the impact on ETE of these population changes using the population sensitivity studies performed during the decennial Census ETE update. If at any time during the decennial period the population changes to the extent that the ETE derived from the population sensitivity studies for the 2-mile Region, 5-mile Region or Entire EPZ (for the scenario with the longest ETE) changes by 25% or 30 minutes or more, whichever is less, the ETE must be updated to reflect the impact of that population change,</u> the licensee or applicant would be required to update the ETE to reflect the impact of this population change.</p>	<p>computed for individual ERPAs, but rather regions comprised of multiple ERPAs. Additionally, the impact on ETE of the most populous ERPA, if any, is incorporated in the ETE for the full EPZ. Therefore, ETE updates should not be based on data for an individual ERPA.</p> <p>The suggested text proposes an alternative to the 10% population change ETE update criterion interpreted from the HCM. This suggested alternative supports the assessment of the <u>effect</u> of population change on ETE between decennial Censuses on a site-specific basis, rather than a generic criterion (10% population change).</p> <p>Based on experience of ETE subject matter experts, a material change in ETE would be a change in baseline ETE of 25% or 30 minutes or more, whichever is less.</p>
<p>FR V74, No. 94, 5/18/2009 pg. 23273</p>	<p>The licensee or applicant would be required to submit the updated ETE to the NRC under the procedures of § 50.4 within 180 days of the availability of the population data used in the update.</p>	<p>N/A</p>	<p>The 180-day timeframe may be unrealistic for the development of ETE studies for <u>all</u> sites following the release of the Census data.</p> <p>According to the Census website (https://ask.census2010.gov), the first data available to the public, by law, will be</p>

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			<p>provided by April 1, 2011. It is also indicated on the website that, "[o]ther data products such as demographic profiles, summary files of aggregated data, and reports," which are typically used to support ETE studies, "will be released on a flow basis from April 2011 through September 2013."</p> <p>The ETE update should be developed after all needed data (to include transients and permanent residents) have been released by the Census Bureau.</p>
<p>FR V74, No. 94, 5/18/2009 pg. 23273</p>	<p>The NRC proposes to require licensees and applicants to review changes in the population of the EPZ and the most populous ERPA because population density in an EPZ is generally not homogeneous and EPZ evacuation times are significantly influenced by the ERPA with the largest population.</p>	<p>The NRC proposes to require licensees and applicants to review changes in the population of the EPZ and the most populous ERPA because population density in an EPZ is generally not homogeneous and EPZ evacuation times are significantly influenced by the ERPA with the largest population.</p>	<p>The most populous Emergency Response Planning Area (ERPA) does not necessarily impact the ETE for the entire EPZ. ETEs are not computed for individual ERPAs, but rather regions comprised of multiple ERPAs. Additionally, the impact on ETE of the most populous ERPA, if any, is incorporated in the ETE for the full EPZ. Therefore, ETE updates should not be based on data for an individual ERPA.</p>
<p>FR V74, No. 94, 5/18/2009 pg. 23273</p>	<p>The NRC considered requiring review of all ERPAs or the review of individual counties and States in addition to the whole EPZ.</p>	<p>The NRC considered requiring review of all ERPAs or the review of individual counties and States in addition to the whole EPZ.</p>	<p>The most populous Emergency Response Planning Area (ERPA) does not necessarily impact the ETE for the entire EPZ. ETEs are not computed for individual ERPAs, but rather regions comprised of multiple ERPAs. Additionally, the impact on ETE of the most populous ERPA, if any, is incorporated in the ETE for the full EPZ. Therefore, ETE updates should not be based on data</p>
<p>FR V74, No. 94, 5/18/2009 pg. 23273</p>	<p>Review of the ERPA with the largest population was considered to be a reasonable balance between the burden on licensees and applicants and the need to ensure that the ETE is</p>	<p>Review of the ERPA with the largest population was considered to be a reasonable balance between the burden on licensees and applicants and the need to</p>	<p>comprised of multiple ERPAs. Additionally, the impact on ETE of the most populous ERPA, if any, is incorporated in the ETE for the full EPZ. Therefore, ETE updates should not be based on data</p>

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	accurate because the ERPA with the largest population is generally the one with the most impact on evacuation times.	ensure that the ETE is accurate because the ERPA with the largest population is generally the one with the most impact on evacuation times.	for an individual ERPA.
FR V74, No. 94, 5/18/2009 pg. 23273	The review would consist of analysis of population growth based on either U.S. Census Bureau data (e.g., Subcounty Population Datasets for population estimates) or State/local government estimates and would examine the whole EPZ as well as the most populous emergency planning area within the EPZ.	The review would consist of analysis of population growth based on either U.S. Census Bureau data (e.g., Subcounty Population Datasets for population estimates) or State/local government estimates and would examine the whole EPZ as well as the most populous emergency planning area within the EPZ.	<p>The U.S. Census should be used as it is the nationally recognized and regulated standard. Use of the U.S. Census data would contribute to "consistency across the industry." State/local data typically use different methodologies, are available at different times and may be subject to local influences.</p> <p>The most populous Emergency Response Planning Area (ERPA) does not necessarily impact the ETE for the entire EPZ. ETEs are not computed for individual ERPAs, but rather regions comprised of multiple ERPAs. Therefore, ETE updates should not be based on data for an individual ERPA.</p>
FR V74, No. 94, 5/18/2009 pg. 23273	Sites with little population change would be minimally impacted by the proposed requirement, while those sites with a greater rate of population change would be required to perform more frequent updates.	Sites with little population change would be minimally impacted that does not materially affect ETE would not be substantially impacted by the proposed requirement, while those sites with a greater rate of population change <u>that does materially affect ETE</u> would be required to perform more frequent updates.	As previously discussed, the suggested population sensitivity study alternative supports the assessment of the <u>effect</u> of population change on ETE between decennial Censuses on a site-specific basis, rather than a generic criterion (10% population change).
FR V74, No.	Licensees would also be	Licensees would also be	Potential enhancements

Rule Language Section	Document information	Line in / Line out	Basis / Comment
94, 5/18/2009 pg. 23273	expected to identify and analyze potential enhancements to improve evacuation times and document whether implementation was appropriate.	expected to identify and analyze potential enhancements to improve evacuation times and document <u>discuss with OROs</u> whether implementation <u>of potential enhancements is was</u> appropriate.	should be discussed or "shared" with OROs as they will decide whether to implement enhancements, not the licensees.

**NEI White Paper
Revision 3**

**Review of Predecisional Draft
NUREG/CR-XXXX/SAND2009-
XXXX-P: “Criteria for Development
of Evacuation Time Estimate Studies”**

October 2009

INTRODUCTION

Regulations and guidance must be based on fundamentally sound principles and must represent established practices in the underlying disciplines. This report presents the results of a review of the draft document, "Criteria for Development of Evacuation Time Estimate Studies," prepared for the Nuclear Regulatory Commission (NRC) by Sandia National Labs (SNL). The objective of this review is to offer comment on those elements of the draft document which need to be revised and/or better substantiated. The anticipated outcome of this review is to ensure that the final version of this guidance document supporting the respective rulemaking on ETE studies reflects sound engineering and scientific principles. This would in turn help the industry develop consistent and comprehensive ETE study reports that can withstand the closest scrutiny of majority stakeholders, and better support emergency response organizations (EROs) in their protective action decision making process.

Elements of the draft document which require further technical evaluation and/or revision include:

1. Criterion adopted for scheduling ETE updates
2. Unconditional requirement for a staged evacuation
3. Treatment of shadow evacuation
4. Traffic signal timing field data requirement
5. Delivery of ETE reports

Each of these elements is discussed in detail in the sections below. Please note that all references to sections, pages or text in the following discussion are from the draft guidance document.

1. Criterion Adopted for Scheduling ETE Updates

The experts in the area of ETE studies unanimously conclude that a change of 10 percent in population will have no 'material impact' on ETE at the vast majority of Nuclear Power Plant (NPP) sites. A material impact, in this document, is defined as a change in ETE values at a site compared to a pre-defined threshold value ($\pm 25\%$ or ± 30 minutes, whichever is less) determined through review of past ETE studies, and discussions with off-site emergency managers. As discussed in greater detail below, the stated basis for this criterion in Section 5.4 of the draft guidance is derived from misinterpretation of the Highway Capacity Manual (HCM) guidance regarding the impact of population change on levels of service of roadways. Consequently, universal adoption of such a criterion for all NPP sites is not prudent. A more plausible alternative approach is proposed below, which may safeguard the public interest while avoiding costly and unnecessary ETE updates when there would be no material change in ETE.

The last two sentences of the first paragraph in Section 4.0, which acknowledges NPP sites with two types of population density, are insightful and important. The text identifies the relationship between EPZ population density and its impact on ETEs, and categorizes the EPZs in to two types:

Type I: The ETE at low population EPZs is usually dictated by, and approximates the mobilization (trip generation) time distribution; and that

Type II: The ETE distribution at EPZs with “higher population density” can be influenced by the extent of traffic congestion arising from high (≥ 1.0) volume to capacity (v/c) ratios.

It is also important to recognize that most NPPs are located in low-population areas. As cited in NUREG/CR-1856, “An Analysis of Evacuation Time Estimates Around 52 Nuclear Plant Sites”:

“The mean permanent resident population at 40 sites was 58,000. The median population was 30,000 with the range being 6000 to 282,000.”

While the nation’s population has increased since the cited report was published, the fact that the median is about half of the mean implies that the majority of EPZs are of low population (Type I). The relatively few EPZs with high population (Type II) skew the population distribution and produce a mean that is about double the median.

Based on the above mentioned facts and observations, one can argue the NRC’s basis for rule-making as illustrated below:

- a. Population change may influence ETE. Given the broad range of populations within EPZs around NPP sites across the nation, extensive ETE analyses have demonstrated that a 10 percent change in population at most sites does not produce a material change in ETE. Therefore, reliance on a percent population change as a criterion for updating ETE is not supported. The reviewers also believe that the sensitivity of ETE to population change at an NPP site can be established and quantified as part of every ETE update. Thus, the criterion for ETE updates can be expressed directly in terms of a projected change in ETE that could influence a Protective Action Recommendation (PAR) (i.e., material impact), instead of using a surrogate measure (population change) that is demonstrably unreliable.
- b. The assumption that evacuation traffic environments operate near capacity and that a change in LOS from D to F would materially increase ETE is not well-substantiated in that it is not true for roughly 2 out of 3 NPP EPZs that have low population densities and do not have roadways that operate near capacity at any time during evacuation, based on subject matter expert experience.
- c. The discussion in Section 5.4 of transition from LOS D to LOS F due to increased population differs from page 23265 of the Federal Register which discusses transition from LOS D to LOS E.
 - i. The assertion that moving from LOS D to LOS E would result in (substantially) longer ETEs is not correct. For instance:
 1. On two-lane rural roads, the average travel speed of 42.5 mph at LOS D declines to 35 mph at LOS E (see HCM Exhibit 20-3). For an evacuation trip with a maximum distance of 10 miles, travel time would increase only 3 minutes – an immaterial amount that would not increase ETE.
 2. On multi-lane highways with free speeds of 55 mph, the average speed of 52.9 mph at LOS D declines to 51.2 mph at

LOS E (see HCM Exhibit 21-2), thereby increasing a 10-mile trip by 23 seconds.

3. Freeways play an important evacuation role in only a limited number of NPP sites. A review of HCM Exhibit 23-2 reveals a roughly 10 percent reduction in minimum speed if LOS declines from D to E. For example, a freeway with Free Flow Speed (FFS) of 70 mph would have its minimum speed decline from 61.5 mph to 53.3 mph, thereby increasing the travel time of a 10 mile trip by 2.5 minutes.

- ii. The HCM does not explicitly address LOS F.

- d. Traffic congestion may reach LOS E or F early in an evacuation, but this congestion may dissipate well before the 90th percentile ETE, which is the suggested ETE for use by decision makers in making protective action decisions according to the last sentence of Section 4.0. Thus, the congestion would not impact ETE.

It has also been concluded that ETEs *could* increase linearly with increasing traffic volumes only if the last routes to clear are congested throughout most of the evacuation time. Refer to Figure 7 and the discussion on page 14 of the cited reference, NUREG/CR-4874 (NRC, 1988b). As shown there, ETE is not materially impacted by increasing vehicle population until a point "A" is reached, when saturation occurs.

Saturation occurs when the traffic volume/capacity ratio approaches unity ($v/c \approx 1$) or exceeds unity ($v/c > 1$). In the cited reference, sensitivity studies were performed by increasing v (holding c constant) and then by decreasing c (holding v constant). Both studies showed the nearly linear effect on ETE of increasing v or decreasing c , only when v/c approaches or exceeds unity.

The reviewers believe it is necessary to recognize the importance of the relation between EPZ types and ETE. Table 1 proposes three types of EPZs.

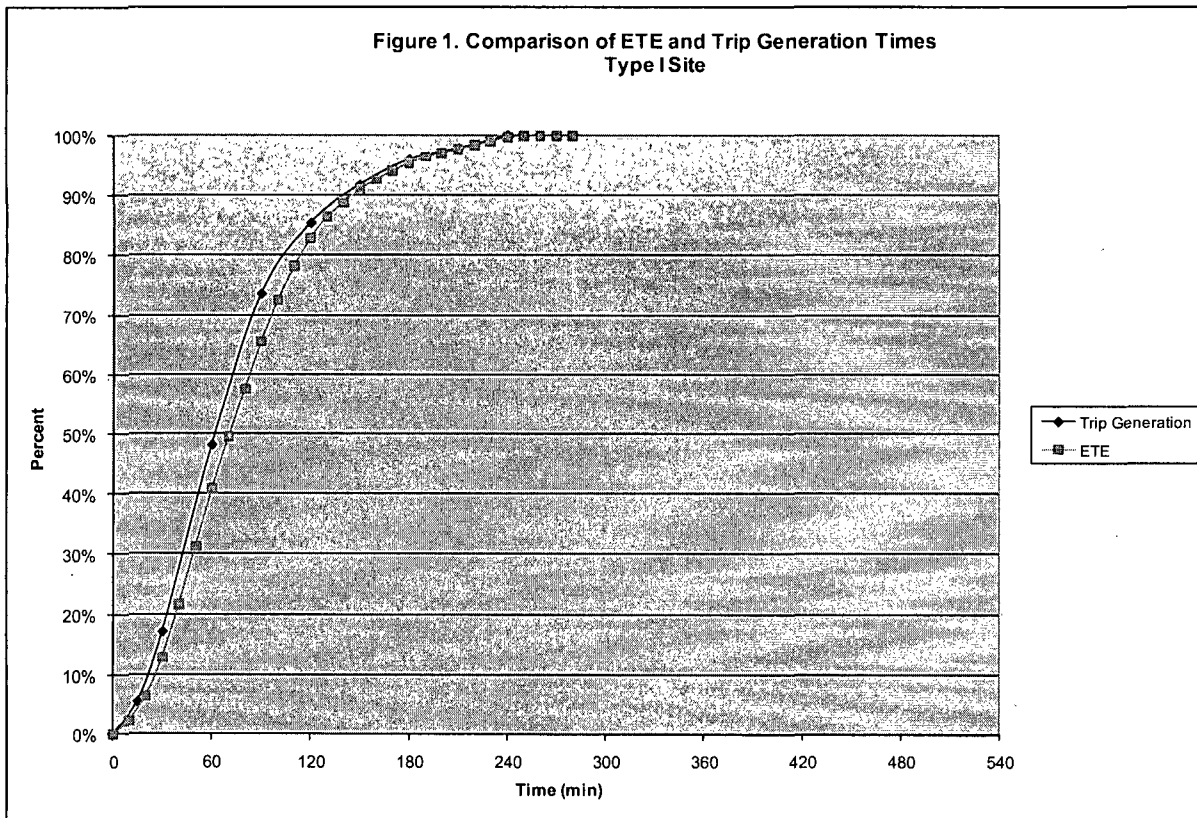
Table 1: Proposed Classification of Sites for ETE

EPZ Type	Description of EPZ	ETE Results
I	<ul style="list-style-type: none"> ▪ Low population ▪ Reserve highway capacity ▪ Minimal or no congestion 	<ul style="list-style-type: none"> ▪ Reflects mobilization time distribution ▪ Independent of population ▪ Insensitive to population change
II	<ul style="list-style-type: none"> ▪ High population ▪ Highway capacity constrains traffic movement ▪ Extensive congestion, spatially and over time 	<ul style="list-style-type: none"> ▪ Reflects congested traffic environment ▪ Independent of mobilization time ▪ Sensitive to population change
III	<ul style="list-style-type: none"> ▪ Moderate population ▪ Marginally adequate capacity ▪ Moderate congestion, limited spatially and/or temporally 	<ul style="list-style-type: none"> ▪ Primarily reflects mobilization time; some congestion effect ▪ Somewhat sensitive to population change

The relationship between EPZ types and ETE is discussed below:

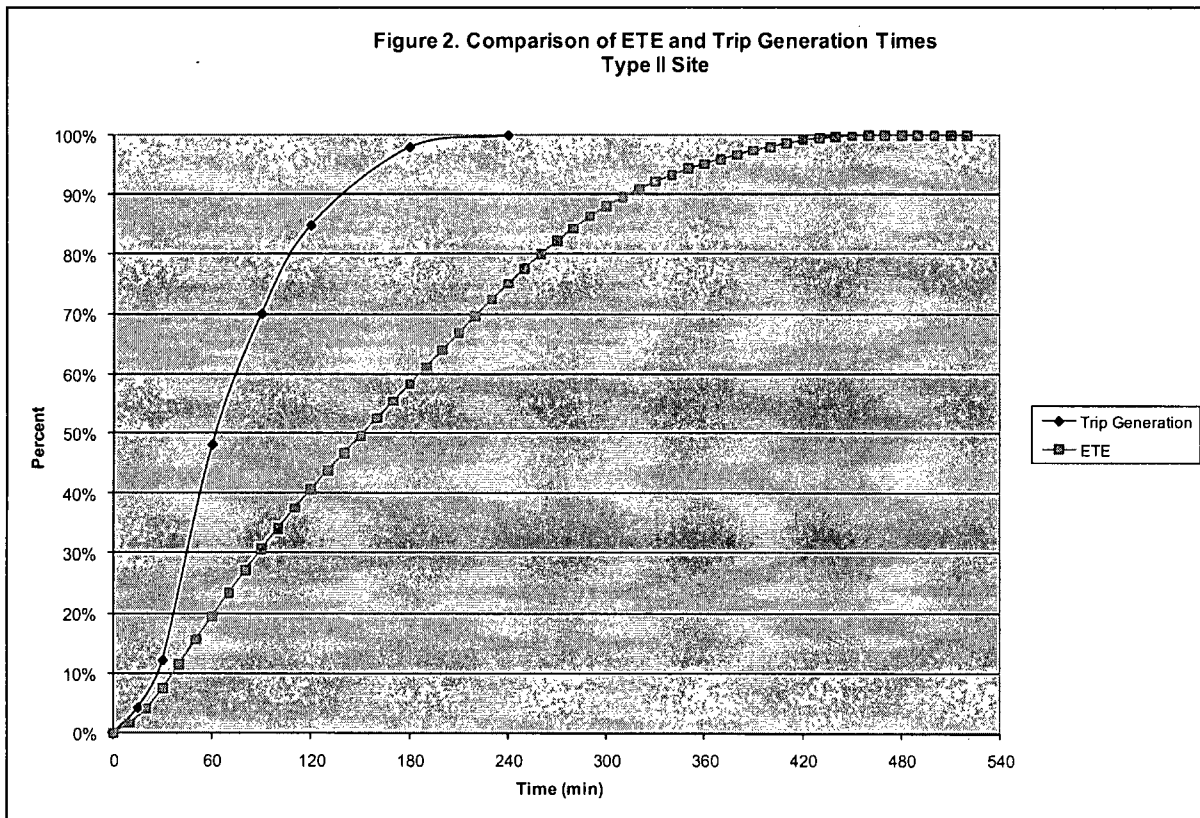
Type I: These sites have ETEs that reflect a population's mobilization time distribution and are independent of population. These are low-population sites with an adequate highway system. Congestion (LOS F) during an evacuation is minimal or limited in temporal and spatial extent. Reasonable, expected increases in population over the next decade would not materially increase ETE due to the reserve (i.e. unused) highway capacity now available (see Figure 1). Note that the ETE distribution closely tracks the mobilization time distribution; the small separation between these curves represents the average evacuation trip travel time of mostly free-flowing traffic.

To demonstrate the insensitivity of ETE with respect to population growth for such sites, the population within an actual Type 1 EPZ was increased by 25 percent and the evacuation model PC-DYNEV was executed to calculate the resulting ETE. The resulting increase in ETE over the entire EPZ, at the 50th, 90th, 95th and 100th population percentiles, was a minimal 5 minutes.



Type II: These sites have ETEs which reflect extensive congested traffic conditions (LOS F) on the evacuation highway network and are largely independent of the mobilization time distribution (see Figure 2). Changes in population will most likely change ETE at least proportionately, given no change in infrastructure. A material change in infrastructure, with or without population change, can also change ETE.

Note that the ETE distribution curve of Figure 2 separates from the mobilization time distribution curve almost immediately, indicating that congestion develops rapidly and remains the controlling factor affecting ETE.



Type III: These sites have ETEs which reflect some significant congestion (LOS F) that dissipates over time so that for the 90th percentile of population the value of ETE closely tracks that of the mobilization time distribution. These sites now belong to Type I, but have the potential to transition within the next decade to Type II if population increases.

Another representation of the three site types presented above appears in Figure 3, which is a hypothetical sketch for illustration. Here, the graphical depictions show...

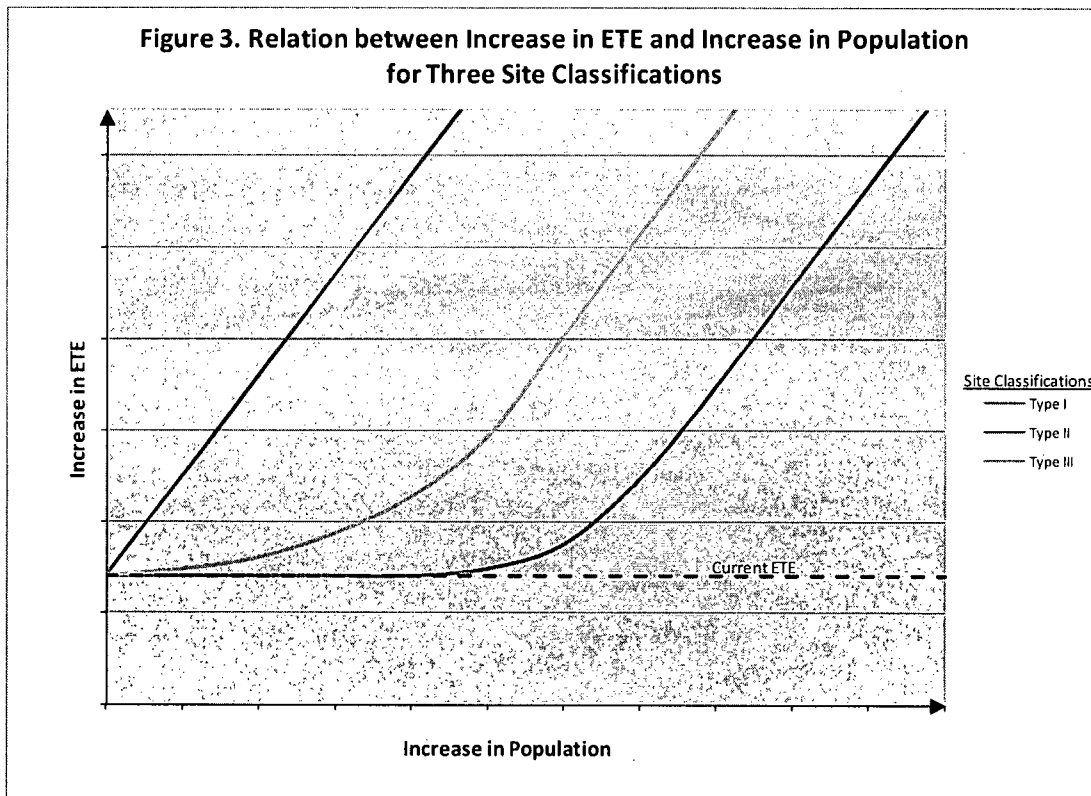
- The near-term insensitivity of ETE to increases in population at Type I sites¹.
- The immediate pronounced increase in ETE with an increase in population for Type II sites
- The possible near-term increase in ETE due to increasing population, for Type III sites that might transition to Type II.

For clarity, Figure 3 does not address a decrease in population:

¹ Note the similarity of the "Type I" curve to the idealized Figure 7 in reference (NRC, 1988b).

- For Type I and III sites, a decrease in population would not reduce ETE materially since the current ETE is reflective of mobilization time, which is independent of population.
- Type II sites are likely to experience a reduction in ETE and, possibly, a transition to Type III.

For example, an actual NPP site in the mid-Atlantic region is situated near the suburbs of a major city. The western suburbs of the city are expanding towards the eastern EPZ boundary. At the present time, there would be sustained traffic congestion only at the northeastern boundary of the EPZ in the event of an evacuation. However, because this congestion is of limited spatial extent, it has little impact on ETE. Further population growth there, however, could materially lengthen the ETE.



Proposed Alternative ETE Update Criterion

There is no need to speculate that an X percent change in population may materially impact ETE at any site; a sensitivity study can be conducted as part of the decennial ETE study to assess the impact on ETE of population changes. This is a straightforward computational exercise, which does not require substantial effort or cost, to reliably and quantitatively project the impact of population change on the ETE for the 2-mile and 5-mile regions, and for the entire EPZ, for the scenario with the longest ETE, as part of the ETE update following each decennial census (baseline ETE).

These projected ETEs, calculated for 10% change increments, can be based on census-derived population growth rates and on the current highway infrastructure. (Reliance on fragile, long-

term infrastructure improvement plans, which are sensitive to economic and political factors, is problematic and should usually be avoided.) These projected ETE values should be determined for the 2-mile, 5-mile regions and for the entire EPZ (which, of course, includes the most populous Emergency Response Planning Area - ERPA) for the scenario with the longest ETE.

Table 2 below presents an illustrative example of the results provided by the recommended sensitivity study to explore the impact of future population change on ETE. The results provided in Table 2 are not based on an actual study at an actual site; rather, they are provided as an example of the formatting of results for such a sensitivity study. This analysis would be included in each decennial ETE update for each site. The sensitivity study provides ETE calculated at 10% increments for population change from a 30% decrease to a 30% increase in population.

Table 2. Proposed Population Sensitivity Study								
Resident Population within EPZ	BASE	Population Change			BASE	Population Change		
		10%	20%	30%		-10%	-20%	-30%
	40,000	44,000	48,000	52,000	40,000	36,000	32,000	28,000
ETE for 90th Percentile								
REGION	BASE	Population Change			BASE	Population Change		
		10%	20%	30%		-10%	-20%	-30%
2-MILE	2:00	2:05	2:10	2:15	2:00	1:55	1:40	1:30
5-MILE	2:30	2:35	2:45	2:50	2:30	2:25	2:15	2:05
FULL EPZ	3:30	3:40	3:50	4:15	3:30	3:25	3:20	3:15
ETE for 100th Percentile								
REGION	BASE	Population Change			BASE	Population Change		
		10%	20%	30%		-10%	-20%	-30%
2-MILE	3:00	3:00	3:00	3:10	3:00	3:00	3:00	3:00
5-MILE	4:00	4:00	4:00	4:10	4:00	4:00	4:00	4:00
FULL EPZ	5:00	5:00	5:00	5:10	5:00	5:00	5:00	5:00

Recommendations

Each ETE update should include a sensitivity study to quantify the effects on ETE of changes in population of 10%, 20%, and 30%, based on current or projected growth rates. This study should assess the changes in ETE within the 2-mile and 5-mile regions and for the entire EPZ for the scenario with the longest ETE.

Based on the results of this sensitivity study, an ETE update would be required when an actual population change would produce a change in baseline ETE of 25% or ≥ 30 minutes, whichever is less. Such a change in ETE could affect PARs based on the experience of ETE subject matter experts.

The advantages of this approach are:

1. Licensees can easily monitor actual population change as time passes and assess whether there is a need for an ETE update, based on the projected ETE

calculated in the sensitivity study. This analysis can be reported to the NRC annually.

2. Because the need for an ETE update is based on published, projected ETE and on publicly available population data, the NRC can easily monitor compliance.
3. The recommendations ensure that ETEs are updated when changes could be great enough to affect PARs, which is the ultimate goal of the new ETE regulations.
4. Licensees are spared the burden of updating ETEs unnecessarily in order to comply with the proposed 10% population change regulatory criterion that is not consistent with available facts and analyses
5. This suggested alternative supports the assessment of the effect of population change on ETE between decennial censuses on a site-specific basis, rather than a generic criterion (10% population change).

2. Unconditional Requirement for a Staged Evacuation

The stated conclusion in Section 1.3.1 of the draft guidance based on the cited reference NUREG/CR-6953, Vol. I (NRC, 2007) that "staged evacuation as a protective action provides a greater benefit than a standard radial keyhole evacuation," is in error. This conclusion is based upon a flawed hypothetical study described in the cited reference. For example, on page 33 of (NRC, 2007), average "travel speed" is calculated as equal to 10 mi. ÷ ETE. This is fundamentally incorrect.

The ETEs for most EPZs reflect the mobilization time needed by evacuees prior to the evacuation trip. During this time, many people are largely sheltered while preparing to evacuate – they are not yet evacuating. At most sites, the individual evacuation trip travel times are measured in minutes - not hours.

Furthermore, ETE is an aggregate measure – not the average time for people to evacuate, as implied by the above calculation for speed = 10 mi. ÷ ETE. Average evacuation speeds at most sites is an order of magnitude greater than those used in Supp. 3 of NUREG/CR-6953, Vol. I (NRC, 2007). For example, a recently-completed, detailed simulation-based ETE study for the evacuation of the entire EPZ of a NPP yielded an ETE of 4 hours and a mean speed of 49.7 mph for evacuating traffic; this compares with the value of 2.5 mph on page 33 of NUREG/CR-6953, Vol. I. This EPZ is a low population rural area, typical of most NPP EPZs, with evacuation travel encountering limited congestion of relatively short duration. Clearly, guidance cannot be based upon analysis results which rely upon, and reflect, assumptions that are in error by an order of magnitude.

Staged evacuation can potentially benefit the public in those EPZs that would experience prolonged, pronounced congestion during an evacuation. While NUREG/CR-6953, Vol. I properly considered this emergency response option, it erred in unconditionally mandating a

staged evacuation for ETE studies, based on the flawed treatment of the hypothetical numerical experiment. In addition to the problem cited above, additional assumptions are postulated, such as varying speed with distance from the NPP, within the EPZ. As discussed in the bottom half of page 33 of NUREG/CR-6953, Vol. I, they are designed to address the limitations of the MACCS2 model. Unfortunately, as discussed below, these assumptions do not properly relate to a real world congested evacuation traffic environment.

A congested traffic environment is characterized by the formation and continued growth of queues for as long as the incoming traffic demand volume, v , exceeds capacity, c . The queues begin to dissipate only when arriving demand falls below capacity (i.e., $v/c < 1$). In this "feed-forward" system, the vehicles at the front of the queue discharge while those at the rear are forced to stop. Clearly, the discharging vehicles travel at higher speeds than those stopped vehicles occupying the rear of the queue. The evacuation flow is outbound relative to the NPP site. Thus, the front of any queue is farther from the NPP than the rear of that queue; it follows that vehicle speed in a congested environment, must increase with distance from the NPP.

The assumptions in the bottom half of page 33 of NUREG/CR-6953, Vol. I assert the opposite: speed is assumed to be slower in the 5-10 mile zone than in the 2-5 mile zone, where the speed is assumed to be slower than in the 0-2 mile zone. As described above, these assumptions are contrary to traffic flow kinematics.

Under the sponsorship of the Entergy Corporation, a detailed study of staged evacuations, undertaken to support a Consequence Analysis using the MACCS2 model was developed by KLD Associates, Inc. This detailed study, performed for the Indian Point site, produced results that used simulation software designed for ETE studies and produced results that are far more supportable than those of the hypothetical study provided in NUREG/CR-6953, Vol. I. These results are available for further NRC review upon request.

Additional factors that were overlooked in requiring a staged evacuation include:

- a) The 90th percentile ETE for the 0-2 mile area, which (according to NUREG/CR-6953, Vol. I) is the shelter period for those in the 2-5 mile area, is approximately of 3 hours duration and reflects mobilization activities; this ETE is therefore largely independent of the population within 2 miles. Thus, those within 2-5 miles would be obligated to remain sheltered in place for that time with limited protection from the plume, even if there were no potential for congestion to arise which would impede those evacuating from the 0-2 mile area. The cited study in NUREG/CR-6953, Vol. I does not realistically represent these circumstances.
- b) One factor that mitigates the traffic congestion levels experienced during evacuation is that the evacuation trips are temporally dispersed over the mobilization time of about 3+ hours. This gradual generation of trips serves to lower traffic volumes (vehicles/hour) and can reduce the ratio, volume/capacity, so that the impact of any congestion does not materially impact ETE at the majority of NPP sites.

Now consider those who have taken shelter. During this shelter time of about 3 hours, they will complete their mobilization activities. Then, when subsequently advised to evacuate, they will all simultaneously embark on their evacuation trips, thereby creating a "spike" in demand volume. This "spike" has the potential for creating congested conditions that can significantly extend ETE. This set of circumstances was completely overlooked in the NUREG/CR-6953, Vol. I study,

contributing to the erroneous conclusion that staging evacuation will always reduce ETE.

- c) The study assumes that 99.5% of those advised to shelter will comply. This is unrealistic. See the discussion section 3 of this report, which argues that 80% compliance is too optimistic.

Staged evacuation can benefit the public health and safety when it can *materially reduce the ETE for those within 0-2 miles*. Under these circumstances, the ETE for the entire EPZ probably will not be reduced, but the overall health consequences for the public can be materially improved.

For most NPP sites where population densities are low, unconditionally imposing a staged evacuation will not materially improve the health and safety of those within 2 miles since their travel out of the 0-2 mile area would not ordinarily be delayed by congestion in the 2-5 mile area. For some NPPs, the 0-2 mile areas are owner-controlled, with no or very few residents. For all these cases...

- Those in the 2-5 mile area who shelter for about 3 hours will potentially risk exposure to the plume with limited protection (depending on the characteristics of the hazard, including wind direction), with no benefit accruing to those within 0-2 miles.
- Their ETE will increase due to their 3-hour delay in starting the evacuation trip and due to the congestion produced by the ensuing "spike" in demand volume described above.

These comments are not based on hypothetical assumptions, but on detailed site-specific ETE studies using sophisticated simulation models and data derived from well-documented surveys.

A requirement that an assessment be undertaken to quantify the benefits of a staged evacuation, expressed in terms of a material reduction in ETE for the evacuees from within 2 miles of the NPP, is certainly an improvement over previous guidance.

No criteria are given in the draft guidance to assess whether or not a staged evacuation is beneficial; it is recommended that criteria be provided. If a staged evacuation is found to be beneficial, the guidance should define an implementation strategy, as discussed next.

The guidance must address the role of those in the 5-10 mile area, if a staged evacuation is found to be beneficial. If people within 5-10 miles are advised to evacuate, this action will likely undermine the staged evacuation. It is unlikely that those within the 2-5 mile area will be content to shelter if they are aware that their neighbors closer to the NPP (0-2 miles) and those farther from the NPP (5-10 miles) are all evacuating. In any case, the guidance must address and justify the treatment of those within 5-10 miles; the current draft guidance is silent on this issue.

EPZs are subdivided into ERPAs so that, in part, the public can be issued advisories which, depending on circumstances, can differ from one ERPA to another. For a staged evacuation, the populations in some ERPAs will be advised to shelter in place (SIP) while those in other ERPAs will be advised to evacuate, unless an evacuation of the full EPZ is ordered, in which case all ERPA will evacuate.

ERPAs are generally configured by offsite response organizations (OROs) to satisfy perceived, local needs. ERPA boundaries usually consist of a mix of jurisdictional boundaries (town, city, county), topographical features (lake, river, forest) and highway segments. ERPAs can vary widely in size, shape and by location within an EPZ. Clearly, they generally do not neatly conform to a 0-2 mile zone or a 2-5 mile zone, as is assumed in Section 1.3.1 of the draft guidance.

Current practice is to generally include the entire ERPA within a key-hole region if any portion of an ERPA lies within the region. This approach may not apply for a staged evacuation. Consider an ERPA that contains the NPP site and extends to 5 miles: evacuate or shelter? Consider another ERPA that extends from 3 miles to 8 miles from the NPP; same question?

While the role of the ERPA is recognized in Section 1.4 of the draft guidance, no guidance is provided on mapping ERPAs to zones (0-2, 2-5, 5-10 miles) in the discussion on staged evacuation (if found to be beneficial). Such guidance is needed for ETE providers and reviewers to ensure consistent treatment and compliance.

The second paragraph on page 7 of the draft guidance suggests: "This guidance now *separates* [emphasis added] the time for the 0-2 mile zone and the 2-5 mile zone to support a staged evacuation..." It is certainly feasible to separately *report* the 0-2 mile ETE (actually, the ETE for the population within the ERPA associated with the 0-2 mile zone). However, since evacuees from the 0-2 mile zone must travel through the 2-5 mile zone, whether the evacuation is staged or not, it is not feasible to separate the 2-5 mile and 2-10 mile zone ETE from that of the 0-2 mile zone, as though the 0-2 mile zone does not exist, as implied by Table 1-4. Stated another way, the ETE of the 2-5 and 2-10 mile zones inescapably reflects the presence of evacuees traveling from the 0-2 mile zone.

Consistent with prior comments, a staged evacuation ETE is required only if it can be beneficial. Otherwise, the need for a staged ETE is moot and Tables 1-4 and 1-5 would only serve to potentially confuse the PAR determination by publishing 32 extraneous ETE numbers for the regions.

ETE for regions in the 2-5 mile zone *must* include the 0-2 mile region to reflect physical reality and are *necessary* – not just "if desired". Regions 3-34 should be replaced with Regions 35-66 and Tables 1-4 and 1-5 combined into a single Table regardless of whether a staged evacuation provides benefits. In addition, Tables 1-4, 1-5, 4-3 and 4-4 conflict with Table 2 in Appendix 4 of NUREG 0654 which requires ETE "within 5 miles" and "within 10 miles" which properly include the 0-2 mile area.

Also in the second paragraph on page 7 of the draft guidance, there is no discussion of evacuation to the EPZ boundary (about 10 miles). In the third paragraph, "...Table 1-5, Region 36 corresponds to the SSW sector" is correct, but Table 1-5 describes Region 36 as from NNE (not to SSW). This could confuse the reader. Also, the printed version of Figure 1-3 does not clearly delineate the ERPAs.

Note that the ERPAs for the example on page 7 of the guidance have been configured to avoid the ERPA configuration difficulties discussed above. Specifically, ERPA A is precisely the 2-mile area, B through F do not extend much beyond 5 miles, and H through L do not encroach within 5 miles. For most EPZs, ERPAs are not so conveniently configured.

Recommendations

If an analysis indicates that a staged evacuation can benefit those evacuating from the 0-2 mile zone, then the duration of time that those in the 2-5 mile zone should shelter must be determined as part of the ETE analysis. As discussed above, the guidance sets this duration equal to the 90th percentile ETE of the 0-2 mile zone, but no supporting justification is presented.

A small number of sensitivity tests with the simulation model could identify the minimum shelter duration for those within the 2-5 mile zone that would allow those within the 0-2 mile zone to evacuate that area without encountering impedance. The shorter the shelter period, the less intense the "spike" of the loading process within 2-5 miles and the less intense the resulting congestion; the earlier this 2-5 mile zone can start evacuating, the lower their ETE and exposure.

There is no discussion of how staged evacuation will be accomplished. If the extensive analysis outlined in the draft guidance is carried out by the ETE contractor, will the results be communicated to the public in an effort to emphasize the need to shelter in place under certain circumstances? What if the public is resistant to sheltering in place, regardless of what the ETE analysis predicts? These considerations may fall outside the purview of an ETE guidance document, but some discussion may be needed.

3. Treatment of Shadow Evacuation

Section 2.5.2 of the draft guidance indicates that shadow evacuation of 20 percent of the permanent resident population should be considered in areas outside of the evacuation area, extending to 15 miles from the nuclear power plant. The 20 percent rate assumed for shadow evacuation appears to be based on a misinterpretation of the survey conducted as part of NUREG/CR-6953, Vol. II, which is identified as reference (NRC, 2008b) in the draft guidance document.

The following survey questions and responses most directly address projections of the extent of shadow evacuation (bold added for clarity):

- **Q29: How likely do you think it is that you would evacuate rather than follow the instructions to shelter in place?**

Response **Likely: 57%**
Not likely: 43%

- **Q30: How likely do you think it is that you would follow these instructions and shelter in place [in a staged evacuation] until it is your turn to evacuate?**

Response **Likely: 77%**
Not Likely: 23%

- **Q31:** *How likely would you be to evacuate if you were told that other areas were evacuating but people in your area should not evacuate because they are not in danger?*

Response **Likely: 69%**

Not Likely: 31%

- Notes:
1. "Likely" based on entry levels 4-7 in the survey.
"Not likely" based on entry levels 0-3 and includes "Don't Know."
 2. Percentage values estimated from Figure 5 (for Q29) and from Figure 6.
 3. The titles of these Figures are inaccurate since the responses to Q29 and to Q31 indicate the opposite view that: the majority preference is to evacuate – not shelter.

The following comments are offered:

1. Q29 and Q31 are similar and produced similar responses: about 57% and 69% indicated they would evacuate.
2. Q30 is the reverse of the other two questions: Q30 asks "would you shelter?" while Q29 and Q31 ask "would you evacuate?" The response to Q30 is inconsistent with other responses, possibly due to this difference in wording Q30 vs. Q29 and Q31.
3. Q31 states that the people asked to shelter "are not in danger." However, this statement does not represent a staged evacuation – some of those in the 2-5 mile area who are asked to shelter may be impacted by the plume and be "in danger". If Q31 had been worded to reflect this reality, the proportion of "likely to evacuate" would have probably increased.
4. The responses were not stratified according to distance of the responder from the NPP. Testimony by Dr. Dennis Mileti, an expert on human behavior during emergencies, presented during ASLB hearings, argued that "voluntary evacuation" [shadow] rates would be higher closer to the NPP, than farther away. The survey results presented cannot verify this pattern and the guidance of a uniform 20% (or any other uniform percentage) shadow evacuation is not supported.
5. On page 40 of the NUREG/CR-6953, Vol. II, the following two sentences appear in tandem:

"Of interest is that more respondents expressed confidence that they would be safe if they followed shelter in place orders compared to evacuation orders. However, respondents generally indicated they are more likely to evacuate and not shelter in place."

Clearly, these sentences contradict one another. This contradiction is resolved by the fact that the first sentence is not correct – the responses to Q29 and Q31 clearly indicate that over half of those advised to shelter would elect to evacuate instead.

6. The results of the focus group discussions confirm the public's intrinsic predilection to evacuate. As documented on page 43 of the NUREG/CR-6953, Vol. II...
 - The public is more likely to evacuate than to shelter in place: emergency responder (ER) focus groups
 - Evacuation is viewed as a more protective action than sheltering: public focus groups
7. Recommendation number 5 on page 46 of NUREG/CR-6953, Vol. II contradicts the draft guidance document:

“The NRC should develop guidance that includes consideration of shadow evacuations that may include up to 20 percent of the population *near, but not within the EPZ* [emphasis added].”

Conclusions

It seems clear that a careful reading of NUREG/CR-6953, Vol. II (which appears to be the basis of the 20% shadow recommendation) reveals that the public's preference for evacuation relative to shelter-in-place will result in far higher percentages of “voluntary” (i.e., “shadow”) evacuation within the EPZ than the 20% recommended in the draft guidance document. It appears that higher estimates of voluntary evacuation are supported by this survey, as detailed above. The disparity between these results and the recommended 20% value also carries implications with respect to the guidance requirement for a staged evacuation discussed previously. The basis of the recommended 20% shadow evacuation value should be clearly stated.

Recommendations

It is recommended that higher voluntary evacuation percentages be considered within the EPZ. Recommended values based on the experience of ETE subject matter experts are:

- 50 percent within 5 miles of the NPP.
- 35 percent within 5-10 miles of the NPP.
- While the recommended 20% value for shadow evacuation outside the EPZ is reasonable (see comment 7, above), a 30% value would serve as a more conservative estimate.

4. Traffic Signal Timing Field Data Requirement

Section 3.3 of the draft guidance document states that:

“For intersections that will not have manned traffic control, it is important that the actual intersection timing be used in the analysis. The expected signal timing should be measured in the field or provided by the local transportation agency.”

These requirements, as stated, are unrealistic for several reasons:

- Signal timing may be classified as “Fixed Time (FT)” and as “Traffic Responsive (TR)”. FT signals do not respond to traffic demand in real time as do TR signals, but generally have several timing plans that can vary with time-of-day (e.g., A.M. peak, midday, P.M. peak, overnight) and day of week (midweek, weekend). TR signal controllers are even more likely to have multiple timing plans, as described above. In fact, some computer based systems can adjust timing plans as frequently as every 15 minutes. For TR control, the allocation of green time to an approach will likely vary every signal cycle, regardless of the underlying timing plan.
- Given the dynamics of traffic signal timing as described above, plus the fact that timing plans are updated periodically, it is not realistic to speak of “expected signal timing” for an emergency that can occur at any time.
- Measuring timing in the field is therefore a “single point sample” which reflects the timing at that moment and would bear no relation to traffic conditions at a later time under the entirely different circumstances of an emergency evacuation.
- Obtaining typical signal timing plans from local agencies creates the additional uncertainty that they may be outdated, while not addressing any of the factors discussed above. In addition, some jurisdictions may change the timing of some or all signals during an evacuation, in which case typical signal timing plans may not be relevant to the ETE.
- Traffic demand patterns during an evacuation are almost surely to widely differ from the normal traffic patterns on which the existing timing plans are based.
- Driver behavior will also differ during an emergency: drivers will not wait patiently at a red signal during an evacuation if there is no conflicting traffic. Thus, driver behavior may more closely resemble that of a TR signal controller even when a FT controller is in place.
- Many EPZs include traffic signals along major evacuation routes at intersections with shopping centers or other commercial buildings. Traffic demand on the approaches from the shopping centers would be minimal during an evacuation; thus, the majority of green time should be allocated to the major evacuation route.

Recommendations

The use of actual intersection signal timing is not realistic for an emergency situation. Signal control timing that is reasonably responsive to the traffic demand patterns during the evacuation should be estimated, using an iterative procedure if required; such an approach is compatible with TR control. Given expected driver behavior, such an approach is reflective of operations at intersections with FT control as well. No attempt should be made to “optimize” signal control timing at intersections. Such an iterative procedure would provide similar green time to competing approaches at an intersection of two major evacuation routes and would provide the majority of green time to the major evacuation route at an intersection with a local road which is not a major evacuation route. ETE subject matter experts agree that such an approach is representative of an emergency situation.

ETE contractors should contact local agencies to see if any special signal timing plans (one such plan exists in Washington, D.C.) or the use of flashing signals are used during an evacuation. If such plans exist, the ETE analysis should model signal timing accordingly.²

5. Delivery of ETE Reports

Section 5.4 of the draft guidance states that licensees should provide an updated ETE to the NRC within 180 days of reaching any of the update criteria outlined. If there are a limited number of ETE updates within one year, then a 180-day delivery is reasonable. In a decennial year, however, the draft regulations require updates at all 65 operational NPP sites.

The following comments are offered:

- The 180 day timeframe may be unrealistic for the development of ETE studies for all sites following the release of the Census data.
- It is unlikely that the professional expertise is available to perform this many ETE studies within 180 days if all studies begin more or less concurrently.
- It is unlikely that the NRC staff and its support team(s) can complete a thorough and timely review of 65 ETE studies that are submitted within the specified 180 day timeframe.
- According to the Census website (<https://ask.census2010.gov>), the first data available to the public, by law, will be provided by April 1, 2011. It is also indicated on the website that, "[o]ther data products such as demographic profiles, summary files of aggregated data, and reports will be released on a flow basis from April 2011 through September 2013." An ETE update requires several census-based data categories and must await their release to complete the effort. When does the 180 day timeframe begin, in April 2011, or in September 2013, or at some time in between? Based on feedback from the NRC during recent rulemaking public meetings, it will be the responsibility of the utility to make the determination when the necessary data is available and when the 180 day timeframe begins; this needs to be clearly stated in the guidance document.

Recommendations

A database of the EPZ population for all 65 sites should be developed. This can be done using the most up to date ETE on file with the NRC for each plant, or by polling the owners/operators for each plant.

The delivery schedule for decennial year ETE updates should be a submittal plan over 24 months, with the ETE updates for the 22 most populous sites delivering within the first 8 months after required census data availability, followed by those for the next 22 most populous sites within the next 8 months, followed by updates for the remaining 21 sites over the next 8 months.

² Special signal timing plans for evacuation should not be confused with every-day, "typical" timing plans, which may not be relevant to signal timing or driver behavior during an evacuation.

**COMMENTS ON EMERGENCY PREPAREDNESS RULEMAKING
RULE AREA: B.5. AMENDED EMERGENCY PLAN CHANGE PROCESS**

Proposed Rule Changes relating to 10 CFR 50.54(q) and the Emergency Plan Change Process

The NRC's proposed amendments to the EP rule include the addition of several new definitions of terms under 10 CFR 50.54(q) (e.g., "change," "emergency plan," "emergency planning function," "reduction in effectiveness"); changes to the definition of the phrase "maintain in effect" as used in Section 50.54(q); and substantial revisions to the process that NRC will follow in reviewing proposed changes to emergency plans. See 74 Fed. Reg. 23,265-67; and 23,282-83.

I. Revised Definitions of Terms under 10 CFR 50.54(q)(1)

A. "Change"

As explained in Section I.C below, NEI recommends that the NRC remove the term "emergency planning function" from the revised 10 CFR 50.54(q) text. See 74 Fed. Reg. 23,282. According to NRC's response to questions related to the addition of the term "emergency planning function" at a September 17, 2009, public meeting, the basis for introducing the term was that the 10 CFR 50.47(b) planning standards do not apply to non-power reactors. NEI believes that it is unnecessary to introduce a new regulatory term (i.e., "emergency planning function") in order to distinguish between the different classes of NRC licensees. To implement NEI's suggestion that the term "emergency planning function" be deleted from Section 50.54(q), we suggest the following modification to the definition of "change" provided in the proposed 50.54(q)(1)(i):

(q) *Emergency Plans.* (1) Definitions for the purpose of this section:

(i) *Change* means ~~an action that results in a~~ modification of, ~~or~~ addition to, or removal from, the:

(a) A nuclear power reactor licensee's emergency plan³ or implementing procedures that affects the licensee's capability to meet the planning standards in § 50.47(b) or the requirements in Appendix E; or the resources, capabilities, and methods identified in the plan. All such changes are subject to the provisions of this section except where the applicable regulations establish specific criteria for accomplishing a particular change.

(b) A research reactor or fuel facility licensee's emergency plan or implementing procedures that affects the licensee's capability to meet the requirements in Appendix E.

The division suggested in industry's proposed change to draft revised Section 50.54(q)(1)(i) is consistent with the division between power reactor licensees and research reactor or fuel facility licensees reflected in the current rule. This alternative definition of "change" is also re-worded to be consistent with the definition of that term contained in 10 CFR 50.59. Further, the alternative definition is consistent with the idea that the requirements of Section 50.54(q) applies to the emergency plan and any Section 50.47(b) planning standard requirements that have been relocated from the emergency plan to the implementing procedures (i.e., EIPs).

B. "Emergency Plan"

³ Includes emergency plan commitments that have been relocated to subordinate documents.

NRC's proposed new definition of "emergency plan" in Section 50.54(q) could be read expansively to include documents – such as ORO plans over which licensees have little or no control, quarterly equipment checks, and work guidelines. To this extent, the proposed change is inappropriate. Further, the proposed definition is confusing because it creates the impression that multiple historical plans are simultaneously in effect. See 74 Fed. Reg. 23,282. To address these problems, NEI proposes that the proposed definition of "emergency plan" be revised as follows:

(ii) *Emergency plan* means the document(s), prepared and maintained by the licensee, that identifies and describes the licensee's methods for maintaining and performing emergency planning functions. ~~An emergency plan includes the plans as originally approved by the NRC and all subsequent changes made by the licensee, with and without, prior NRC review and approval under § 50.54(q):~~

(a) A nuclear power reactor licensee's capability to meet the planning standards in Section 50.47(b) and the requirements in Appendix E; or

(b) A research reactor or fuel facility licensee's capability to meet the requirements in Appendix E.

NEI believes that this definition appropriately reflects that the emergency plan is a single, up-to-date document. In addition, these revisions remove reliance on the proposed new term "emergency planning functions," while properly focusing the definition on the licensee's capability to meet the planning standards of Section 50.47(b) and Appendix E.

C. "Emergency Planning Function"

NEI recommends that the NRC delete proposed Section 50.54 (q)(1)(iii), which defines the term "emergency planning function." According to NRC's response to questions related to the addition of the term "emergency planning function" at a September 17, 2009, public meeting, the primary reason for introducing the term was that the 10 CFR 50.47(b) planning standards do not apply to non-power reactors. In our view, this rationale does not provide a compelling justification for the change. NEI believes that it is unnecessary to introduce a new regulatory term ("emergency planning function") to distinguish between the different classes of licensees. As explained in Sections I.A and I.B above, Section 50.54(q) already distinguishes between power reactor and non-power reactor licensees, and that distinction can be carried forward in the definitions of the terms "change" and "emergency plan" without introducing a new and potentially confusing term into the regulations.

In addition to being unnecessary, introduction of the term "emergency planning function" increases, rather than reduces the level of ambiguity that already exists with respect to change control. Thus, this proposed change would not be helpful. As explained in the Supplementary Information published with the proposed rule, the emergency planning functions would not replace or supplement the planning standards or Part 50 Appendix E, and "compliance with these functions would not be required." 74 Fed. Reg. 23,271. Although the proposed rule states that compliance with the "emergency planning functions" is not required, the term is a lynchpin in the proposed definitions of fundamental terms, such as "change," "emergency plan," and "reduction in effectiveness." Thus, despite the assurance that compliance with the "emergency planning functions" will not be required, the term is infused in several key regulatory definitions that are important to defining compliance with respect to change control. Given the prominence of this new term in the regulatory framework, and NRC's seemingly inconsistent statement that compliance with the "emergency planning functions" will not be required, NEI believes that the term will create

confusion while adding no value to the regulatory framework. Further, if the NRC considers the planning standards unclear, as stated in the Supplementary Information, a more effective solution is to clarify the planning standards, rather than to introduce a new, vague term.

In the same vein, retaining the term "emergency planning function" may create confusion regarding the basis for violations cited by the NRC. Per SDP 0609 Appendix B, "emergency Preparedness Significance Determination Process," emergency planning function is already defined for purposes of reactor oversight program and inspection guidance. A licensee is obligated to be in compliance with the planning standards and the requirements of Appendix E. Codifying the term "emergency planning function" expands the basis for a violation to requirements that are not defined in regulation but are defined in the Significance Determination Process, SDP 0609 Appendix B.

Therefore, NEI recommends that the NRC delete the definition of "emergency planning function" from proposed revised Section 50.54(q)(iii).

D. "Reduction in Effectiveness"

In light of the deletion of the term "emergency planning function" proposed above, NEI recommends that the NRC revise the proposed definition of the term "reduction in effectiveness" (see 74 Fed. Reg. 23,282) as follows:

~~(iv)~~ (iii) *Reduction in effectiveness* means a change in an emergency plan that results in ~~reducing a significant reduction of~~ the licensee's capability to ~~perform~~ meet an emergency planning function standard or the requirements of Appendix E in the event of a radiological emergency.

This modification to the proposed new definition will allow NRC licensees to make changes to emergency plans that have only minimal effects on their capability to meet the regulatory requirements in Section 50.47(b) and Part 50, Appendix E. At the same time, this change will require prior NRC review and approval of changes that will significantly affect the licensee's capability to meet the regulatory requirements. Thus, NEI's proposed alternative modification allows for an appropriate level of change control oversight by the NRC, without introducing the term "emergency planning function" into the regulations.

Also, we recommend that the types of changes that result in a "significant reduction" in capability should be articulated in guidance (e.g., DG-1237). For example, NUREG-0654 provides the demonstration criteria for the 10 CFR 50.47(b) planning standards. A licensee can change how it demonstrates/meets the planning standards without it being a "significant reduction in capability." Industry's proposed modification also uses regulatory language that is consistent with other change control provisions that licensees have successfully implemented. For example, 10 CFR 50.59 uses the term "more than minimal increase" and 10 CFR 50.92 discusses significant reductions in margin of safety. Industry's proposed modification also is consistent with the NRC's proposed definition of "change" noted above in Section 50.54(q)(1)(i).

II. "Maintain the Effectiveness" – 10 CFR 50.54(q)(2)

In the Supplementary Information published with the proposed rule, the NRC explained that it was replacing the "maintain in effect" language currently in Section 50.54(q) because that language is not sufficiently clear in conveying NRC's expectation that an effective emergency plan requires maintaining various capabilities and resources relied on in the plan. 74 Fed. Reg. 23,266. In this regard the NRC stated:

The phrase 'maintain in effect,' as applied to emergency plans in § 50.54(q), has two senses: the first is that the plans are in force; the second is that the plans can achieve the desired result of providing reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Accordingly, the NRC is proposing to amend §50.54(q) to clarify that the regulatory intent is the latter sense by requiring licensees to follow and 'maintain the effectiveness' of their approved emergency plans.

Id. Based on this passage, it appears that the NRC's rationale for adding a definition of the term "maintain the effectiveness" was to ensure that licensees maintain plans that are both in force and provide reasonable assurance that adequate measures will be taken in the event of an emergency. However, while clear when read in isolation, the positive requirement to "maintain the effectiveness" of an emergency plan is confusing when read together with the change control provisions in Section 50.54(q) that allow the licensee to make changes that will "reduce the effectiveness" of their plans after receiving NRC approval. Specifically, as the NRC states later in the Supplementary Information for the proposed rule:

A determination that a change may result in a reduction in effectiveness does not imply that the licensee could no longer implement its plan and provide adequate measures for the protection of the public. The NRC may approve a proposed emergency plan change that the licensee determined to be a reduction in effectiveness, if the NRC can find that the emergency plan, as modified, would continue to meet the requirements of Appendix E, and for nuclear power reactor licensees, the planning standards of § 50.47(b), and would continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

74 Fed. Reg. 23,271-23,272. Based on this explanation, it appears that in order to approve a reduction in effectiveness the NRC would need to make a finding that plans are being maintained in accordance with Section 50.54(q)(2) – despite the proposed change. This results in the seemingly inconsistent situation where the "effectiveness" of the emergency plan is being reduced and maintained simultaneously. In other words, maintaining the effectiveness of a plan, while also making changes that reduce its effectiveness, are inconsistent concepts.

To resolve this confusion, NEI suggests the following modification to the terms of the proposed Section 50.54(q)(2):

(2) A holder of a license under this part , or a combined license under part 52 of this chapter after the Commission makes the finding under § 52.103(g) of this chapter, shall follow and maintain ~~the effectiveness of~~ an emergency plan that meets the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

III. Change Control (Reductions in Effectiveness) – 10 CFR 50.54(q)(4)

The NRC proposes to modify the change control process for changes that "reduce the effectiveness" of a licensee's emergency preparedness plan.⁴ Currently, 10 CFR 50.54(q) requires that requests for

⁴ Mr. Richard Ennis invoked the NRC's internal non-concurrence process in Management Directive 10.158 twice (April 24, 2009, in ML080710029, and May 27, 2009, in ML091370012) in connection with draft NRC Regulatory Issue Summary 2005-02, Revision 1, "Clarifying the Process for Making Emergency Plan Changes" (Draft RIS), on which public comments are pending. The Draft RIS seeks to impose the revisions to the emergency plan change control process described in this proposed rule in advance of the

changes that will "decrease the effectiveness" of emergency plans be submitted in the form of a report, as specified in 10 CFR 50.4. The proposed rule, however, requires that changes effecting a "reduction in effectiveness" be submitted as a license amendment request pursuant to 10 CFR 50.90 and 50.91. In the Supplementary Information published with the proposed rule, the NRC asserts that it is legally compelled to make this modification because any proposed emergency plan change that reduces the effectiveness of the plan constitutes an expansion of a licensee's operating authority. Such expansions, the argument goes, are *de facto* license amendments.⁵ In this regard, the proposed rule states:

Proposed § 50.54(q)(4) would define the process by which a licensee would request prior approval of a change to the emergency plan that the licensee has determined constitutes a reduction in effectiveness of the plan. Licensees pursuing these changes would be required to apply for an amendment to the license as provided in § 50.90. Courts have found that Commission actions that expand licensees' authority under their licenses without formally amending the licenses constitute license amendments and should be processed through the Commission's license amendment procedures. (See *Citizens Awareness Network, Inc. v. NRC*, 59 F.3d 284 (1st Cir. 1995); *Sholly v. NRC*, 651 F.2d 780 (D.C. Cir. 1980) (*per curiam*), *vacated on other grounds*, 459 U.S. 1194 (1983); and *in re Three Mile Island Alert*, 771 F.2d 720, 729 (3rd Cir. 1985), *cert. denied*, 475 U.S. 1082 (1986). See also *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315 (1996)). A proposed emergency plan change that would reduce the effectiveness of the plan would give the licensee a capability to operate at a level of effectiveness that was not previously authorized by the NRC. In this situation, the licensee's operating authority would be expanded beyond the authority granted by the NRC as reflected in the emergency plan without the proposed change. Thus, an emergency plan change that would reduce the effectiveness of the plan would expand the licensee's operating authority under its license. A change expanding the licensee's operating authority is, according to the courts, a license amendment and must be accomplished through a license amendment process. In addition to satisfying the filing requirements for a license amendment request in § 50.90 and § 50.91, the proposed § 50.54(q)(4) request would include all emergency plan pages affected by the

completion of this rulemaking. Mr. Ennis' first non-concurrence (ML080710029) provides his objections to the Draft RIS (hereinafter "RIS Non-concurrence"), and his second non-concurrence (ML091370012) provides his objections to a non-public memorandum that apparently instructs the NRC staff to impose the positions put forth in the Draft RIS (and this proposed rule) before completion of this rulemaking proceeding. Indeed, as confirmed by NRC management at the NEI Licensing Forum on October 6, 2009, the NRC staff is imposing the positions described in this proposed rule on licensees now, prior to completion of notice and comment on either the Draft RIS or this proposed rule. In addition, the September 9, 2009, comments of NRC Staff member John G. Lamb also express concerns about the Draft RIS. In our view, both of these individuals identify serious procedural and substantive deficiencies in the Draft RIS, and their concerns merit serious consideration by NRC management. The NRC's response ignores or fails to effectively address the points raised in the Non-concurrence. NEI's objections to the Draft RIS will be detailed in its written comments on that document, which we plan to submit on October 23, 2009, on Docket ID NRC-2009-0365.

⁵ In the Draft RIS, the NRC also takes the position that under the current regulations a plan change resulting in a "decrease in effectiveness" is a *de facto* license amendment. Draft RIS, at 3. Thus, it does not appear that the distinction between a "decrease in effectiveness" under the current rules and a "reduction in effectiveness" under the proposed revised rule is important to the NRC's position on the need for a license amendment. Indeed, the Draft RIS states that "the term decrease in effectiveness is considered synonymous with reduction in effectiveness (RIE)." Draft RIS, at 3. Therefore, that distinction is not stressed in NEI's comments on this topic.

change, a forwarding letter identifying the change, the reason for the change, and the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements of Appendix E, and for nuclear power reactor licensees, the planning standards of § 50.47(b). The NRC would review the amendment application to make its no significant hazards consideration determination and to determine if the emergency plan, as modified, is a reduction in effectiveness under § 50.54(q) and continues to meet the requirements in Appendix E, and for nuclear power reactors, the planning standards of § 50.47(b).

74 Fed. Reg. 23,272.

A. Emergency Plan Changes are not De Facto License Amendments

As a threshold matter, NEI agrees that the cases cited in the proposed rule stand for the general proposition that agency approvals granting licensees "greater operating authority" or "alter[ing] the original terms of a license" are license amendments. See *Cleveland Electric Illuminating Co.* (Perry Nuclear Power Plant, Unit 1), CLI-96-13, 44 NRC 315, 326-327 (1996) (*Perry*) ("In evaluating whether challenged NRC authorizations effected license amendments within the meaning of section 189a, courts repeatedly have considered the same key factors: did the challenged approval grant a licensee any greater operating authority, or otherwise alter the original terms of a license?") (internal quotations omitted), citing *In re Three Mile Island Alert*, 771 F.2d 720, 729 (3d Cir. 1985) (*TMI*); *San Luis Obispo Mothers for Peace v. NRC*, 751 F.2d 1287, 1314 (D.C. Cir. 1984); see also, *Citizens Awareness Network, Inc. v. NRC*, 59 F.3d 284, 295 (1st Cir. 1995) (*CAN*) (holding that authorization of component dismantling was a *de facto* license amendment because such actions were "beyond the ambit of the presumptive authority granted" in NRC licenses); *Sholly v. NRC*, 651 F.2d 780, 791 (D.C. Cir. 1980) (*Sholly*) (holding that an NRC order allowing purging of the TMI 2 containment was a license amendment because it "granted the licensee authority to do something that it otherwise could not have done under the existing license authority.").

Significantly, however, the proposed rule lacks any explanation of how this case law applies to the regulatory issue at hand: approval of emergency plan changes. Instead, the NRC simply asserts, without more, that allowing a change that reduces the effectiveness of an emergency plan constitutes an "expansion of operating authority" and, thus, warrants treatment as a *de facto* license amendment.⁶ The absence of analysis on this point in the proposed rule dramatically undermines the NRC's position, since a careful reading of these cases reveals that changes to emergency plans are not analogous to the types of actions that have been considered expansions of operating authority by reviewing courts. To the contrary, the case cited in the proposed rule that most closely resembles the facts here – *Perry*, 44 NRC 315 – reveals that a license amendment is *not required* for emergency plan changes, unless such changes result in noncompliance with either Section 50.47(b)

⁶ In response to the RIS Non-concurrence (ML080710029), the NRC seems to argue that it was not relying on the case law it cites to support its argument that NRC approval of an emergency plan change resulting in a decrease (or reduction) in effectiveness would constitute a grant of greater operating authority. See RIS Non-concurrence, Attach. 3, p. 3. This explanation seems, at best, an ill-conceived, ad hoc response to the arguments raised in the Non-concurrence. If it is accurate, then the NRC has provided no relevant precedent to support the legal conclusions in the proposed rule.

or Appendix E to 10 CFR Part 50, or otherwise jeopardize the Commission's reasonable assurance that adequate protective measures will be taken in the event of an emergency.⁷

Of the four cases cited in the proposed rule, only two resulted in decisions holding that the NRC approval in question must be treated as a license amendment. See *Sholly*, 651 F.2d 780; *CAN*, 59 F.3d 284. *Sholly* arose in the aftermath of the widely publicized accident at Unit 2 of the Three Mile Island nuclear plant. *Sholly*, 651 F.2d at 782. The relevant portions of *Sholly* dealt with an NRC order that allowed the licensee to vent the reactor containment building to the environment. *Id.* at 790. The petitioners argued that this order constituted a license amendment and, therefore, that Section 189a of the Atomic Energy Act required a hearing opportunity. The NRC countered that the order was not a license amendment because it merely lifted a prior suspension of the licensee's authority to vent and did not authorize a radioactive release greater than was allowed by the technical specifications of the original license. The D.C. Circuit disagreed with the NRC's argument, reasoning that the original operating license did not permit venting as part of accident clean-up because the license only covered releases associated with normal plant operation. Thus, the court held that the order allowing post-accident venting was a *de facto* license amendment because it granted the licensee authority to take an action that it otherwise could not have taken under the existing license. In *CAN*, the First Circuit held that Staff Requirements Memoranda issued by the Commission allowing component dismantling prior to approval of a decommissioning plan constituted a *de facto* license amendment. Specifically, the court found that (as with the venting at issue in *Sholly*) major component dismantling was not an activity authorized under the possession-only license at issue in that case. *CAN*, 59 F.3d. at 295.

These cases deal with NRC approval of activities that are readily distinguishable from the emergency plan changes at issue in the proposed rule. *Sholly* dealt with NRC's approval of a major operational occurrence at Three Mile Island – the post-accident venting of radioactive gases to the atmosphere – following the worst nuclear accident in our Nation's history. Likewise, in *CAN* the NRC approval in question would have allowed major changes to the physical plant, including the removal of four steam generators and a pressurizer from containment, removal of the core internals from the reactor pressure vessel, removal of four main coolant pumps, and dismantlement of the reactor core baffle plate – all prior to approval of a decommissioning plan. In contrast, the changes in question here are, in essence, modifications to a licensee's Final Safety Analysis Report (FSAR). See 10 CFR 50.34(b)(6)(v), 52.79(a)(21). While the emergency plan plays an important role in providing reasonable assurance that adequate protective measures will be taken in the event of an emergency, changes to FSAR documents are different in-kind from the major operational occurrence and modifications to the physical plant that the courts were dealing with in *Sholly* and *CAN*. In addition, a licensee's responsibilities with respect to the emergency plan are governed by a generic license condition, which requires all reactor licensee emergency plans to comply with 10 CFR 50.47(b) and Appendix E. This distinction will prove important for the reasons the Commission explained in the *Perry* decision.

Of the four cases NRC relies upon, the *Perry* decision involved facts most analogous to the situation presented by the proposed rule.⁸ *Perry* involved transfer of the withdrawal schedule for reactor

⁷ This is not an argument that the NRC cannot require a licensee to obtain agency approval before making changes to its emergency plan. The point here is simply that such changes do not require a license amendment.

⁸ Notably, the Commission issued the *Perry* decision in December of 1996 – 16 years after the D.C. Circuit published its opinion in *Sholly* and almost a year-and-a-half after the First Circuit's decision in *CAN*. In the *Perry* decision, the Commission did not discuss *Sholly* and actually distinguished the facts before it from those presented in *CAN*. See *Perry*, 44 NRC 315, 327-328.

vessel material specimens from the plant's technical specifications to the facility's updated final safety analysis report (UFSAR). *Perry*, 44 NRC at 316-17. Since this transfer involved a change to the technical specifications, a license amendment was required. But after removal of the schedule from the technical specifications and placement in the UFSAR, additional changes to the schedule could be made without a license amendment depending on the outcome of the licensee's analysis under 10 CFR 50.59. Several parties intervened in the amendment proceeding, claiming that removal of the schedule from the technical specifications was inconsistent with Section 189a of the AEA because *any* change to the Perry material specimen withdrawal schedule was a *de facto* license amendment. *Id.*, at 319.

The Licensing Board agreed with the intervenors, but the Commission reversed and vacated the Licensing Board's decision. In determining whether the schedule changes at issue were license amendments, the Commission looked to the actual terms of the operating license. *Id.* at 328-29. Upon examination, the Commission discovered that the technical specifications of the license required the licensee to conduct all testing and surveillance of material specimens in accordance with Appendix H to 10 CFR Part 50, which, in turn, required that withdrawal schedules meet the applicable American Society for Testing and Materials (ASTM) standard. The Commission reasoned:

This means in effect that the Perry license specifies an NRC-approved methodology—the ASTM standard—to be used in developing either an initial or a revised schedule. The ASTM standard establishes specific technical criteria for determining where in the reactor vessel to place surveillance capsules, how many capsules should be used, and how often capsules should be removed for testing. By effectively incorporating the ASTM standard, the Perry license provides delineated parameters for Cleveland Electric to use in calculating an appropriate withdrawal schedule.

As long as its withdrawal schedule meets the applicable ASTM standard, Cleveland Electric is not exceeding operating authority already granted in its Perry operating license. The ASTM standard anticipates that during the course of a nuclear power plant's life the withdrawal schedule may need to be revised; the standard allows and provides for such changes. The terms of the Perry license thus already provide for—already authorize—some possible schedule changes. Any revised schedule that conforms to the ASTM standard can be said to be "encompassed within delineated categories of authorized conduct."

.....

That the Staff may wish to verify in advance that a proposed revision confirms to the required technical standard does not make Staff approval a license amendment. By merely ensuring that required technical standards are met, the Staff's approval does not alter the terms of the license, and does not grant the Licensee greater operating authority. Such a review *enforces* license requirements. As an enforcement policy matter, the Staff may wish to police some licensee-initiated changes *before* they go into effect.

Id., at 328 (citations omitted)(emphasis in original).

Likewise, here the terms of the license are contained in 10 CFR 50.54(q), which is a condition in every operating license issued under 10 CFR Part 50 and every combined license issued under 10 CFR Part 52.⁹ The affirmative requirement in the current version of Section 50.54(q) is that:

⁹ 10 CFR 50.54 states:

A holder of a nuclear power reactor operating license under this part, or a combined license under part 52 of this chapter after the Commission makes the finding under § 52.103(g) of this chapter, shall follow and maintain in effect emergency plans *which meet the standards in § 50.47(b) and the requirements in appendix E of this part.*

(emphasis added). This license condition requires that power reactor licensees maintain emergency plans *that meet the standards in § 50.47(b) and appendix E.* Thus, so long as the licensee maintains a plan that meets these standards, the licensee is not exceeding the operating authority granted in its license and no license amendment is required. This is directly analogous to the situation addressed in *Perry* and described above. There, the Commission appropriately held that “any revised schedule that conforms to the ASTM standard can be said to be encompassed within delineated categories of authorized conduct.” *Perry*, at 328 (internal citation omitted). Likewise, any emergency plan change that will result in continued conformance to Section 50.47(b) and Appendix E can be said to be encompassed within delineated categories of authorized conduct and, therefore, need not be considered an amendment to the license. Indeed, the proposed EP rule revision clearly states that:

A determination that a change may result in a reduction in effectiveness does not imply that the licensee could no longer implement its plan and provide adequate measures for the protection of the public. *The NRC may approve a proposed emergency plan change that the licensee determined to be a reduction in effectiveness, if the NRC can find that the emergency plan, as modified, would continue to meet the requirements of Appendix E, and for nuclear power reactor licensees, the planning standards of § 50.47(b), and would continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.*

74 Fed. Reg. 23,272 (emphasis added). Thus, the NRC may only approve an emergency plan change if the modified plan will continue to meet the applicable regulatory requirements and continue to provide the required reasonable assurance. That is, the NRC will only approve emergency plan changes that allow a licensee to continue to comply with the positive requirements of the license condition contained in Section 50.54(q). Consistent with the Commission’s explanation in *Perry*, the NRC’s review and approval of plan changes are best understood as enforcing existing license requirements (i.e., the positive requirement contained in Section 50.54(q)), rather than granting greater operating authority.

In the proposed rule, however, the NRC proposes to modify the positive requirement in Section 50.54(q) to read:

A holder of a license under this part, or a combined license under part 52 of this chapter after the Commission makes the finding under § 52.103(g) of this chapter, shall follow and

The following paragraphs with the exception of paragraphs (r) and (gg) of this section *are conditions in every nuclear power reactor operating license issued under this part.* The following paragraphs with the exception of paragraph (r), (s), and (u) of this section *are conditions in every combined license issued under part 52 of this chapter,* provided, however, that paragraphs (i), (i-1), (j), (k), (l), (m), (n), (w), (x), (y), and (z) of this section are only applicable after the Commission makes the finding under § 52.103(g) of this chapter. (emphasis added).

maintain the effectiveness of an emergency plan that meets the requirements in appendix E of this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

74 Fed. Reg. 23,283 (emphasis added). But, since this change was simply intended to clarify that plans must be maintained so that they continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency, it does not change the analysis concerning whether a license amendment is required. Specifically, the proposed rule states:

The NRC has determined that the phrase "maintain in effect" in 50.54(q) is not adequately clear in conveying the NRC expectation that an effective emergency plan also requires maintaining the various capabilities and resources relied on in the plan. The phrase "maintain in effect," as applied to emergency plans in 50.54(q), has two senses: the first is that the plans are in force; *the second is that the plans can achieve the desired result of providing reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency. Accordingly, the NRC is proposing to amend 50.54(q) to clarify that the regulatory intent is the latter sense by requiring licensees to follow and "maintain the effectiveness" of their approved plans.*

74 Fed. Reg. 23,266 (emphasis added). So, the stated goal of this modification is to ensure that emergency plans are maintained so that the desired result of providing reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency is not jeopardized. And, as explained above, the proposed rule also makes clear that the NRC staff may only approve of a reduction in effectiveness if the emergency plan "*would continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.*" 74 Fed. Reg. 23,272 (emphasis added). Thus, even under the proposed rule, no approved emergency plan change would expand the licensee's operating authority because, in order to obtain the approval, the licensee would need to demonstrate that it continues to comply with the positive requirement of license condition in Section 50.54(q) – i.e., that the plan meets the requirements in Appendix E, the planning standards of Section 50.47(b), and continues to provide the requisite reasonable assurance.¹⁰

While neither the Draft RIS nor the proposed rule provides a sufficient explanation of the NRC's legal position, the NRC's response to the Non-concurrence filed by Mr. Ennis provides some additional insight. The RIS Non-concurrence cogently argues that emergency plan changes do not expand a licensee's operating authority. RIS Non-concurrence, Attach. 2, p. 11-13. The NRC offered the following response:

[T]he NRC's regulations, in § 50.34(b)(6)(v), § 50.47 and Appendix E to Part 50, require that the licensee have and implement the approved emergency plan to obtain and hold an operating license. If the licensee proposes a change that would reduce the level of effectiveness, such a change would give the licensee a capability to operate at a level of effectiveness that was not previously authorized by the NRC. In other words, the licensee would have operating authority beyond what it originally had, as reflected in the approved emergency plan without the proposed change.

¹⁰ In a different section of these comments, NEI has proposed a modification to the "maintain the effectiveness" language in the proposed rule. Despite the fact that NRC describes this revision as a clarification, NEI believes that requiring licensees to "maintain the effectiveness" of plans, while also allowing changes that will "reduce the effectiveness" of those same plans is unnecessarily confusing.

RIS Non-concurrence, Attach. 3, p. 3. The first sentence in this passage inaccurately describes the NRC's regulations and sheds more – albeit still minimal – light on the flawed foundation for the agency's legal position. Section 50.34(b)(6)(v) requires that *applications* for operating licenses include an FSAR. The FSAR must, in turn, include “[p]lans for coping with emergencies, which shall include the items specified in appendix E.” The Introduction to appendix E of Part 50 clearly states that it “establishes minimum requirements for emergency plans for use in attaining an acceptable state of emergency response.” Appendix E goes on to describe the minimum requirements for the content of emergency plans covering areas, such as organization, assessment actions, emergency facilities and equipment, and training. Section IV of Appendix E also requires *applicants* for power reactor operating licenses to submit plans that demonstrate compliance with the planning standards contained in Section 50.47(b). Section 50.47 contains requirements that must be met *in order for the NRC to issue initial operating and combined licenses, and early site permits.*

Contrary to statements in NRC's response to the Non-concurrence, neither Sections 50.34(b)(6)(v), 50.47, nor Appendix E to Part 50 requires that licensees maintain or implement “the approved emergency plan,” in its entirety, in order to *hold* (as opposed to obtain) an operating license. As the Commission explained in *Perry*, in order to determine the extent of the operating authority granted to a licensee, the NRC must “look[] to the actual terms of the operating license.” When turning to the actual terms of the operating license in this case, we find that it is the license condition described in Section 50.54(q) that compels *licensees* (as opposed to applicants) to maintain emergency plans. As noted above, Section 50.54(q) simply requires licensees to maintain plans that comply with the requirements in Section 50.47(b) and appendix E – *a condition that, according to the proposed rule, the NRC staff will ensure is satisfied before any emergency plan change is approved.*¹¹

In sum, a review of the case law NRC relies upon in the proposed rule reveals that approval of emergency plan changes under Section 50.54(q) will not result in an expansion of a licensee's operating authority. Thus, the NRC is not compelled to use the license amendment process to approve emergency plan changes. As the Commission explained in *Perry*, NRC prior review and approval of emergency plan changes resulting in a reduction in effectiveness is best understood as method to *enforce existing license and regulatory requirements, rather than as a grant of increased operating authority.* Therefore, NRC's conclusion that it is legally compelled to impose the license amendment process to approve changes to emergency plans is incorrect.¹²

B. Backfitting Issues

¹¹ See supra p. B.5-10 for a discussion of NRC's statement that:

The NRC may approve a proposed emergency plan change that the licensee determined to be a reduction in effectiveness, if the NRC can find that the emergency plan, as modified, would continue to meet the requirements of Appendix E, and for nuclear power reactor licensees, the planning standards of § 50.47(b), and would continue to provide reasonable assurance that adequate protective measures can and will be taken in the event of a radiological emergency.

74 Fed. Reg. 23,272.

¹² Further, even if the NRC were required to approve emergency plan changes via license amendment that would not permit the agency to ignore its current regulations and impose changes to those regulations under the guise of providing “clarifications” or “guidance.”

In the Regulatory Analysis published with the proposed rule, the NRC concludes that the proposed changes to 10 CFR 50.54(q) do not meet the definition of a backfit.¹³ "Regulatory Analysis and Backfit Analysis, Proposed Rulemaking: Emergency Preparedness (10 CFR Part 50)," (Reg. Analysis), p. 33. NEI believes that this conclusion is based in the incorrect conclusions that: (1) changes to emergency plans resulting in a reduction (or decrease) in effectiveness are *de facto* license amendments; and (2) the proposed modifications to Section 50.54(q) are merely clarifications of an existing regulatory requirement. As explained in Section I., the NRC is not legally compelled to use the license amendment process to approve changes to emergency plans. Further, the plain language of Section 50.54(q), as well as 29 years of agency practice, reveal that the NRC's long-standing regulations require licensees to submit reports requesting approval of emergency plan changes pursuant to Section 50.4 – not license amendment requests. Thus, the proposed change to Section 50.54(q) requiring that requests for emergency plan changes be submitted as LARs is a change to an existing requirement, not a mere "clarification." Further, as the stated in the Regulatory Analysis, the proposed changes to Section 50.54(q) would require "power reactor licensees . . . to review and possibly revise procedures and training to clarify the process for emergency plan changes (i.e. through 10 CFR 50.90 submittals)." Reg. Analysis, p. 33. Thus, as explained in more detail below, the proposed revision to Section 50.54(q) is a backfit, as defined in 10 CFR 50.109, and this change should have been included in the backfit analysis.

1) The Proposed Modification of Section 50.54(q) Requiring a License Amendment is an Amendment of the Regulation, Not a Clarification

10 CFR 50.54(q) currently states:

A holder of a nuclear power reactor operating license under this part, or a combined license under part 52 of this chapter after the Commission makes the finding under § 52.103(g) of this chapter, shall follow and maintain in effect emergency plans which meet the standards in § 50.47(b) and the requirements in appendix E of this part. . . . The nuclear power reactor licensee may make changes to these plans without Commission approval only if the changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the standards of § 50.47(b) and the requirements of appendix E to this part. The research reactor and/or the fuel facility licensee may make changes to these plans without Commission approval only if these changes do not decrease the effectiveness of the plans and the plans, as changed, continue to meet the requirements of appendix E to this part. . . . *Proposed changes that decrease the effectiveness of the approved emergency plans may*

¹³ "Backfit" is defined as:

[T]he modification of or addition to systems, structures, components, or design of a facility; or the design approval or manufacturing license for a facility; or the procedures or organization required to design, construct or operate a facility; any of which may result from a new or amended provision in the Commission's regulations or the imposition of a regulatory staff position interpreting the Commission's regulations that is either new or different from a previously applicable staff position after:

.....

(iii) The date of issuance of the operating license for the facility for facilities having operating licenses;

10 CFR 50.109(a).

not be implemented without application to and approval by the Commission. The licensee shall submit, as specified in § 50.4, a report of each proposed change for approval.

(emphasis added). In brief, Section 50.54(q) requires that licensees submit, for review and approval, a report describing proposed changes that will decrease the effectiveness of the approved emergency plan in accordance with 10 CFR 50.4. There is simply no requirement that NRC licensees submit a LAR in connection with proposed changes that may decrease the effectiveness of emergency plans. As the RIS Non-concurrence points out:

The use of the word "report" and direction to submit in accordance with 10 CFR 50.4 is distinct from any inferred reliance on the license amendment application submittal process, which is also discussed in 10 CFR 50.4. 10 CFR 50.4 includes specific direction for the submittal of reports related to the licensee's emergency plan in [§ 50.4(b)(5)]. This paragraph does not mention use of the application for license amendment process.

It should be noted that the preceding paragraph [§ 50.4(b)(4)] which deals with security plan and related submittals clearly includes specific guidance related to applications for amendment pursuant to 10 CFR 50.90 conforming with the specific requirement of 10 CFR 50.54(p), that for changes to the security plan that would decrease the effectiveness of the plan, A licensee desiring to make such a change shall submit an application for an amendment to the licensee's license pursuant to § 50.90.

RIS Non-concurrence, at 3. In response, the NRC states:

Although the non-concurring individual correctly notes that § 50.54(q) refers to § 50.4 in relation to reporting emergency plan changes to the NRC, the individual has apparently incorrectly interpreted that reference as only referring to § 50.4(b)(5). . . . Section 50.4, however, is a broadly written provision that specifically includes the administrative requirements for filing amendment requests . . . If the NRC's intent of § 50.54(q)'s general reference to § 50.4 was specifically to limit the obligations for filings made under § 50.54(q) to filing under § 50.4(b)(5), then the history of the rulemaking would certainly have contained some indication that such was the intent of this reference. We have located no information and the non-concurring individual does not identify any information indicating that the reference to § 50.4 generally was meant to be anything other than a reference to all procedures in § 50.4, including the procedures for filing license amendment requests.

RIS Non-concurrence, Attach. 3, p. 1. In the first paragraph, the RIS Non-concurrence argues that use of the word "report" to describe the submittal required by Section 50.54(q) is significant because it precludes any inference that what the NRC "really meant" was license amendment request. In addition, the fact that Section 50.4 separately references both "reports" and "applications for amendment of permits and licenses" provides further support for the position put forth in the RIS Non-concurrence. See Section 50.4(b)(1) entitled "Applications for amendment of permits and licenses; reports; and other communications." Simply put, the fact that 10 CFR 50.4 describes both "applications for amendment of licenses" and "reports" indicates that these words have distinct meaning: "report" does not mean "license amendment request" and vice versa. This interpretation, which gives effect to all of the terms of the NRC regulation, is consistent with the fundamental principle of statutory construction that courts should "give effect, if possible, to every clause and word of a statute, avoiding, if it may be, any construction which implies that the legislature was ignorant of the meaning of the language it employed." *Montclair v. Ramsdell*, 107 US 147, 152 (1883). The word "report" used to describe the submittal required for Section 50.54(q) simply does not mean LAR. As the RIS Non-concurrence also explains, the presence of other

change control provisions that specifically and unambiguously require a license amendment request indicates that the NRC knows how to direct licensees to use the license amendment process when that is its intent. See, e.g., Sections 50.54(p), 50.59.

In its response, the NRC criticizes the RIS Non-concurrence because it does not provide evidence, in the form of regulatory history, indicating that the Commission intended the words of Section 50.54(q) to mean what they plainly say. But it is well-settled that:

[T]o discern regulatory meaning, [the NRC is] not free to go outside the express terms of an unambiguous regulation to extrinsic aids such as regulatory history. Aids to interpretation only can be used to resolve ambiguity in an equivocal regulation, never to create it in an unambiguous one.

Cleveland Electric Illuminating Co. (Perry Nuclear Power Plant, Unit 1), LBP-95-17, 42 NRC 137, 145 (1995), *rev'd on other grounds*, Perry, CLI-96-13, 44 NRC 315 (1996). Thus, contrary to the NRC's response, it is not necessary to comb the regulatory history of Section 50.54(q) to resolve a non-existent ambiguity.

Further, as the RIS Non-concurrence points out, this plain reading of Section 50.54(q) is confirmed by NRC practice in the area of emergency plan change approval. Specifically, the RIS Non-concurrence cites three examples from 2008 where the NRC approved emergency plan changes that licensees had determined would result in a decrease in effectiveness. These changes were approved by letter, without issuing license amendments.

In response to three specific examples of actual approvals of plan changes in the recent past, the NRC cites to a single 1997 letter where the agency apparently *requested* that a licensee submit a license amendment request. Specifically, the NRC stated:

[T]he staff's approach over time in reviewing proposed changes to approved emergency plans that would result in reductions in effectiveness of the plans has not been consistent and unchanged. On at least one occasion, the NRC staff has advised a licensee that if they requested NRC review of a proposed change that would decrease the effectiveness of the licensee's emergency plan, such a request had to be submitted under 10 CFR 50.90. See Thomas, K.M., U.S. Nuclear Regulatory Commission, letter to J.M. Levine, Arizona Public Service Company, October 24, 1997.

RIS Non-concurrence, Attach. 3, p. 1. But, as the non-concurring individual points out in his subsequent non-concurrence (ML091370012), the emergency plan change referenced in the 1997 letter was eventually granted, in modified form, on February 5, 1999 – *by letter and without a license amendment*. The NRC's response to this salient point was a simple, unsupported statement that "[t]he agency's practice has been at best inconsistent." Non-concurrence, "Memorandum from Joseph G. Gitter to Melvyn N. Leach, Processing Emergency Plan Reviews," May 27, 2009, (ML091370012), Response to Non-Concurrence, at 1.

NEI has researched the publicly available emergency plan approvals dating back to 1980. The results of that search did not uncover a single instance where an emergency plan change was given effect by license amendment – and the NRC has provided none. In fact, NEI's search revealed multiple examples, in addition to those cited in the RIS Non-concurrence, of approvals to emergency plan changes described as decreases in effectiveness by licensees that were issued by letter within

the last decade.¹⁴ These approvals are far from “[s]taff actions that may have taken place on limited occasions,” as claimed in the NRC’s response to the RIS Non-concurrence.¹⁵ RIS Non-concurrence, Attach. 3, p. 2. As the RIS Non-concurrence points out, the results of NEI’s research are not surprising because, in addition to the plain language of the regulations described above, NRR Office Instruction LIC-100, “Control of Licensing Basis for Operating Reactors,” Rev. 1 indicates that emergency plan change approvals are issued by letter, not by license amendment.¹⁶

In sum, NEI believes that 10 CFR 50.54(q) is plain on its face: emergency plan changes that will result in a decrease in effectiveness are to be submitted in the form of a report in accordance with Section 50.4. This reading is confirmed by 29 years of agency practice of issuing letter approvals, as opposed to license amendments, in response to such requests, and it is also consistent with the agency’s internal NRR guidance. Thus, the proposed amendment to Section 50.54(q) is clearly an amendment of the existing regulations, not a mere “clarification” as asserted in the NRC’s Regulatory Analysis.

2) The Backfit Discussion in the Draft RIS is Inadequate

¹⁴ See Letter from S. Patrick Sekerak (NRC), to William A. Eaton (Entergy Operations, Inc.), “Grand Gulf Nuclear Station, Unit 1, Proposed Emergency Plan Table 5-1 Changes,” September 29, 2000 (ML003756919); Letter from Jack Donohew (NRC) to Garry L. Randolph (Union Electric Company), “Radiological Emergency Response Plan (RERP) Change Related to Control Room Communicators for Callaway Plant, Unit 1,” February 14, 2003 (ML030450194); Letter from Jack Donohew (NRC), to Mr. Gregg R. Overbeck (Arizona Public Service Company), “Palo Verde Nuclear Generating Station (PVNGS), Units 1, 2, and 3 – Emergency Plan Change to Reduce the Number of Shift Technical Advisors in the Emergency Response Organization Staffing,” March 19, 2004 (ML040860125); Letter from Douglas V. Pickett (NRC) to Karl W. Singer (Tennessee Valley Authority), “Sequoyah Nuclear Plant, Units 1 & 2 – Summary of the NRC Staff’s Review on Proposed Emergency Action Levels,” October 24, 2005 (ML052870252); Letter from Kahtan N. Jabbour (NRC) to Christopher M. Crane (Exelon Generating Company, LLC), “Braidwood Station, Units 1 and 2, Byron Station, Units 1 and 2, Clinton Power Station, Unit 1, Dresden Nuclear Station, Units 1, 2, and 3, LaSalle County Station, Units 1 and 2, and Quad Cities Nuclear Power Station, Units 1 and 2 Re: Approval of Changes to the Exelon Nuclear Standardized Radiological Emergency Plan, and Byron and Quad Cities Stations Emergency Plan Annexes,” February 14, 2006 (ML060450538); Letter from G. Edward Miller (NRC) to Christopher M. Crane (Exelon), “Oyster Creek Nuclear Generating Station – Revision of Emergency Plan Emergency Action Levels HA5 and HU5,” May 11, 2006 (ML061240062)(notably, it appears that the licensee originally submitted an LAR in this case, but was ultimately granted approval for the plan changes by letter); Letter from Jack Donohew (NRC) to Charles D. Naslund (Union Electric Company), “Callaway Plant, Unit 1 – Revision of Emergency Action Levels in Radiological Emergency Response Plan,” November 8, 2006 (ML062980278).

¹⁵ In addition, the NRC’s claim that letter approvals have been frequently used for plan changes that are not decreases in effectiveness is strange in light of the fact that there is no requirement for prior approval of such changes, under either the current regulations or EP proposed rule. It is unclear why the NRC would devote resources to issuance of changes approvals in situations where no approval is required.

¹⁶ The NRC responded to this point by simply stating: “NRR office procedures are not regulatory requirements and serve only as in internal guide. Thus, the non-concurring individual’s deference to LIC 100 as authority is misplaced.” In so responding, the NRC uses a statement of the obvious to reach an irrelevant conclusion. Although it is true that office procedures are not regulatory requirements, and thus are of questionable value as legal authority, they most certainly are indicia of agency practice. If not, then NRC staff members would be free to ignore office instructions – and this is clearly not the case.

Given the discussion above, NEI believes that the backfit discussion in the Regulatory Analysis is inadequate. After a short discussion, the NRC concludes its revisions to Section 50.54(q) do not constitute a backfit under 10 CFR 50.109. First, the NRC states that the proposed rule "clarifies that the license amendment process is the correct process to use when reviewing submittals involving a proposed emergency plan change that the licensee has determined constitutes a reduction in effectiveness of the plan." Reg. Analysis, p. 33. To the contrary, as explained in detail above, the proposed rule does not "clarify" an established legal, regulatory or licensing matter, but rather reflects an entirely new position on the need for a license amendment. The NRC cannot avoid its responsibility to perform a backfit analysis by declaring that amendments to its regulatory requirements are merely "clarifications."¹⁷

Further, the Regulatory Analysis states:

In addition, to the extent that using a license amendment process for making modifications to emergency plans that reduce the effectiveness of the plans is considered a change, it would be a change to the NRC's regulatory process for addressing modifications to the emergency plan. The NRC's regulatory review process is not a licensee procedure required for operating a plant that would be subject to backfit limitations. For these reasons, this clarification in 10 CFR 50.54(q) would not constitute a backfit under 10 CFR 50.109.

Reg. Analysis, p. 33. This statement ignores the fact that the proposed amendment to Section 50.54(q) regarding the EP change process will result in modifications or additions to licensee procedures necessary to operate nuclear power plants. At the very least, licensees will need to modify their procedures for seeking changes to emergency plans to account for the fact that such changes will now require submittal of an LAR. Indeed, the NRC seems to acknowledge that the proposed changes to Section 50.54(q) would require "power reactor licensees . . . to review and possibly revise procedures and training to clarify the process for emergency plan changes (i.e. through 10 CFR 50.90 submittals)." Reg. Analysis, p. 33. Procedures for screening and evaluating the need to obtain prior approval of emergency plan changes may also need to be modified as a result of the positions taken in the proposed rule. Thus, the justification provided above is inadequate.

The backfit discussion in the Regulatory Analysis also argues:

The Backfit Rule protects licensees from Commission actions that arbitrarily change license terms and conditions. A licensee's request under 10 CFR 50.54(q) asks for Commission

¹⁷ Even if the NRC were merely "clarifying" the meaning of the existing regulations, a proposition with which we disagree, such a clarification may still "impos[e] . . . a regulatory staff position interpreting the Commission's regulations that is either new or different from a previously applicable staff position." 10 CFR 50.109(a). The Commission addressed this issue directly in its discussion of regulatory interpretations included in the Supplementary Information published with the 1985 final backfitting rule:

It may also be noted that "cause" includes not only Commission rules and orders, but staff interpretations of those rules and orders. This is not to say that staff interpretations of rules are viewed by the Commission as being legal requirements. Clearly, they are not. Nevertheless, staff interpretations of broadly stated rules are often necessary to give a rule effect and in some instances may be a causal factor in initiating a backfit.

50 Fed. Reg. 38,102. Thus, the Commission has long recognized that new regulatory interpretations – clarifications or not – may be a causal factor in initiating a backfit.

authority to do what is not currently permitted under its license. The licensee has no valid expectations protected by the Backfit Rule regarding the means for obtaining the new authority that is not permitted under the current license.

Reg. Analysis, p. 33. As explained above, emergency plan changes do not constitute an expansion of the licensee's operating authority where the modified emergency plan will continue to comply with Section 50.47, and Appendix E to 10 CFR Part 50. Thus, the NRC's statement that "[t]he licensee has no valid expectations protected by the Backfit Rule regarding the means for obtaining the new authority that is not permitted under the current license" is irrelevant.

More fundamentally, NEI believes that the first sentence of the above-quoted Regulatory Analysis reveals a misunderstanding of the purpose of the Backfit Rule. Specifically, NEI disagrees that the purpose of the Backfit Rule is to protect licensees from arbitrary Commission action. Arbitrary Commission action is already prohibited by the Administrative Procedure Act and the Backfit Rule is not a mere redundancy. The backfitting process is explained in the Commission's long-standing backfitting guidance:

The backfitting process is the process by which the U.S. Nuclear Regulatory Commission (NRC) decides whether to issue new or revised requirements or staff positions to licensees of nuclear power reactor facilities. Backfitting is expected to occur and is an inherent part of the regulatory process. However, it is to be done only after formal, systematic review to ensure that changes are properly justified and suitably defined. Requirements for proper justification of backfits and information requests are provided by two NRC rules, Title 10 of the *Code of Federal Regulations*, Sections 50.109 and 50.54(f). Three types of backfits are recognized. Cost-justified substantial safety improvements require backfit analyses and findings of substantial safety improvement and justified costs. Two types of exceptions, compliance exceptions and adequate protection exceptions, do not require findings of substantial safety improvements and costs are not considered. However, they are still backfits and they require documented evaluations to support use of the exceptions.

"Backfitting Guidelines," NUREG-1409, June 1990, at Abstract. Thus, backfits are expected to occur as an inherent part of the regulatory process. The Backfit Rule is meant, however, to ensure that changes constituting backfits are "properly justified and suitably defined." More specifically, NUREG-1409 goes on to state that "the requirements of this process [backfitting] are intended to ensure order, discipline, and predictability and to enhance optimal use of NRC staff and licensee resources. NUREG-1409, at Executive Summary. The NRC staff's apparent misunderstanding of the purposes of the Backfit Rule – i.e., to prevent arbitrary Commission action – may have resulted in the staff taking untenable positions to avoid classifying obvious changes in position as backfits. This approach undermines the purpose of the Backfit Rule, which is not to prohibit arbitrary or otherwise illegal agency actions, but rather to ensure that such changes in agency regulations or positions are properly justified and imposed in an orderly fashion.

Although NEI recommends that the NRC not finalize the proposed change to Section 50.54(q) requiring a license amendment for emergency plan changes, if the agency decides to make this change it should be included in the backfit analysis. Such an analysis should provide a clear determination of whether the change in position described in the proposed rule is either a cost-justified substantial safety improvement, or is properly captured under the compliance or adequate protection exemptions.

Proposed Modification to Section 50.54(q)(4)

Given the discussion above, NEI recommends that the NRC modify the proposed Section 50.54(q)(4) to read:

(4) The changes to a licensee's emergency plan that result in a reduction in the effectiveness of the plans as defined in § 50.54(q)(1)(iv) may not be implemented without prior approval by the NRC. A licensee desiring to make such a change shall submit, as specified in § 50.4, a report of each proposed change for approval. ~~an application for an amendment to its license. In addition to the filing requirements of §§ 50.90 and 50.91, In addition to the requirements of § 50.4, The report~~ quest must include all emergency plan pages affected by that change and must be accompanied by a forwarding letter identifying the change, the reason for the change, and the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

3) Change Control (Other Changes) – 10 CFR 50.54(q)(5)

Guidance document should define report content. Per DG-1237, Section 5.4, "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 pursuant to 10 CFR 50.54(q) should be supported by rationale statements (e.g., "The proposed change does not require prior NRC approval because..."); a simple check-off is not acceptable".

Changed "made" to "implemented", since a change could be made and approved but not implemented until required/necessary.

NRC states that they would "expect that the record of the changes would include documentation of the evaluation". However the NRC provides no justification for this new expectation. Historically under the 71114.04 inspection module, the NRC would have opportunity to review and inspect the Q (i.e., analysis). Industry sees no value in changing this practice. NEI recommends deleting analysis.

(5) The licensee shall retain a record of each change to the emergency plan made without prior NRC approval for a period of three years from the date of the change and shall submit, as specified in § 50.4, , a report of each such change, ~~including its analysis,~~ within 30 days after the change is ~~made~~ implemented.

50.4 does not currently require a report or analysis. Propose that 50.4 be changed to reflect paragraph (5) above.

(5) Emergency plan and related submissions. Written communications as defined in paragraphs (b)(5)(i) through (iii) of this section must be submitted to the NRC's Document Control Desk, with a copy to the appropriate Regional Office, and a copy to the appropriate NRC Resident Inspector if one has been assigned to the site of the facility. If the communication is on paper, the submission to the Document Control Desk must be the signed original.

(i) Emergency plan under § 50.34;

(ii) Change to an emergency plan under § 50.54(q) **including a report of such change, including its analysis**¹⁸.

(iii) Emergency implementing procedures under appendix E.V of this part.

4) Summary

Given the explanation provided above, NEI recommends that 10 CFR 50.54(q) be revised to read:

(q) *Emergency Plans.*

(1) Definitions for the purpose of this section:

(i) *Change* means a modification of, addition to, or removal from:

(a) A nuclear power reactor licensee's emergency plan or implementing procedures that affects the licensee's capability to meet the planning standards in § 50.47(b) or the requirements in Appendix E; or

(b) A research reactor or fuel facility licensee's emergency plan or implementing procedures that affects the licensee's capability to meet the requirements in Appendix E.

(ii) *Emergency plan* means the document, prepared and maintained by the licensee, that identifies and describes:

(a) A nuclear power reactor licensee's capability to meet the planning standards in § 50.47(b) and the requirements in Appendix E; or

(b) A research reactor or fuel facility licensee's capability to meet the requirements in Appendix E.

(iii) *Reduction in effectiveness* means a change in an emergency plan that results in a significant reduction of the licensee's capability to meet an emergency planning standard or the requirements of Appendix E in the event of a radiological emergency.

(2) A holder of a license under this part , or a combined license under part 52 of this chapter after the Commission makes the finding under § 52.103(g) of this chapter, shall follow and maintain an emergency plan that meets the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b)

(3) The licensee may make changes to its emergency plan without NRC approval only if the licensee can demonstrate through analysis that the changes do not reduce the effectiveness of the plan and

¹⁸ "Including its analysis to be deleted if deleted from section (5) of the final rule.

the plan, as changed, continues to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

(4) The changes to a licensee's emergency plan that result in a reduction in the effectiveness of the plans as defined in § 50.54(q)(1)(iv) may not be implemented without prior approval by the NRC. A licensee desiring to make such a change shall submit, as specified in § 50.4, a report of each proposed change for approval. In addition to the requirements of § 50.4, the report must include all emergency plan pages affected by that change and must be accompanied by a forwarding letter identifying the change, the reason for the change, and the basis for concluding that the licensee's emergency plan, as revised, will continue to meet the requirements in appendix E to this part and, for nuclear power reactor licensees, the planning standards of § 50.47(b).

(5) The licensee shall retain a record of each change to the emergency plan made without prior NRC approval for a period of three years from the date of the change and shall submit, as specified in § 50.4, a report of each such change, within 30 days after the change is implemented.

**NEI COMMENTS ON EMERGENCY PREPAREDNESS RULEMAKING
DRAFT REGULATORY GUIDE DG-1237, "GUIDANCE ON MAKING CHANGES TO
EMERGENCY PLANS FOR NUCLEAR POWER REACTORS"**

DG-1237 SECTION/LANGUAGE	COMMENT	BASIS
GENERAL COMMENTS	<ol style="list-style-type: none"> 1. The § 50.54(q) evaluation should be based on the planning standards set forth in 10 CFR 50.47(b) and not "emergency planning functions" introduced in the Draft Guide (DG-1237) and proposed rule language, or discussed in NRC Inspection Manual Chapter 0609 Appendix B (Emergency Preparedness Significance Determination Process). 2. To align with the § 50.90/50.91/50.92 regulatory processes, the evaluation of reduction in effectiveness needs to address 'significance.' 3. Inappropriate use of examples and new terminology in DG-1237 exists, such as, emergency planning function. Examples of this level introduced in the DG should be part of a Resource Manual and not a Regulatory Guide. 4. Use of § 50.90 process to address NRC prior approval of emergency plan changes that reduce the effectiveness of the plan. NRC's current proposed § 50.54(q) rule language and DG-1237 does not legally meet the requirements of use of § 50.90 processes. 5. 30-day implementation schedule of new 50.54(q) is an inadequate length of time. 	<ol style="list-style-type: none"> 1. The discussion of the relationship between the planning standards and "emergency planning/planning standard" <i>functions</i> is appropriate for a guidance document but should not be part of 54(q) evaluation determination. The 54(q) review should be focused on meeting the planning standards and not the function. Consideration of the function and capability to meet a planning standard is part of the evaluation process only. [Refer to NEI Comments Enclosure 2, Section B.5] 2. Licensees should be able to make changes to emergency plans that have only minimal effects on their capability to meet the regulatory requirements (i.e., § 50.47(b) and Appendix E). At the same time, allow for prior NRC review and approval of changes that will significantly affect the licensee's capability to meet the regulatory requirements. The proposed modification allows for an appropriate level of change control oversight by the NRC, without introducing the term "emergency planning function" into the

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>6. Request for ADDITIONAL opportunity to review DG-1237 after adjudication process or when rule is set for review.</p>	<p>regulations. [Refer to NEI Comments Enclosure 2, Section B.5]</p> <p>3. See comments herein. Use of examples is more appropriate for a Resource Manual (analogous to the 50.59 Resource Manual).</p> <p>4. § 50.90/50.92 determinations do not align with proposed § 50.54(q). Evaluations on margin, probabilities, and design basis accidents are not typical evaluation protocols for emergency plan changes. For example, the No Significant Hazards Consideration (NSHC) poses a number of non-pertinent questions which will involve an equally meaningless response for many types of amendments addressing reductions in effectiveness. Based on several postulated changes potentially meeting the threshold for a reduction in effectiveness, it appears that the environmental impact assessment will be required (e.g. the nature of the changes don't meet the exemption criteria) and this will significantly add to the cost of such amendments. The effect is that this will further discourage licensees from pursuing desirable changes with an overall positive benefit to the health and safety of the public. [Refer to NEI</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
		<p>Comments Enclosure 2, Section B.5]</p> <p>5. Guidance should be provided regarding the handling of changes to establish compliance with the revised rule requirements. Licensee program changes to conform to the revised rule areas for EP should be exempted from the 50.54q evaluation requirements. Furthermore, the 30-day implementation schedule for 50.54(q) is unrealistic given the licensee procedure changes, training requirements and process changes needed. [Refer to NEI Comments Enclosure 2, Section B.5]</p> <p>6. Given the number of comments and significant issues to address, NEI is requesting additional opportunities to review and comment on DG-1237 and need for a Resource Manual. Comments are prematurely requested on DG 1237 given that the actual proposed rule language is also subject to comment. Given the likelihood that the actual rule language could change, an additional comment period is necessary to evaluate this DG content against the finalized rule language.</p>
<p>A. Introduction</p>	<p>No comment.</p>	

<p style="text-align: center;">DG-1237 SECTION/LANGUAGE</p>	<p style="text-align: center;">COMMENT</p>	<p style="text-align: center;">BASIS</p>
<p>B. Discussion</p>	<p>The regulatory requirements are established by the standards. The introduction of the Emergency Planning Functions creates an unnecessary complication of the rule intent. If the standards are unclear, as stated in the FRN Section B, second bullet, then the standards should be revised to make clear the regulatory expectation.</p>	<p>See General Comment #1 above. [Refer to NEI Comments Enclosure 2, Section B.5]</p> <p>If the "emergency planning function" concept is retained but does not require adherence as discussed in the FRN (ref. page 23271 middle of right column), it is unclear what becomes the basis for violations cited by the NRC (i.e., would they be against the "emergency planning function" or against the "planning standard") If the licensee argued that compliance with the standard was maintained, would there be a basis for violation if the NRC inspector felt that the "emergency planning function" was not met.</p>
	<p>DG-1237, pg 4, 2nd bullet which defines reduction in effectiveness. Change the sentence to state: "The proposed rule would define "reduction in effectiveness" as a change in an emergency plan that results in a significant reduction of the licensee's capability to meet an emergency planning standard or the requirements of Appendix E in the event of a radiological emergency.</p>	<p>To align with the submitted comment on the rule. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
	<p>DG-1237, pg 4, 2nd bullet which defines "emergency planning standard function." Remove this sentence.</p>	<p>Align with submitted comment on use of emergency planning functions. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
	<p>DG-1237, pg 4, 3rd bullet: Remove reference to 10 CFR 50.90 being the vehicle for applying for emergency plan changes that result in a reduction in effectiveness.</p>	<p>Align with submitted comment on use of LAR process. [Refer to NEI Comments Enclosure 2, Section B.5]</p> <p>The revised rule specification for using the</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
		<p>license amendment process defined in 10 CFR 50.90 is problematic. The regulatory guidance does not recognize emergency planning changes as license amendment requests. The NRC guidance for accepting, reviewing, and processing these types of amendments requires revision. Industry guidance (NEI 06-02) would require extensive revision to include guidance and examples. The regulatory guidance documents need careful review and revision to prevent unintended adverse consequences upon implementation. For example LIC-101 Rev 2 (just issued) would immediately require revision based on its omission of critical characteristics specific to EP amendments submitted under 50.90.</p>
<p>C. Regulatory Position</p>	<p>The use of emergency planning functions as evaluation criteria during 10CFR50.54(q) evaluations is inappropriate.</p> <p>Evaluations of proposed changes to emergency plans should be evaluated against the current emergency planning standards to determine compliance.</p> <p>Several examples of informing criteria are provided in section 1.6. These informing criteria serve to ensure a full review of the planning basis with regard to the licensing basis, when considering changes to emergency plans.</p>	<p>Align with comments on the rule. [Refer to NEI Comments Enclosure 2, Section B.5]</p> <p>Although the discussion of emergency planning functions, as utilized in the Significance Determination Process, is useful in clarifying the basis for determining compliance with the planning standards, evaluation of proposed changes should be evaluated against the regulatory emergency planning standards set forth in 50.47(b). The 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</p>

<p style="text-align: center;">DG-1237 SECTION/LANGUAGE</p>	<p style="text-align: center;">COMMENT</p>	<p style="text-align: center;">BASIS</p>
	<p>Expansion of this section to include the emergency planning functions to clarify the emergency planning standards would be more appropriate.</p>	<p>be in place, to maintain the effectiveness of the emergency plans and the emergency response capability. As such, the planning functions provide value in informing the review process but are not a substitute for the emergency planning standards.</p>
<p>C. 1. General Guidance</p>		
<p>C. 1.1 Relationship between 10 CFR 50.54(q) and the NRC's Reasonable Assurance Finding</p>	<p>DG-1237, pg 5, C.1.1.c: Remove reference to use of the license amendment process (10 CFR 50.90).</p> <p>1.1.c, second sentence: Replace the word "exclude" with "identify". The characteristic "reduction in effectiveness" serves to identify a change which if implemented requires prior NRC review and approval. Those changes are not necessarily excluded, they simply require prior approval.</p> <p>1.1.c, third sentence – delete the phrase "through appropriate analysis" as this adds ambiguity to the context of the discussion. It would bring into question what constitutes "appropriate". The intent of the sentence stands alone with the absence of this phrase.</p> <p>C.1.1.b Delete examples (e.g. "For example, changes that ...). These examples are appropriate later in the guidance document as elaboration on the threshold when discussing the appropriate emergency planning function. They are not critical in establishing the</p>	<p>Align with submitted comment on use of LAR process.</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>Regulatory Position for item 1.1 "Relationship between 10 CFR 50.54(q) and the NRC's Reasonable Assurance Finding."</p> <p>1.1: This section is critical to the successful implementation of the revised 50.54(q) change process. These paragraphs convey the critical concept that preservation of the "reasonable assurance" is the minimum performance standard for any implemented change process. But the first sentence of Section 1.1.c indicates that the process "does not establish whether a proposed change would impact reasonable assurance determinations." The following sentence then discusses the process' determination to have a "minimal impact on the NRC's reasonable assurance determination." This paragraph is confusing. Section 1.1. must clearly establish the "reasonable assurance" delimiter to be used by the licensee to determine when prior NRC review and approval is required.</p>	
<p>C. 1.2 Role of Conservatism in 10 CFR 50.54(q) Change Evaluations</p>	<p>The purpose of this section needs clarification. NEI agrees that conservatism is not always better. However, this section does not provide definition or guidance on application. It is not clear the intention of this section - to address protective action recommendations (PARs) or EAL classifications specifically. If so, this is too narrow of a scope for the general application of</p>	<p>This section should convey the guiding principles and not a specific application. The middle portion of the paragraph begins to define the characteristics and criteria for application of conservatism.</p>

DG-1237 SECTION/LANGUAGE	COMMENT	BASIS
	"conservatism."	
C. 1.3 Role of Probabilistic Risk Assessment Insights in 10 CFR 50.54(q) Change Evaluations		
C. 1.4 Timeliness as an Evaluation Consideration		
	<p>DG-1237, pg 7, C.1.4.a: The example provided at the end of this paragraph states that "for clock stops, ERO augmentation has not met its timeliness requirement until the ERO is actively performing its function (e.g., providing support to the on-shift staff): a "clock stop" prior to this would be premature." Does "ERO actively performing its function" align with the regulatory requirements?</p>	<p>Augmentation requirements are discussed in Table B-1 for 30 and 60 minute responders – where is the regulatory guidance that states the requirement for stopping the clock to be the "ERO actively performing its function"?</p> <p>Is the "clock start/stop" example based on a defined standard communicated in established regulatory guidance? Is there accepted variation in this practice? If so, the issue is the absence of a clear regulatory standard rather than an issue with licensee practices. What is the standard used by the inspectors during observation of drills and exercises?</p> <p>The notification of the ERO in reality takes time. The licensee's personnel cannot be expected to respond until notified. So, the arbitrary standard being imposed of "60 minutes from classification/declaration" imposes timing penalties of up to 15 minutes (time from declaration to actual notification of the ERO). Also, issue with example statement of "the ERO has not met its timeliness requirement until the ERO is actively performing its function". As the ERO reports</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
		<p>to an emergency facility, setup, turnover, briefings, establishment of command and control, in order for that particular facility to "actively commence performing its function", will now have to be factored into the timeliness criteria, further reducing the 60 minute response time.</p>
	<p>DG-1237, pg 7, C.1.4.b: Last sentence uses the terminology planning functions. Replace functions with standards.</p>	<p>Align with comments on the rule. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
<p>C.1.5 Role of Inspection Procedure 71114.01 Findings</p>	<p>DG-1237, pg 7, C.1.5: The last sentence refers to the NRC granting approval through license amendment requests. Recommend the wording be changed to match that used in the rulemaking comments on the same subject.</p>	<p>[Refer to NEI Comments Enclosure 2, Section B.5]</p>
<p>C. 1.6 Role of Facility Licensing Basis</p>	<p>The use of emergency planning functions as evaluation criteria during 10CFR50.54q evaluations is inappropriate.</p> <p>Evaluations of proposed changes to emergency plans should be evaluated against the current emergency planning standards to determine compliance.</p> <p>Several examples of informing criteria are provided in section 1.6. These informing criteria serve to ensure a full review of the planning basis with regard to the licensing basis, when considering changes to emergency plans.</p> <p>Expansion of this section to include the</p>	<p>Although the discussion of emergency planning functions, as utilized in the Significance Determination Process, is useful in clarifying the basis for determining compliance with the planning standards, evaluation of proposed changes should be evaluated against the regulatory emergency planning standards. The 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 plans and the emergency response capability. As such, the planning functions provide value in informing the review process but are not a substitute for the emergency planning</p>

DG-1237 SECTION/LANGUAGE	COMMENT	BASIS
	emergency planning functions to clarify the emergency planning standards would be more appropriate.	standards.
C. 1.7 Role of Emergency Preparedness Cornerstone Performance Indicators	Incorrect interpretation of Appendix E IV.D.3 – "notify all offsite organizations within 15minutes" in DG-1237. Correct the statement to reflect current regulation intent.	Appendix E, IV.D.3. states: "A licensee shall have the capability to notify responsible State and local governmental agencies within 15 minutes after declaring an emergency. " This does not mean to notify ALL agencies and complete the notifications within 15 minutes as the DG-1237 infers.
2 EMERGENCY PLAN CHANGES FOR WHICH PRIOR NRC REVIEW IS RECOMMENDED	In section 1.5a, an example of timeliness criteria is provided for establishing ERO augmentation that while the EP Inspectors attempt to hold licensee's to, is not clearly indicated in planning standards and was not well thought out in the initial implementation.	The current "expected" standard for ERO augmentation is 60 minutes from time of classification (not defined anywhere except in inspection modules), which imposes additional criteria on the licensee. C.2.f is apparently imposing additional requirements on submittals to the NRC. The requirement to submit "updates to evacuation time estimates". Based upon this, updates to the ETE's as a result of the availability of new census data (every 10 years) will require all licensee to submit the updated ETE for approval from the NRC prior to its being available for use, delaying the updated information, even if there has been no significant change.
	C.2, first paragraph , first sentence – "submitted to the NRC for review and approval under 50.4" – What does this mean? Elsewhere in the rulemaking basis, 50.4 was described as an inadequate basis for approving changes involving reductions in effectiveness.	

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>For the examples given here, why is it acceptable? Isn't this section an admission that the regulatory criteria for differentiating change involving a reduction in effectiveness from one not involving a reduction in effectiveness is inadequate? If the regulatory criteria is clear to both the Staff and the licensee, then this section is not needed. NEI recommends that this section be rewritten to provide the actual regulatory basis for the acceptance criteria and that licensees use this to make their determinations.</p>	
	<p>Section C.2.f – Delete the expectation for requesting review and approval under 50.4 for updated evacuation time estimates. Since separate regulatory guidance is being promulgated for this activity, there is no value added to the process by submitting this for "review and approval"? If completed consistent with the regulatory standard, there should not be any approval needed.</p>	
	<p>Section C.2.b – replace "(see 10 CFR 26.4(a)(2) and (c))" with reference to 10 CFR Part 26.</p>	<p>The specific paragraphs referenced define the population of individual's subject to Subpart I work hour controls. Part 26.205 imposes the work hour limitations. Based on current implementation issues with the current rule and the existing necessity of further rulemaking involving Subpart I, NEI proposes that this reference be made generic to preclude future conflicts when the rule is</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
		revised.
<p>3 EMERGENCY PLAN CHANGE EVALUATION TERMINOLOGY</p>		
<p>3.1 Planning Standard</p>	<p>As stated in section 3.1 "The planning standard defines the minimum requirements that onsite and offsite emergency plans are required to meet", thus why is the new term of "emergency planning function" required?</p>	<p>See general comment #1. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
<p>3.2 Emergency Planning Function</p>	<p>The use of emergency planning functions as evaluation criteria during 10CFR50.54q evaluations is inappropriate.</p> <p>Evaluations of proposed changes to emergency plans should be evaluated against the current emergency planning standards to determine compliance.</p> <p>Several examples of informing criteria are provided in section 1.6. These informing criteria serve to ensure a full review of the planning basis with regard to the licensing basis, when considering changes to emergency plans.</p> <p>Expansion of this section to include the emergency planning functions to clarify the emergency planning standards would be more appropriate.</p>	<p>See general comment #1 - Although the discussion of emergency planning functions, as utilized in the Significance Determination Process, is useful in clarifying the basis for determining compliance with the planning standards, evaluation of proposed changes should be evaluated against the regulatory emergency planning standards. The 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 plans and the emergency response capability. As such, the planning functions provide value in informing the review process but are not a substitute for the emergency planning standards.</p>
<p>3.3 Program Element</p>	<p>3.3.b: Relocate this paragraph entirely to Section 5.1 or 5.2 of the Regulatory Guide that provides process implementation guidance.</p>	<p>This paragraph does not directly contribute to establishing the definition of a Regulatory Requirement.</p>

DG-1237 SECTION/LANGUAGE	COMMENT	BASIS
	DG-1237, pg 11, Item 3.3.b: References reduction in effectiveness of the emergency planning function. This should reference emergency planning standard.	Align with comments on the rule. [Refer to NEI Comments Enclosure 2, Section B.5]
3.4 Regulatory Requirement	<p>Per SDP 0609B this is defined as: "REGULATORY REQUIREMENT: As used in this appendix, any EP-related requirement, including the PLANNING STANDARDS of 10 CFR 50.47(b), Appendix E to 10 CFR Part 50, the Emergency Plan, Commission Orders, and other Commitments."</p> <p>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.</p> <p>3.4.b, Relocate this paragraph entirely to Section 5.1 or 5.2 of the Regulatory Guide that provides process implementation guidance. This paragraph does not directly contribute to establishing the definition of a Regulatory Requirement.</p>	<p>Regulatory Requirement definition and the proposed additional information in DG1237 is different than SDO 0609B. How will this be rectified?</p> <p>Regarding the examples: There is a potential overlap between NRC and FEMA regulatory jurisdiction. Per June 2009 public meetings FEMA transcript: <u>Question:</u> Can you clarify the applicability of 44 CFR 350.14 versus 10 CFR 50.54(q) as they apply to emergency notification ANS Design Reports <u>NRC Response:</u> This is a good comment for submission via www.regulations.gov. The NRC will consider developing additional clarification on this particular topic, but welcomes any specific recommendations or ideas.</p>
3.5 Emergency Plans	3.5 [definition, second sentence] – This definition is structurally flawed. There can only be one Emergency Plan. Delete second sentence.	This definition would have multiple historical plans simultaneously in effect. Aligns with rule comments. [Refer to NEI Comments Enclosure 2, Section B.5]
	DG-1237, pg 11, Item 3.5: Definition of	Align with comment on the rule. [Refer to

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>Emergency Plans uses "methods for maintaining and performing emergency planning functions." This should be changed to emergency planning standards.</p>	<p>NEI Comments Enclosure 2, Section B.5]</p>
	<p>DG-1237, pg 11, Item 3.5.a: References emergency planning functions. Change to standards.</p>	<p>Align with comment on the rule. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
	<p>3.5.a and b [and elsewhere] – There exist numerous discontinuities in the guidance with respect to the application of the "change" (ref. section 3.6). Part of the time, the text presents a "change" as being the effect the activity has on the physical Emergency Plan document while frequently the text provides examples of changes based on the attribute of the activity and not its effect on the Emergency Plan.</p>	<p>NEI suggests that the change be provided in the context of the activity being evaluated comparable to the process used in the 10 CFR 50.59 review process. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
	<p>Section 3.5.d – Delete this paragraph in its entirety.</p>	<p>The criteria must be established to define a regulatory standard that defines a minimum level of performance. The requirement or expectation to aggregate activities and evaluate incremental changes is unworkable. More importantly, this is unnecessary given that the planning standard will either be met or not met and according to 10 CFR 50.47, this is the required acceptance standard.</p> <p>If this remains in the text, then incremental conservatisms added at licensee discretion must be credited to the licensee and kept available for reduction without being</p>

<p style="text-align: center;">DG-1237 SECTION/LANGUAGE</p>	<p style="text-align: center;">COMMENT</p>	<p style="text-align: center;">BASIS</p>
<p>3.6 Change</p>	<p>There exist numerous discontinuities in the guidance with respect to the application of the "change" (ref. section 3.6).</p>	<p>considered a reduction in effectiveness. Example of inconsistencies - the text presents a "change" as being the effect the activity has on the physical Emergency Plan document while frequently the text provides examples of changes based on the attribute of the activity and not its effect on the Emergency Plan. The change should be provided in the context of the activity being evaluated comparable to the process used in the 10 CFR 50.59 review process. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
	<p>DG-1237, pg 12, Item 3.6: Definition of Change references emergency planning functions. Change to standards. 3.6. a: Use of term emergency planning functions. 3.6.b: Use of term emergency planning functions.</p>	<p>Align with comment on the rule. [Refer to NEI Comments Enclosure 2, Section B.5]</p>
	<p>3.6.b – This paragraph should be corrected and relocated to the implementation guidance of Section 5.1.</p>	<p>After previous comment above is incorporated, since this content is process guidance used to implement the change screening process and should be located in the appropriate portion of Section 5.0</p>
	<p>3.6.b - after its relocation to section 5.0, this paragraph should be broken into separate discussions regarding the treatment of recognized degraded/nonconforming conditions versus planned activities such as maintenance. The current paragraph mixes multiple concepts.</p>	<p>For example, a degraded or nonconforming condition would be addressed through the CAP program. The guidance communicated in RIS 2005-20 and Inspection Manual Part 9900- Technical Guidance related to Operability and Functionality Determinations addresses this subject adequately. Clear guidance similar to that in the 50.59 guidance</p>

<p style="text-align: center;">DG-1237 SECTION/LANGUAGE</p>	<p style="text-align: center;">COMMENT</p>	<p style="text-align: center;">BASIS</p>
		<p>(NEI 96-07 Rev 1) should be established that the 50.54q evaluation focuses on the change activity and not the degraded condition itself (ref. sentence "The licensee should perform a ..."). Thus, those compensatory actions taken for an interim period to address a degraded or nonconforming condition should virtually always screen out.</p>
	<p>3.6.c – the definitions for <i>Resources</i>, <i>Capabilities</i>, and <i>Methods</i> should be stand-alone definitions (i.e., their own 3.x sections) given their critical contribution to the change screening process.</p>	
	<p>3.6.d - this section be deleted and relocated to the Section 5 implementation guidance.</p>	<p>Its presence is not needed to establish the definition of a <i>change</i>. It is useful in ensuring that licensees have an obligation to understand the potential impact the change has on other license basis documents.</p>
<p>3.7 Reduction in Effectiveness</p>	<p>Revise definition consistent with comment on rule: <i>Reduction in effectiveness</i> means a change in an emergency plan that results in a significant reduction of the licensee's capability to meet an emergency planning standard or the requirements of Appendix E in the event of a radiological emergency.</p>	<p>Aligns with current comment on rule as stated below [Refer to NEI Comments Enclosure 2, Section B.5]: This proposed modification will allow licensees to make changes to emergency plans that have only minimal effects on their capability to meet the regulatory requirements (i.e., § 50.47(b) and Appendix E). At the same time, it will allow for prior NRC review and approval of changes that will significantly affect the licensee's capability to meet the regulatory requirements. The</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
		<p>proposed modification allows for an appropriate level of change control oversight by the NRC, without introducing the term "emergency planning function" into the regulations.</p> <p>The types of changes that result in a "significant reduction" in capability should be articulated in guidance (e.g., DG-1237). For example, NUREG-0654 provides the demonstration criteria for the 50.47(b) planning standards. A licensee can change how they demonstrate/meet the planning standards without it being a "significant reduction in capability".</p> <p>This proposed modification also uses regulatory language that is consistent with other change control provisions, which have been successfully implemented by licensees. For example, § 50.59 uses the term "more than minimal increase" and § 50.92 discusses significant reductions in margin of safety.</p> <p>This comment is consistent with proposed definition of "change".</p>
	<p>DG-1237, pg 13, Item 3.7: Definition of Reduction in Effectiveness needs to be changed to align with previous comments on the rule. 3.7.a: Use of term emergency planning functions is inappropriate per previous comments noted.</p>	<p>Align with comment on the rule. [Refer to NEI Comments Enclosure 2, Section B.5]</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>3.7.a – the definition of <i>Capabilities</i> should be deleted and reference given to the prior definition 3.7.a - the definition of <i>Emergency</i> should be made a stand-alone definition.</p>	
<p>4 EMERGENCY PLANNING FUNCTIONS</p>	<p>Based on the 09/17/09 NRC public meeting comment, section 4 should be divided into two (2) categories – one that applies to operating power reactors and one that applies to non-power reactors.</p> <p>Thus, for operating power reactors, Section 4 should contain discussions on significant reduction in effectiveness to meet a Planning Standard AND non-power reactors should have a Section on emergency planning functions.</p> <p>NEI and industry request a future opportunity to provide comments on “significant reduction in effectiveness” for each of the planning standards listed in Section 4.1 – 4.16 below.</p> <p>Replace Emergency Planning Functions with the Emergency Planning Standards. The regulatory requirements are established by the standards. The introduction of the Emergency Planning Functions creates an unnecessary complication of the rule intent. If the standards are unclear, as stated in Section B, second bullet, then the standards should be revised to make clear the regulatory expectation.</p>	<p>NRC stated that the planning standards don't apply to non-power reactors and further don't address the Appendix E requirements. The NRC stated that the emergency planning function is an “evaluation approach.”</p> <p>The change examples in this section should be deleted and relocated to a Resource Manual. This provides clarity of purpose for this section by separating the definitions from the examples of items constituting a change.</p> <p>[Refer to NEI Comments Enclosure 2, Section B.5]</p>
<p>4.1 10 CFR 50.47(b)(1), Assignment of</p>	<p>See general comment for Section 4</p>	

<p style="text-align: center;">DG-1237 SECTION/LANGUAGE</p>	<p style="text-align: center;">COMMENT</p>	<p style="text-align: center;">BASIS</p>
Responsibility/Organizational Control		
4.2 10 CFR 50.47(b)(2), Onsite Emergency Organization	See general comment for Section 4	
4.3 10 CFR 50.47(b)(3), Emergency Response Support and Resources	See general comment for Section 4	
4.4 10 CFR 50.47(b)(4), Emergency Classification System	See general comment for Section 4	
4.5 10 CFR 50.47(b)(5), Emergency Notifications	See general comment for Section 4	
4.6 10 CFR 50.47(b)(6), Emergency Communications	See general comment for Section 4	
4.7 10 CFR 50.47(b)(7), Emergency Public Information	See general comment for Section 4	
4.8 10 CFR 50.47(b)(8), Emergency Facilities and Equipment	See general comment for Section 4	
4.9 10 CFR 50.47(b)(9), Emergency Assessment Capability	See general comment for Section 4	
4.10 10 CFR 50.47(b)(10), Emergency Protective Actions	See general comment for Section 4	
4.11 10 CFR 50.47(b)(11), Emergency Radiological Exposure Control	See general comment for Section 4	
4.12 10 CFR 50.47(b)(12), Emergency Medical Support	See general comment for Section 4	
4.13 10 CFR 50.47(b)(13), Recovery and Reentry Planning	See general comment for Section 4	
4.14 10 CFR 50.47(b)(14), Drill and Exercise Program	See general comment for Section 4	
4.15 10 CFR 50.47(b)(15), Emergency Responder Training	See general comment for Section 4	
4.16 10 CFR 50.47(b)(16), Emergency Plan Maintenance	See general comment for Section 4	
5 EFFECTIVENESS REVIEW PROCESS	5.0 – In the title, remove the word	

<p style="text-align: center;">DG-1237 SECTION/LANGUAGE</p>	<p style="text-align: center;">COMMENT</p>	<p style="text-align: center;">BASIS</p>
	<p>"Effectiveness" since this section's purpose is to convey the overall review process.</p>	
<p>5.1 Screening Changes</p>	<p>More clarity in DG needed on licensee commitment above planning standard(s) to address ability to reduce capability without significantly reducing effectiveness of the emergency plan.</p> <p>5.1, first sentence – recommend removal of the words "to the emergency plans" since the focus is on the "change" activity and not just the plan</p>	<p>Original basis of current commitment is understood and evaluated.</p>
<p>5.2 Evaluation Process</p>	<p>5.2.6 "Pre-application conference"</p>	<p>Historically, staff has been reluctant to provide insights/input or provide any decisions.</p> <p>This paragraph is highly problematic. Although good communication between the Staff and the licensee is encouraged, effective 50.54q review criteria and good guidance should negate the necessity for addressing cases where the "licensee is unsure" of the outcome of the 50.54q review.</p>
	<p>5.2.2, second sentence – This sentence states that "[t]he impact of a proposed change cannot be adequately assessed without knowledge of the rationale for the original structure of the affected program element." As indicated in previous comments, NEI disagrees in the concept of multiple simultaneous "plans" being in effect at the same time. The word "original"</p>	<p>The program should be evaluated against the current license basis. NEI agrees that an understanding of the rationale for the requirement is necessary.</p> <p>[Refer to NEI Comments Enclosure 2, Section B.5]</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>should be deleted.</p>	
	<p>5.2.4, last sentence – replace the word “change” with “reduction in effectiveness.”</p>	
<p>5.3 Approval for Changes That Reduce Effectiveness</p>	<p>Need to reference 10 CFR 51.22.... Has the NRC Staff evaluated the attributes of a license amendment request submitted under 50.90 for their appropriateness to an EP amendment requesting a reduction in effectiveness? For example, the No Significant Hazards Consideration (NSHC) asks a number of non-pertinent questions which will involve an equally meaningless response for many types of amendments addressing reductions in effectiveness.</p>	<p>Based on several postulated changes potentially meeting the threshold for a reduction in effectiveness, it appears that the environmental impact assessment will be required (e.g. the nature of the changes don't meet the exemption criteria) and this will significantly add to the cost of such amendments. The effect is that this will further discourage licensees from pursuing desirable changes with an overall positive benefit to the health and safety of the public.</p>
<p>5.4 Documentation of Changes</p>	<p>5.4, last paragraph – The ambiguity of this paragraph and the NRC Staff's option “to review all emergency plan change that have been made” should be reconciled. If the Staff wants a permanent record of the changes, state that position. This ambiguity leaves the licensee with a regulatory position that the changes do not have to be retain but with a Staff expectation that they be kept.</p> <p>Inconsistency between the requirement contained in paragraph 1, which states records retained for 3 years, and last paragraph which states” it may be prudent to save all emergency plan change documentation to show historical progression of changes, since the NRC reserves the right to review, at any time all emergency plan changes that have been made.</p>	<p>10CFR50.4 states: <i>(5) Emergency plan and related submissions.</i> Written communications as defined in paragraphs (b)(5)(i) through (iii) of this section must be submitted to the NRC's Document Control Desk, with a copy to the appropriate Regional Office, and a copy to the appropriate NRC Resident Inspector if one has been assigned to the site of the facility. If the communication is on paper, the submission to the Document Control Desk must be the signed original. (i) Emergency plan under § 50.34; (ii) Change to an emergency plan under § 50.54(q); (iii) Emergency implementing procedures under appendix E.V of this part.</p>

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>1st paragraph last sentence, "All conclusions made pursuant to 10CFR50.54q should be supported by rationale statements (e.g., "the proposed change does not require prior NRC approval because..."), a simple check-off is not acceptable". This apparently eliminates the use of a screening tool to show that a proposed change does not impact any of the 16 planning standards and, by inference, would require a statement be made for each planning standard indicating why each proposed change does not impact that planning standard item. Submittal of an "analysis" is further not appropriate since the process of review of the 'analysis', i.e., 54(q) evaluation, is part of NRC IP 71114.04. NEI suggest alignment with summarized change and provide documentation similar to the 10 CFR 50.59(d)(2).</p> <p>Change "made" to "implemented" in 1st sentence consistent with comment on proposed rule. [Refer to NEI Comments Enclosure 2, Section B.5]</p>	<p>The Draft Guidance appears to be revising 10CFR50.4 requirements without revising that rule. The addition of the requirement to "submit as specified in 10CFR50.4, Written Communications", a report of each such change within 30 days after the change is made, is a mis-statement. 10CFR50.4 does not require a report, only the items specified (plan, changes to the plan and implementing procedures).</p> <p>The proposed wording in 10CFR50.54q(5) implies that a report be included as required by 10CFR50.4 yet there is no requirement in this section for a report. On page 23272 third column second paragraph, next to last sentence, "The NRC expects that the record of changes would include documentation of the evaluation that determined ..." does not constitute a requirement as indicated in DG1237, and does not contain the words "explicitly identify each change made and the basis for the licensee's determination ...".</p>
<p>D. Implementation</p>	<p>No guidance is provided on implementation of DG 1237 in Section D.</p>	<p>See general comment #3 noted above.</p>
	<p>What is process to revise or rescind RIS 2005-02 after new 54(q) is implemented?</p>	

<p style="text-align: center;">DG-1237 SECTION/LANGUAGE</p>	<p style="text-align: center;">COMMENT</p>	<p style="text-align: center;">BASIS</p>
<p>Regulatory Analysis</p>	<p>No comment</p>	
<p>References</p>	<p>No reference to RIS 2005-02, Rev 0. Absence of this Revision or draft Rev 1 leads to conflicting guidance.</p>	
<p>Appendix A, 10 CFR 50.54(q) Process</p>	<p>Flowchart is flawed and missing key steps. Flowchart is not consistent with proposed rule language.</p>	<p>See comments below.</p>
	<p>Reference to DG sections is needed in flowchart.</p>	
	<p>Flowchart does not align with DG1237 sections.</p>	
	<p>Appendix A, flowchart, third block down – The block includes “complies with regulations”. It is not clear what the intent of this block is.</p>	<p>Determination regarding compliance should be reflected as a decision block.</p>
	<p>Appendix A, flowchart, first block – Using the draft guide’s definition of change, there should first be the determination of whether the activity constitutes a change.</p>	<p>The flowchart establishes whether the activity is first a “change” as defined in the draft guide, then whether screens in or out for evaluation, and then presents the evaluation. Associated with the screening and evaluation should be the criteria for each.</p>
	<p>Appendix A, block containing “Submit for NRC review and approval under 10 CFR 50.4” – Section C.2 describes this as a “recommended” action. Revise the Appendix to</p>	

<p align="center">DG-1237 SECTION/LANGUAGE</p>	<p align="center">COMMENT</p>	<p align="center">BASIS</p>
	<p>reflect this as a recommendation.</p>	
<p>Section C.2, Section 5.1.1 and Appendix A</p>	<p>Section C.2, Section 5.1.1 and Appendix A – These sections all refer to the NRC’s “review and approval” of changes not constituting reductions in effectiveness but strongly suggested for review. These sections indicate that the proposed change is submitted under 10 CFR 50.4. In what form and through what submittal format will the requested change be submitted? If these don’t constitute reductions in effectiveness, what approval is being provided?</p>	

**NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE
RULE AREA: B.6. ADDITIONAL COMMENTS**

NEI has the following additional comments not associated with one of the eleven rulemaking areas, but included in Federal Register/ Vol 74, No 94.

Rule Section	Document Information	Line in /Line out	Basis / Comment
Appendix E to Part 50 – Emergency Planning and Preparedness for Production and Utilization Facilities * * * * * IV. Content of Emergency Plans FR Page 23284	E.5. Arrangements for the services of physicians and other medical personnel qualified to handle radiological emergencies on-site;	E.5. Arrangements for <u>medical service providers</u> the services of physicians and other medical personnel qualified to handle radiological on-site <u>on-site medical</u> emergencies on-site ;	Deleted term “physicians”. Licensee LOAs/MOUs are typically made with medical service providers (e.g., a hospital or clinic), and not individual physicians. Also reworded sentence to improve clarity.
Appendix E to Part 50 – Emergency Planning and Preparedness for Production and Utilization Facilities * * * * * IV. Content of Emergency Plans FR Page 23285	E.9.d. Provisions for communications by the licensee with NRC Headquarters and the appropriate NRC Regional Office Operations Center from the nuclear power reactor control room, the onsite technical support center, and the emergency operations facility. Such communications shall be tested monthly.	E.9.d. Provisions for communications by the licensee with NRC Headquarters and the appropriate NRC Regional Office Operations Center from the nuclear power reactor control room, the onsite technical support center, and the emergency operations facility. Such communications shall be tested monthly.	During an emergency, the licensee notifies the NRC over the Emergency Notification System (ENS). The ENS call is received by personnel at NRC Headquarters. Headquarters personnel then add bridge lines to other NRC response locations such as a Regional Office. The licensee does not call the Regional Office directly. Given this, there is no planning basis for a requirement to perform monthly tests of communications from licensee facilities to the appropriate NRC Regional Office Operations Center. The NRC should be performing this test.

NEI EMERGENCY PREPAREDNESS RULEMAKING COMMENTS
RULE AREA: C.1. RESPONSE TO QUESTION 1, INCLUSION OF NATIONAL INCIDENT
MANAGEMENT SYSTEM/INCIDENT COMMAND SYSTEM IN EP PROGRAMS

Question 1, Inclusion of National Incident Management System/Incident Command System in EP Programs.

The NRC is considering the need to integrate the National Incident Management System (NIMS) and more specifically, the Incident Command System (ICS), into licensee EP programs. On February 28, 2003, President Bush issued Homeland Security Presidential Directive 5 (HSPD-5), which directed DHS to develop and administer NIMS. NIMS/ICS provides a consistent nationwide template to enable all government, private-sector, and NGOs to work together during domestic incidents. HSPD-5 requires Federal departments and agencies to make the adoption of NIMS by State and local organizations a condition for Federal preparedness assistance. Nongovernment entities, such as nuclear power plant licensees, are not required to adopt NIMS. More information about NIMS and ICS may be found at <http://www.fema.gov/emergency/nims/index.shtm>.

Industry Response

A. On-Site ERO Should not Comply with NIMS

Since a nuclear power plant is a non-governmental entity, NIMS should not be mandated as a basis for onsite command and control structure.

The industry has successfully utilized current ERO job descriptions, titles, processes, procedures, training and qualifications for almost 30 years as demonstrated in drills and exercises, and real events. The current industry approach to emergency response incorporates virtually all key NIMS/ICS concepts; it just doesn't use the same nomenclature. To change this time-tested and proven approach to the NIMS/ICS model would result in a significant financial burden without any commensurate increase in emergency response capabilities.

B. Some NIMS Integration is Required

Industry agrees there is a need to integrate the National Incident Management System (NIMS) to some extent and more specifically, the Incident Command System (ICS), into licensee EP programs. Therefore NEI agrees that the new evaluation criterion NRC added to NUREG-0654, Section II.C as proposed in NSIR/DPR-ISG-01 -52- Rev. 0 (Draft) is appropriate:

C.6. Each organization shall make provisions to enable onsite response support from OROs in a hostile action-based incident as needed.

Licensee X___ State X___ Local X___

The need for certain coordination with responding ORO resources was made evident in implementation of the hostile action event drill pilot program. Benefit was gained in:

- Orienting local law enforcement and off site fire response assets to the Owner Controlled and Protected Area layouts.
- Identification of communications paths,
- Providing a site liaison familiar with security, radiation protection and operations to the Incident Command post.

- Training site emergency coordinators required to coordinate with responding ORO on certain fundamental aspects of NIMS and ICS.

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Providing for the timely sharing and release of public information with the Federal Bureau of Investigation (FBI), LLEAs, and OROs during a hostile action event.

NEI EMERGENCY PREPAREDNESS RULEMAKING COMMENTS
RULE AREA: C.2. RESPONSE TO QUESTION 2, SHIFT STAFFING AND AUGMENTATION

Question 2, Shift Staffing and Augmentation

Licensees are required by current § 50.47(b)(2) and Appendix E to Part 50 to maintain an ERO comprising both an on-shift emergency organization and an organization capable of augmenting the shift in a timely manner. However, the regulations state that this shift staffing for emergency response must be “adequate” without providing a definition of “adequate” and are silent with regard to what constitutes a timely augmentation. NUREG-0654 defines the measure of adequacy and divides the ERO augmentation into 30-minute and 60-minute responders. However, the guidance is not succinct, resulting in inconsistencies in ERO shift staffing and augmentation strategies among nuclear power reactor licensees.

In SECY-06-0200, the NRC staff identified shift staffing as an area of concern, noting the challenge in evaluating the adequacy of licensee shift staffing because of the lack of clarity regarding the functional requirements for emergency response. To address this issue, the NRC considered a revision to its regulations to establish functional requirements for the emergency responders instead of focusing on specific emergency responder positions. The NRC also realized that the functional requirements may be dependant upon site- and scenario-specific parameters. Consequently, the NRC attempted to design a performance-based system for identifying shift staffing needs and intended to include it in the development of a broader EP performance-based regulatory regimen. As a result, the shift staffing element was no longer considered in this rulemaking effort.

However, some stakeholders continue to express concern regarding emergency response organization staffing. The NRC recognizes that there is merit in enhancing the regulations to provide clear direction regarding adequate staffing, such as achieving regulatory stability through industry consistency and accommodating technological advancements. Toward that end, the NRC requests comments on whether the NRC should enhance its current regulations to be more explicit in the number of ERO staff necessary for nuclear power plant emergencies. When responding to this question, please consider the following draft staffing table. The table provides proposed staff functions and minimum staffing levels for the on-shift and augmenting emergency response organization. The table modifies the original guidance of NUREG-0654, Table B-1 with lessons learned from several years of EP program inspections by the NRC.

Industry Response

Level of Detail Inappropriate for Regulation

The industry feels that the level of detail presented in the draft staffing table is not appropriate for inclusion in Regulation. Once incorporated into Regulation, the table contents will be difficult change in response to industry or regulatory operating experience, improvements in technology, etc.

It is recommended that the revised staffing guidance be handled in the same manner that the staff is using to modify the NUREG-0654 criteria related to drills and exercises. Specifically, the guidance should be incorporated into NSIR/DPR-ISG-01, Interim Staff Guidance, Emergency Planning for Nuclear Power Plants. This new guidance would supplement existing guidance and may be incorporated into a future update of NUREG-0654. Also, this location would allow the new guidance could be more easily changed, if necessary.

Prior to incorporation, the industry should be afforded an opportunity to meet with the NRC staff to discuss the comments presented below.

Staffing Table with Changes Has Merit.

As discussed in Federal Register / Vol. 74, No. 94, starting on page 23268 (the Federal Register), NUREG-0654 defines criteria used to evaluate the adequacy of Emergency Response Organization (ERO) staffing necessary to meet the requirements of 10 CFR 50.47(b)(2) and related sections in 10 CFR Part 50, Appendix E. More specifically, the Federal Register refers to the on-shift and time-dependent response functions listed in NUREG-0654, Table B-1. A similar discussion is contained in NSIR/DPR-ISG-01, Interim Staff Guidance, Emergency Planning for Nuclear Power Plants.

In the Federal Register, the NRC staff has proposed a modified version of the Table B-1 guidance in an alternate "draft staffing table". This modified Table B-1 incorporates "lessons learned from several years of EP program inspections." The industry believes that many aspects of the proposed draft staffing table are an improvement over the current Table B-1 criteria; however, some additional changes will be necessary to make the table into workable and effective guidance.

As the staff is aware, NUREG-0654 contains no technical basis for the on-shift and augmented staffing criteria contained in Table B-1. The process used to derive the specified response positions (also called "Expertise"), and their associated response times (i.e., On-shift and Capability for Additions), is not discussed. Absent a technical basis, the existing guidance has always been of mixed utility – some aspects of Table B-1 reflect actual emergency response needs and capabilities while others do not.

The draft staffing table proposal repeats the same design flaw as Table B-1 in that the table offers no technical basis for the proposed guidance. Rather, the staff has retained some elements from Table B-1, which had no basis, and made changes which, although ascribed to inspection "lessons learned," again have no documented basis. As currently constructed, the draft staffing table contains some criteria which are arbitrary in nature and not representative of "real world" response timelines.

As noted above, the industry believes that the proposed staffing table presented in Federal Register offers several improvements over the NUREG-0654, Table B-1, and could serve as useful guidance with some additional changes. The most significant enhancement would be to allow each site to base certain staffing commitments on a detailed staffing analysis; the staffing analysis required by the proposed change to 10 CFR 50 Appendix E section A.9 would ideally suit this purpose. A staffing analysis would provide a sound technical basis for commitments that reflect each site's needs and capabilities. The other suggested changes will likewise lead to improved guidance that promotes more effective response efforts.

The industry's proposed enhancements to the draft staffing table are summarized below. Again, the industry should be afforded an opportunity to meet with the NRC staff to discuss these changes prior to implementation of the new table guidance.

<u>On-Shift</u> ¹	<u>Augment w/in 60-min</u> ¹	<u>Augment w/in 90-min</u> ^{1, 2}
Emergency Director (1) (Shift Manager) <i>No comment</i>	Emergency Director (1) (TSC) <i>No comment</i>	Emergency Director (1) (EOF) <i>No comment</i>
Communicator (1) <i>May be assigned as a collateral duty. Acceptability determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	Communicator (1) (TSC) [<i>In addition to the one already on-shift</i>] <i>May be assigned as a collateral duty. Acceptability determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	Communicator (1) (EOF) <i>May be assigned as a collateral duty. Acceptability determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>
N/A	Site Radiation Protection Coordinator (SRPC) (TSC) (1) <i>No comment</i>	Site Radiation Protection Coordinator (SRPC) (EOF) (1) <i>No comment</i>
Qualified Health Physics Personnel (2) ³ (Number determined by staffing analysis) <i>This guidance should not be based on an arbitrary number which does not reflect each site's needs or capabilities. The staffing should be determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	Additional Qualified Health Physics Technicians [<i>In addition to the personnel already on-shift</i>] (OSC) (7) (Number determined by staffing analysis) <i>This guidance should not be based on an arbitrary number which does not reflect each site's needs or capabilities. The staffing should be determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	Additional Qualified Health Physics Technicians [<i>In addition to the personnel already on-site</i>] (OSC) (2) (Number determined by staffing analysis) <i>This guidance should not be based on an arbitrary number which does not reflect each site's needs or capabilities. The staffing should be determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>
Dose Projections (1) <i>May be assigned as a collateral duty. Acceptability determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	Dose Projections (1) (TSC) <i>May be assigned as a collateral duty. Acceptability determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	Dose Projections (1) (EOF) <i>No comment</i>

<u>On-Shift¹</u>	<u>Augment w/in 60-min¹</u>	<u>Augment w/in 90-min^{1, 2}</u>
EAL/PAR classification (1) ⁴ <i>May be assigned as a collateral duty. Acceptability determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	Event Classifications (1) (TSC) <i>May be assigned as a collateral duty. Acceptability determined by staffing analysis (required per 10 CFR 50 Appendix E Section A.9) with adequacy subject to inspection (e.g., in a drill or exercise).</i>	N/A
Core/Thermal Hydraulics Eng (1) ⁴ <i>This is the function of the Shift Technical Advisor. It is not clear why Note 4 is needed.</i>	Core/Thermal Hydraulics/PRA Eng (1) <i>No comment; however, the staff should be aware that many licensees consider, Core/Thermal Hydraulics and PRA to be two separate disciplines.</i>	N/A
Fire Brigade as Defined by Tech Specs or Station Program Requirements <i>Some stations do not define Fire Brigade requirements in their Technical Specifications.</i>	N/A	N/A
N/A	Maintenance (OSC) (1 electrician, 1 mechanic, 1 I&C) OSC Supervisors (4) <i>Reverse the order the responding OSC personnel. The supervisors should arrive first, support OSC activation, receive status updates and job priorities, and make preparations to support subsequent team deployments.</i>	OSC Supervisors (4) Maintenance (OSC) (1 electrician, 1 mechanic, 1 I&C) <i>With the arrival of the OSC Supervisor (1) and OSC Supervisors (4) at 60-minutes, the necessary facility infrastructure will be in place to support the arrival and dispatch of maintenance personnel at 90-minutes.</i>
Ops Crew as Defined by Tech Specs <i>No comment</i>	N/A	N/A
N/A	N/A	IT Lead (TSC) (1) <i>No comment</i>
N/A	N/A	Joint Information Center Manager (JIC) <i>No comment</i>

<u>On-Shift</u>¹	<u>Augment w/in 60-min</u>¹	<u>Augment w/in 90-min</u>^{1, 2}
N/A	On-Site Field Team (1 qualified radiation monitor and, if needed, 1 driver). <i>Some sites do not require a driver for an on-site monitoring team – either the designated survey points are not sufficiently distant to require a vehicle, or the expected level of monitoring does not preclude the monitor from also driving a vehicle.</i>	N/A
N/A	Off-Site Field Team A <i>No comment</i>	Off-Site Field Team B <i>No comment</i>
N/A	TSC Engineering (1) Electrical/I&C (1) Mechanical <i>No comment; however, the staff should be aware that many licensees consider, Electrical and I&C to be two separate disciplines.</i>	N/A
N/A	Lead OSC Supervisor (1) <i>No comment</i>	N/A
N/A	Security Supervisor (TSC) (1) <i>No comment</i>	N/A

Notes:

1. No collateral duties are assigned to an individual that are beyond the capability of that individual to perform at any given time.
2. Specified TSC/OSC personnel must be performing their required functions within 60 (90) minutes of an Alert or higher event classification. Specified EOF/JIC personnel must be performing their required functions within 90 minutes of a Site Area Emergency or higher event classification.
3. Two qualified Health Physics personnel for a single unit site, or one per unit for a multi-unit site.
4. Could be the STA.

NEI EMERGENCY PREPAREDNESS RULEMAKING COMMENTS
RULE AREA: C.3. RESPONSE TO QUESTION 3, 4, AND 5

Question 3, Expand to Non-Power Reactors, the Requirement for Detailed Analysis for On-Shift Personnel.

Expanding to non-power reactor licensees a requirement for detailed analyses demonstrating timely performance of emergency response functions by on-shift personnel. The NRC is proposing to require nuclear power reactor licensees to demonstrate through detailed analyses that on-shift personnel can perform all assigned emergency plan implementation functions without having competing responsibilities that could prevent them from performing their emergency plan functions. The NRC is seeking comments on whether it is necessary to add a requirement for non-power reactor licensees (i.e., research and test reactor licensees) to include in their emergency plans detailed analyses demonstrating that on-shift personnel can perform assigned emergency plan implementation functions in a timely manner without having competing responsibilities that could prevent them from performing their emergency plan functions.

Question 4, Expand to Non-Power Reactors, the Requirement to Declare an Emergency Condition in 15 Minutes.

Expanding to non-power reactor licensees a requirement for the capability to assess, classify, and declare an emergency condition within 15 minutes and a requirement to promptly declare an emergency condition. The NRC proposes to require nuclear power reactor licensees to establish and maintain the capability to assess, condition within 15 minutes after the availability of indications to plant operators that an EAL has been exceeded, and to also require that an emergency condition be promptly declared as soon as possible following a determination that an EAL has been exceeded. The NRC is considering whether it is necessary to add the emergency declaration timeliness criteria for non-power reactor licensees. The NRC is seeking comments on whether to issue regulations requiring that non-power reactor licensees meet these criteria.

Question 5, Expanding to Non-Power Reactors, a Requirement for Hostile Action Event EALs.

Expanding to non-power reactor licensees a requirement for hostile action event EALs. The NRC is proposing that EALs for nuclear power plants must address hostile action events. The proposed rule regarding EALs would not apply to non-power reactors because the EALs for these reactors are generally based on projected or actual offsite dose and not an initiating event. However, hostile action directed toward a non-power reactor is an initiating event that could conceivably cause an offsite dose. The NRC is seeking comments on whether the NRC should issue regulations requiring that non-power reactor licensees include hostile action event EALs in their emergency plans.

NEI Response

NEI agrees with the comments on questions 3, 4 and 5 that were submitted by:

- University of Missouri Research Reactor (MURR) on August 3, 2009

Oregon State University Radiation Center on July 27, 2009

NEI EMERGENCY PREPAREDNESS RULEMAKING COMMENTS
RULE AREA: C.6. EFFECTIVE DATE OF RULE

Question 6, Effective Date

This question reads as follows:

“As proposed, the effective date of this rule would be 30 days after publication of the final rule in the **Federal Register**, with an option for a licensee or applicant to defer implementation until 180 days after publication of the final rule in the **Federal Register** (with certain exceptions). The NRC is concerned that combined license (COL) and early site permit (ESP) applicants would need to submit timely revisions to docketed applications, to avoid schedule impacts to application reviews, in order to comply with the proposed amendments should they become final before the staff’s licensing review is complete. The NRC is seeking comments on how COL and ESP applicants would implement this rule as proposed, including any impacts to the process and schedule for the applicant to submit and the NRC to review those revisions to COL or ESP applications.” 74 Fed. Reg. 23,270.

NEI Response to Question 6

NEI shares the Commission’s concerns that application of the new Emergency Preparedness requirements to pending early site permit (ESP) and combined license (COL) applications could result in schedule impacts to the application reviews. The NRC rulemaking amending its Emergency Preparedness regulations is anticipated to become final in 2010-2011. In this time frame, the NRC will be reviewing many of the pending COL applications. Indeed, some of these pending COL applications will be in the final stages of the NRC license review process, with final safety evaluation reports (SERs) issued and mandatory hearings perhaps in progress. Requiring any new plant applicants to amend their emergency planning submittals to address new requirements promulgated in the EP rule amendments could substantially delay these licensing proceedings. Considering the time that might be required for an applicant to develop information responsive to the new rule and amend its COL application, the additional time needed for the NRC Staff to evaluate this revised information and prepare an amended SER, and the potential impact on licensing hearings, application of the new rule to pending applications could delay COL issuance by one to two years.

To avoid the disruption and potentially significant delay to pending COL and ESP proceedings, NEI respectfully submits that applications for COLs and ESPs pending when the final EP rule is published should not be required to revise their applications (although such applicants might elect to do so). Instead, the Commission should give such pending applicants the flexibility to defer addressing the new requirements until after issuance of their licenses.

NEI’s proposed approach is permissible and appropriate for a number of reasons. Foremost, the Commission has determined that the existing emergency planning basis remains valid (see 74 Fed. Reg. at 23,255). The Commission also has determined that the new requirements in the proposed rule are considered enhancements that are not necessary to ensure adequate protection (id. at 23,256). Therefore, compliance with the current regulations provides an adequate basis for approving the issuance of pending COL and ESP applications. In addition, because of the construction period that will follow COL issuance, new nuclear plants will not begin operating for several years after a COL is issued. Thus, there is no actual safety impact in allowing pending applicants to defer implementation of the new EP rules until after issuance of their licenses. Further, certain actions that may be necessary to implement the new rules, such as procurement of siren equipment and selection of equipment to finalize Emergency Action Levels, will occur after COL issuance. Finally, because of milestones for financial incentives such as production tax credits and

other commercial considerations, delays in the issuance of pending applications could have significant adverse consequences on the applicants and projects.

For these reasons, NEI recommends that the Commission allow applicants whose COL and ESP applications are pending when the final EP amendments are promulgated to defer addressing and implementing any new requirements until after issuance of the COL or ESP as applicable. Pending ESP applicants would be expected to address the new EP requirements in any COL application referencing the ESP that is filed after the effective date of the rule. Pending COL applicants would be expected to implement the new EP requirements, using established NRC processes, prior to the initial emergency planning exercise for the new unit(s). This schedule would allow full evaluation of the COL holder's implementation of the new EP requirements during the initial emergency planning exercise and prior to facility fuel load.

To specifically address this concern, NEI proposes that the final rule should provide:

For a combined license (COL) application pending on the effective date of this rule, the requirements in this final rule shall become applicable after issuance of the COL. For an early site permit (ESP) application pending on the effective date of this rule, the applicant shall address the new EP requirements either in the ESP application or in any COL application referencing the ESP that is filed after the effective date of the rule. With respect to any reactor for which a COL application is pending on the effective date of this rule, the requirements of this rule shall be implemented prior to the initial emergency planning exercise for such unit.

We leave to the NRC's discretion where to add this or equivalent language to the final rule. NEI is willing to work with the NRC staff to develop any specific implementing guidance language needed on this issue.

NEI EMERGENCY PREPAREDNESS RULEMAKING COMMENTS
RULE AREA: C.7. IMPLEMENTATION SCHEDULE

Question 7, Implementation Schedule:

As proposed, each element of the proposed rule would be implemented on a schedule that may vary from approximately 30 days to 3 years. The wide variance in the proposed implementation schedule is a result of the varying degree of difficulty and scheduling problems for some elements including the need for analysis, development of processes, procurement of equipment/facilities, and/or coordination with offsite response organizations. The NRC is concerned that the proposed implementation schedule may not be appropriate for some offsite response organizations and licensees. The NRC is seeking comments regarding appropriateness of the proposed implementation schedule.

Industry Response:

Based on a review of each section of the proposed rule, the industry recommendation for implementation is 3 years. This recommendation is based on the results of industry surveys used to determine if specific areas of the proposed rule require changes to:

- currently implemented procedures,
- facilities
- equipment
- training
- vendor availability

An option to this recommendation is to have licensees docket their implementation schedule. This would allow for revisions based on evolution of events as well as provide licensees the ability to appropriately budget the resources needed. Below is a discussion of the impacts to the industry for each area of the proposed rule. The most significant impact was noted in areas where budgetary processes require long range planning such as facility modifications, additional staffing or concurrence of Offsite Response Organizations.

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
IV. A. Organization, On Shift Staffing	"All nuclear power plant licensees under this part and Part 52 must provide a detailed analysis demonstrating that on-shift personnel assigned emergency plan implementation functions are not assigned any responsibilities that would prevent the timely performance of their assigned functions as specified in the emergency plan"	36 months	Licensee responses to the survey are based on: 1) Time and resource intense processes for conducting a station specific detailed analysis of on-shift personnel demonstrating assigned EP functions in a timely manner, 2) Potential budget approval for increased staffing, 3) Time for recruiting and hiring additional staffing, 4) Time to train and qualify additional staffing and 5) Potential shortages of qualified individuals to fill various positions due to the industry competing for the same resources.
ISG section IV.C Proposed Guidance, page 13, On Shift Staffing	<ul style="list-style-type: none"> • Define the spectrum of accidents that the analysis will consider • Perform a detailed analysis such as job/task analysis or time motion study .. to identify .. actions that on-shift personnel must perform during the first 30 minutes of the event • Consider the major functional areas and tasks listed in NUREG-0654 • Compare current minimum on-shift staffing levels with levels determined necessary to cope with define spectrum of accidents • Document results for NRC inspection 		

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
IV. C. Activation of Emergency Organization, 2. Classification Timeliness	"All nuclear power plant licensees and applicants under this part and Part 52 shall establish and maintain the capability to assess, classify, and declare an emergency condition promptly within 15 minutes after the availability of indications to plant operators that an emergency action level has been, or may be, exceeded."	12 months	Although all/most licensees are at a minimum operating within the guidance of NEI 99-02, a timeframe should be allotted for a review of procedures, protocols, training and expectations to ensure existing strategies are robust, capable and have acceptable margins, where considered applicable, to meet the proposed regulatory requirement.
ISG Section IV. H, Emergency Declaration Timeliness, page 31, Classification Timeliness	The emergency declaration period commences when indication of an off-normal condition is available to plant operators to recognize that an EAL threshold has been exceeded and that an emergency declaration is warranted.		Licensees may consider persons other than principal decision makers or those having classification responsibilities when analyzing implementation protocols. Licensees may consider the examination of processes, communication protocols and emergency action level recognition profiles for other personnel within the classification pathway, as a consideration of margin, ensuring that the 15 minute criterion can be met. Twelve months would enable normal training cycles to incorporate new material, if applicable or reinforce current expectations.
IV. D., Notification Procedures (ANS)	"The licensee shall identify and demonstrate that the State or local officials have both the administrative and physical means for a backup method of public notification capable of being used in the event the primary method is unavailable."	36 months	This timeframe will allow for determination of the most appropriate alert and notification backup methods, revision to letters of agreement with Offsite Response Organizations, development and approval of implementation procedures, training for offsite response organizations, and submittal to FEMA for inclusion into the AND design

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
ISG Section IV.J, Backup Means for Alert and Notification Systems, page 43	At a minimum it is expected that the backup means would be capable of alerting and notifying populations at the highest risk of potential adverse health effects, such as those nearest the site and in downwind sectors, so that offsite protective options would remain viable.		
IV. E., Emergency Facilities and Equipment 8.d (Alternate Facilities)	For all nuclear power plant licensees and applicants under this part and Part 52, an alternate facility (or facilities) capable of performing the following functions: staging of onsite responders, offsite notifications, and repair team preparation, for use when onsite emergency facilities cannot be safely accessed during a hostile action event."	36 months	Due to the need to upgrade some facilities, amend letters of agreement, or to potentially purchase/construct a new facility, extended time is necessary to adequately plan and budget for these expenditures. In some cases, the facilities currently utilized do not fully meet the requirements of the proposed rule for availability of computer links. Establishing this capability will require some licensees make facility changes under the site modification process.
ISG IV.D. Emergency Response Organization Augmentation at Alternative Facility, page 15	<ul style="list-style-type: none"> • Accessibility even if the site is under attack • Communication links with the EOF, CR and Security personnel • Capability to perform offsite notifications of a plant emergency • Capability for engineering assessment activities, including damage control team planning and preparation. 		

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
IV. Content of Emergency Plans (ETE)	Evacuation time estimates (ETEs) and updates to the ETEs must be provided to State and local government authorities for use in developing protective action strategies. Within 180 days of the issuance of the decennial census data by the US Census Bureau, nuclear power reactor licensees and license applicants shall develop an ETE and submit it to the NRC for review and approval under 50.4. If at any time during the decennial period, the population that formed the basis for the licensee's currently approved ETE changes significantly, the EE must be updated to reflect the impact of that population change. This updated ETE must be submitted to the NRC for review and approval under 50.4 no later than 180 days after issuance of the US Census Bureau's Subcounty Population Datasets or other government population growth estimate upon which the ETE is based.	12 months	One of the challenges is to submit the completed ETE 180 days after the issuance of the decennial census data. Some plants wait for more subsets of the census for inclusion in the ETE study. Also, the local and state agencies are involved in incorporation of special populations and transient population data into the study and all of this is hard to incorporate into a final study with appropriate review within 180 days. With only a handful of vendors for all plants to use, it would be hard to complete that many ETEs in the nation within 180 days. A year after the release of appropriate Census data would be more manageable and result in a more complete and thorough ETE review and analysis.
ISG IV. B.3, Updating of Evacuation Time Estimates, page 7	See guidance under NUREG/CR-[TBD], "Criteria for Development of Evacuation Time Estimate Studies," ADAMS # ML090560622		

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
IV.A.7 Organization, (ORO)	Nuclear power plant licensees shall ensure that offsite response organization resources (e.g., local law enforcement, firefighting, medical assistance) are available to respond to an emergency including a hostile action event at the nuclear power plant site.	24 months	The licensees' responses to the survey are based on potential changes required in existing Letters of Agreement. These changes would need to address inclusion of provisions for notification, activation, training and maintenance of duty rosters for offsite response organizations. Additional time is needed for agreement negotiations, reviews of plans and procedures for potential revisions, as well as the time required for Offsite Response Organizations to develop and implement the processes needed to support the additional requirements.
ISG IV.E, Licensee Coordination with Offsite Response Organizations, page 19	<p>Licensees should complete the following actions to verify that adequate ORO resources would be available:</p> <ul style="list-style-type: none"> • Review ORO resources with offsite officials to verify alternate resources have been identified for use during hostile action events • Verify with offsite officials that mutual aid or other agreements for alternate resources are in effect • Verify that ORO plans and/or procedures have been updated to document arrangements for alternate resources • Update licensee agreements with ORO's as needed. 		

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
IV. F. 2.I. Training, Onsite Protective Actions During Hostile Action Events	For all nuclear power plant licensees under this part and Part 52, a range of protective actions to protect onsite personnel during hostile action events must be developed.	90 days	While the majority of the new rule making language was implemented under the recommendations in Bulletin 2005-02, survey results indicated that additional time would be needed to fully implement the proposed rule. Specific areas were identified by utilities as needing additional review. For example, site evacuation by opening security gates and the arrangements for accounting for personnel after an attack were identified as needing additional review.
ISG IV. F, Protective Actions for Onsite Personnel, page 21	Licensees should consider developing a decision making tool to aid the shift manager in rapidly determining the best protective action for onsite personnel: <ul style="list-style-type: none"> • Evacuation of personnel from target buildings, including security personnel • Site evacuation by opening security gates • Dispersal of licensed operators • Sheltering of personnel in structures away from potential target sites • Arrangements for accounting for personnel after the attack 		
IV. B.1. Assessment Actions, (Security EALs)	These action levels must include hostile action events that may adversely affect the nuclear power plant	36 months	This section of the proposed rule is linked to the NEI proposal to the NRC for generic approval for sites to move from their existing security related EALs to 99-01 Revision 5

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
ISG V.B.1, Emergency Action Levels for Security Events, page 6	The NRC staff determined that Revision 5 of NEI 99-01 was acceptable for use as a methodology to develop an EAL scheme. Previously provided guidance includes BL-05-02 and RIS 2006-12.		security EAL criteria. If the NRC accepts this proposal, the timeline may be significantly reduced. Should the proposal not be accepted, each licensee may be required to submit for prior approval. NRC prior approval for an EAL change typically takes 24 months. Following approval, the licensee should be allowed some administrative and training and drill time before implementation.
50.54 Conditions of Licenses ISG IV.B.2, Amended Emergency Plan Change Process, page 7	Per draft Reg Guide DG-1237, "Guidance on Making Changes to Emergency Response Plans for Nuclear Power Reactors" ADAMS # ML090080534 COLA Sites	12 months Based on time of license approval	Development of administrative procedures and processes to address implementation of the amendment process as it will apply to submittal of Emergency Plans. Additionally, training on the new procedures will be required as part of the implementation process.
IV.G, Challenging Drills and Exercises, Proposed Guidance	The guidance makes several references to new criteria intended to ensure varied scenario content, and to preclude or minimize predictability. Related guidance on this subject is presented in NRC Inspection Procedure 71114.01.	6 months	Implementation will require revisions to each site's emergency plan and drill and exercise program guidance documents (e.g., procedures, schedules, tracking aids, etc.). The timing of a new exercise cycle requirements must be negotiated with appropriate Federal, State and local

Rule Language/ ISG Section	Document information	Recommendation for implementation schedule	Basis / Comment
ISG IV. G, Challenging Drills and Exercises, page 27	<ul style="list-style-type: none"> • Hostile action directed at the site • No radiological release or unplanned minimal radiological release that does not require offsite public protective actions • Initial classification or rapid escalation to SAE or GE • Implementation of strategies under 50.54(hh) • Submittal of exercise scenarios to the NRC 		stakeholders.

NEI COMMENTS ON NUREG-0654/FEMA-REP-1, SUPPLEMENT 4**Overview**

The NRC and FEMA's jointly released NUREG-0654/FEMA-REP-1, Supplement 4 addresses four emerging issues: (1) preparing for and responding to hostile action-based (HAB) events at NPPs; (2) enhancing scenario realism and reducing negative training and pre-conditioned responses of exercise participants; (3) aligning the offsite Radiological Preparedness (REP) Program with national preparedness initiatives under Homeland Security Presidential Directives (HSPD) 5 and 8; (4) ensuring backup means are in place for alert and notification systems.

The scope of the document states that, "although licensees and applicants may consult this document for informational purposes, this supplement provides guidance to State, local and tribal governments and OROs with respect to preparing offsite plans and conducting exercises in a manner that will be found acceptable to FEMA and the NRC. Requirements and Guidance for licensees and applicants on the issues addressed in this supplement are contained in NRC regulations in 10CFR part 50 and NRC NSIR/DPR-ISG-01...." With that, a large portion of the comments found in this Enclosure 4 are also included in the corresponding rule area comment submittals found in Enclosures 1 and 2.

Section II: Integration of National Preparedness Initiatives into ORO Response Plans and Activities

This section states that "ORO plans and procedures should also reflect any relevant impacts of Federal capabilities depicted in the NRF.....". NEI proposes that this direction to OROs to reflect relevant impacts of the Federal capabilities as depicted in the NRF and component documents (such as the National Preparedness Guidelines) is appropriate. However, this direction as presented here amplifies a contradiction that is presented in the NRC ISG. The ISG is very explicit in details surrounding the verification of ORO resources in the event of a hostile action against a nuclear power plant (NPP). The ISG implies that HAB events are the only contingency that could strain ORO resources at the onset of an event at a NPP and assumes insufficient resources would be available during an HAB event. As such, the ISG is in direct contrast with the goal of the Presidential Directives to integrate the management of domestic incidents and proposes a separate and distinct set of expectations for OROs that is promulgated through guidance directed toward licensees.

According to this integration initiative, the National Preparedness Guidelines and subordinate documents provide the appropriate guidance to OROs to ensure the appropriate methods (e.g. Emergency Management Assistance Compact (EMAC)) are employed obtain additional resources and assets for any contingency. NEI submits that this guidance under the National Preparedness Initiative that seeks to establish a unified and coordinated approach to all-hazards preparedness and response is a positive and constructive shift from REP as a stand-alone program and process to protect the health and safety of the public. However, the dissonance between this initiative and the ISG proposed by the NRC needs to be resolved by FEMA and the NRC. [See comments under Section III Planning and Preparing for HAB Events and Section IV., Challenging Drills and Exercises]

Page 4 states that, "the NEP was developed to test collective preparedness, interoperability, and collaboration across all levels of government and the private sector; it incorporates HSEEP as the policy and guidance for exercise design, conduct, and evaluation." Yet, NRC proposed changes to 10CFR Part 50, Appendix E, Section IV, the NRC ISG, and NUREG-0654, Supplement 4, Section IV deviates from the HSEEP principle of objective-driven scenarios. These proposed changes have

added several scenario variables that will be required for inclusion into scenarios over the six-year planning cycle. NEI submits that the consequence of requiring scenario elements as outlined is a scenario driven exercise as opposed to an exercise that, according to HSEEP, should be focused on capabilities and performance needs. (See comments under Section IV, Challenging Drills and Exercises)

NEI recommends that the NRC and FEMA resolve this incongruence between the National Directive regarding the integration of the REP program into NRF (including HSEEP) and proposed guidance that seems to oppose this initiative.

Section III: Planning and Preparedness for HAB Events

This section introduces new Evaluation Criterion C.6:

C.6. Each organization shall make provisions to enable onsite response support from OROs in a hostile action-based incident as needed.

NEI recommends that this criterion should stand alone and the associated discussion should be deleted. The implied implementation contained in the discussion of this criterion is impractical.

The proposed implementation of criterion C.6 would introduce new and significant regulatory burden and associated costs, without any commensurate increase in the ability to protect public health and safety. This criterion, and the associated proposed change to 10 CFR 50, Appendix E, Section IV.A.7, essentially deal with the question of “backfilling” public safety personnel who may be assigned dual response roles – one at the NPP and one supporting the offsite response plan for the NPP.

Moreover, public safety agencies already have agreements, pacts, etc. that enable them to get the support and resources when they need them from any available resource. This is what they execute every day for ANY event that consumes first responder resources. This is already a principle of NIMS/ICS, as part of the response capabilities for Incident Command and EOC Management.

This section contains a similar statement as found in the draft NRC ISG:

“However, an HAB event will place increased demands on OROs, who will be expected to implement portions of State and local plans, such as traffic control points, route alerting, etc., as well as respond to potential hostile activities at the NPP site and potential simultaneous offsite hostile activities. This situation could detract from State and local emergency response if plans have not been revised to address this contingency.”

As presented in NEI’s comments on the NRC ISG in Rule Area A.4 (Reference Enclosure 1), the same comment applies in this context. This statement assumes that EPZ police, fire and emergency medical resources would be consumed by such a hostile action and would be unavailable to support offsite protective actions. This is not necessarily the case. In some situations local public safety resources would not be consumed in a response to a hostile action at the plant. For example LLEA resources could include the local incident commander and specialized SWAT units made up of tactically trained personnel from many area law enforcement agencies (both EPZ and non-EPZ). For the most part, local public emergency response personnel would remain in place in their local communities. In addition, this passage seems to assume that evacuation would be necessary in the event of a hostile action event.

NEI also recommends that FEMA develop planning guidance for offsite authorities to direct the public to take shelter in the event of a hostile action event and to remain cognizant of conditions (i.e., listen to EAS broadcast) and additional public protective action instructions as the event develops.

Section IV: Challenging Drills and Exercises

This section contains much of the same direction that was provided to licensees in the NRC proposed rulemaking regarding the addition of new scenario variables, including varied release conditions, non-sequential escalation of emergency classification levels, and the incorporation of HAB events. As such, NEI is including the same comments in response to this Section IV to NUREG-0654/FEMA REP-1, Supplement 4 as is being submitted in response to the NRC proposed rule changes found in Enclosure 1 beginning on the following page.

NEI Comments on Emergency Preparedness Rule Area: A.6. Challenging Drills & Exercises

NEI 06-04, Conducting a Hostile Action-Based Emergency Response Drill, Revision 1

Following the conclusion of the Phase 3 Pilot Drill Program, NEI commits to revising NEI 06-04 to include lessons learned from the pilot as well as other enhancements to the conduct of these drills. NEI seeks to continue to engage the NRC and FEMA in the development of the next revision.

General Comments

The proposed changes to 10 CFR 50, Appendix E, Section IV pertaining to drills and exercises as documented in the Federal Register/Vol. 74, No. 94 are generally acceptable to the industry; however, there are two overarching comments concerning the corresponding implementation guidance that need to be addressed.

Exercise Planning Cycle

The industry endorses the collaboration between FEMA and the NRC towards the goal of making evaluated exercises less predictable, more challenging and most importantly, more valuable to the participants. Given the new exercise requirements, and the desire to make scenarios less predictable, the exercise planning cycle should be increased from six-years to eight-years, with all required elements to be demonstrated at least once in a cycle. Implementation of the new scenario elements, along with existing exercise requirements, within 3 evaluated exercises (per the existing six-year cycle) will create more predictable scenarios and runs counter to the stated intent of the rule change.

For those states that have multiple NPPs within their jurisdiction, the requirement to include an HAB exercise within the 6-year exercise cycle for each NPP adds a costly and unnecessary burden. It would require many of the same ORO assets to demonstrate the same responses several times in any given six-year period. An eight-year cycle would help to address this issue.

Another advantage of an eight-year exercise cycle is that it would allow for closer alignment to the Homeland Security Exercise Evaluation Process (HSEEP) principle of objective-driven scenarios. The NRC and FEMA's proposed prescription for scenario variables in a three-exercise/six-year cycle makes the exercises driven solely by scenario tracking. The HSEEP process focuses on objective development that is based upon capabilities and training needs; and is NOT scenario driven. What's being proposed by both the NRC and FEMA is a scenario driven approach to exercises that is not in conformance with HSEEP. An eight year exercise cycle would enable licensees and OROs more flexibility to address performance needs and specific capability demonstrations that would provide a more valuable performance opportunity.

Hostile Action-based Exercises and Radiological Releases

In the draft NRC ISG, NUREG -0654, Supplement 4, and the draft FEMA REP Program Manual, the NRC and FEMA are proposing that consecutive hostile action-based scenarios can not have a no-release or minimal radiological release component; thus, every other HAB exercise will be required to include a radiological release.

Draft NRC ISG: "Scenarios with no or an unplanned minimal radiological release should not be used in consecutive hostile action-based exercises."

NUREG 0654, Rev. 1, Supplement 4: "An HAB exercise can coincide with either a release scenario or a "no release" scenario; however, consecutive "no release" HAB scenarios should not occur."

These statements are counter to the philosophy of the rule change area regarding "Challenging Drills and Exercises" in that they specify a sequence associated with hostile action based exercises that allows the emergency response organizations to anticipate scenario design with respect to radiological releases.

This requirement would have significant implications on the exercise submittal, review, approval and implementation process. The contents of these scenarios could meet the Safeguards threshold (e.g., target set information) or otherwise provide information advantageous to an adversary. Unlike FOF exercises, emergency preparedness exercise scenario materials are provided to personnel outside of the licensee's control. In addition, due to the new exercise scenario approval requirements, NRC staff would be required to approve scenarios with implausible accident sequences and consequences. Moreover, this specific event that the NRC suggests here would require licensees to prepare for an event that far exceeds the DBT. It assumes the DBT is not mitigated and a hostile action event ensues with protracted adversarial control of the plant, resulting in a radiological release that would consume LLEA resources over an extended period of time.

In addition, NEI believes the definition of "hostile action" inappropriately requires consideration of beyond design basis threat (DBT) scenarios without providing useful guidance defining the threat levels beyond the DBT that must be considered and planned for by licensees.

Hostile action based exercises should be limited to no or minimal radioactive releases that was demonstrated during the Phase 3 Pilot in accordance with NEI 06-04, Revision 1 endorsed by the NRC (RIS 2008-08). A hostile action based event which leads to a large radioactive release is overly complicated and is a scenario that is beyond DBT and beyond responsible demonstration of adequate protection.

To that end, NEI recommends that the two statements in the draft NRC ISG and NUREG-0654, Rev. 1, Supplement 4 regarding radiological releases and hostile action-based exercises be deleted.

Comment Matrix

NEI is providing additional comments to the Challenging Drill and Exercises rule area in the attached matrix. The matrix includes proposed changes to the implementing guidance provided in the NRC Draft ISG and NUREG 0654, Revision 1, Supplement 4.

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>Appendix E, Section IV.F.2.j</p> <p>ISG: Section IV.G, Challenging Drills and Exercises, page 27, new N.1.b criteria</p> <p>NUREG 0654, Supplement 4, new N.1.b criteria</p>	<p>"The exercises conducted under paragraph 2 of this section by all nuclear power plant licensees under this part and Part 52 must use scenarios with the following elements in each exercise planning cycle....."</p> <p>ISG: "The scenario shall be varied such that the major elements of the plans and preparedness organizations are tested within each six-year exercise planning cycle."</p> <p>AND</p> <p>"The following scenarios shall occur at least once every eight years:"</p> <p>Supplement 4, N.1.b: "An exercise shall include mobilization of State and local personnel and resources adequate to verify the capability to respond to an <u>accident incident</u> scenario requiring response. <u>Federal, State, and local personnel shall critique</u> The scenario should shall be varied from year to year such that the</p>	<p>No proposed change to rule.</p> <p>ISG: "The scenario shall be varied such that the major elements of the plans and preparedness organizations are tested within each six <u>eight</u>-year exercise planning cycle."</p> <p>AND</p> <p>Delete: "The following scenarios shall occur at least once every eight years:"</p> <p>Supplement 4, N.1.B: The scenario should shall be varied from year to year such that the major elements of the plans and preparedness organizations are tested within a five-year period <u>six-year planning cycle</u>. <u>eight-year cycle</u>.</p> <p>AND,</p> <p>Delete:</p>	<p>Given the new exercise demonstration requirements, and the desire to make scenarios less predictable, the exercise planning cycle should be increased from six-years to eight-years, with all required elements to be demonstrated at least once in a cycle. Implementation of each scenario element in 3 evaluated exercises (per the existing 6-year cycle) will create more predictable scenarios and runs counter to the stated intent of the rule change. Expanding the exercise cycle to 8-years will increase opportunities for scenario variability.</p> <p>For those states that have multiple NPPs within their jurisdiction, the requirement to include an HAB exercise within the 6-year exercise cycle for each NPP adds a costly and unnecessary burden. It would require many of the same ORO assets to demonstrate the same responses several times in any given 6-year period.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
	<p>major elements of the plans and preparedness organizations are tested within a five-year period <u>six-year planning cycle</u>. <u>The scenario variations shall include, but not be limited to, the following:...."</u></p> <p><u>"..... The following scenarios shall occur at least once every eight years:</u></p> <ul style="list-style-type: none"> ▪ <u>Hostile action directed at the plant site;</u> ▪ <u>An initial classification of or rapid escalation to a Site Area Emergency or General Emergency"</u> 	<p>"..... The following scenarios shall occur at least once every eight years:</p> <ul style="list-style-type: none"> ▪ Hostile action directed at the plant site; An initial classification of or rapid escalation to a Site Area Emergency or General Emergency" 	
<p>Appendix E, Section IV.F.2.j</p> <p>AND,</p> <p><u>ISG:</u> Section IV.G, Challenging Drills and Exercises, page 27, new N.1.b criteria, 6-year cycle requirements, 4th bullet</p>	<p>".....(5) implementation of mitigative strategies to respond to the loss of large areas of the plant under §50.54 (hh),"</p> <p><u>ISG and N.1.b:</u> "Implementation of strategies, procedures, and guidance developed under 10 CFR 50.54(hh)".</p>	<p>No proposed change to rule</p> <p><u>ISG and N.1.b:</u> "Implementation of strategies, procedures and guidance developed under 10 CFR 50.54(hh). <u>Actual movement and operation of equipment may be simulated.</u></p>	<p>Clarify that the movement and operation of plant equipment (e.g., diesel-powered pumps, fire hoses, valves, headers, etc.) is optional (i.e., may occur or may be simulated) at the licensee's discretion. Movement and operation of this equipment presents significant resource and safety issues.</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>ISG Section IV.G, Challenging Drills and Exercises, page 28</p> <p>Suggested addition to proposed changes</p>	<p>N/A</p>	<p>It is recommended that the staff take this rulemaking opportunity to modify NUREG-0654 (as has been done in other rulemaking areas) by updating Evaluation Criterion N.2.e. See proposed text below.</p> <p>“Evaluation Criterion N.2.e is being updated to reflect current regulatory positions and industry operating experience.</p> <p>e. <u>Health Physics Drills</u></p> <p>Health Physics drills shall be conducted semi-annually which involve responses to abnormal radiological conditions. These conditions may include simulated elevated airborne and/or liquid radioactivity levels both in-plant or in the environment.”</p>	<p>The proposed change updates Evaluation Criterion N.2.e to reflect current regulatory positions and industry operating experience.</p> <p>The revised “e.” will promote more realistic scenarios, and allow licensee’s to better focus drill events and resources on specific areas needing improvement.</p> <p>The existing “e.(2)” was deleted. Earlier this decade, licensees made changes to reduce or eliminate requirements associated with Post-Accident Sampling Systems (PASS). These changes were supported by owner’s groups and endorsed/approved by the NRC. These changes recognized that the majority of the PASS sample results do not aid emergency response personnel in any accident assessment or control function, and thus removed unnecessary regulatory burden. The proposed elimination of e.(2) aligns NUREG 0654 drill requirements with changes made to PASS requirements. It will also allow licensee’s to better focus resources on more important drill/response elements.</p>
<p><u>ISG:</u> ISG Section IV.G, Challenging Drills and Exercises, Proposed Guidance; Page 29</p>	<p><u>ISG:</u> “Scenarios with no or an unplanned minimal radiological release should not be used in consecutive hostile action-based exercises.”</p>	<p><u>ISG:</u> Delete: “Scenarios with no or an unplanned minimal radiological release should not be used in consecutive hostile action-based exercises</p>	<p>These statements are counter to the philosophy of the rule change area on “Challenging Drills and Exercises” in that they specify a sequence associated with hostile action based exercises that allows the emergency response organizations be anticipate scenario design with respect to radiological releases.</p> <p>This requirement would have</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
<p>NUREG 0654, Rev. 1, Supplement 4</p>	<p>Supplement 4: "An HAB exercise can coincide with either a release scenario or "no release" scenario; however, consecutive "no release" HAB scenarios should not occur."</p>	<p>Supplement 4: Delete: "An HAB exercise can coincide with either a release scenario or "no release" scenario; however, consecutive "no release" HAB scenarios should not occur."</p>	<p>significant implications on the exercise submittal, review, approval and implementation process. The contents of these scenarios could meet the Safeguards threshold (e.g., target set information) or otherwise provide information advantageous to an adversary. Unlike FOF exercises, emergency preparedness exercise scenario materials are provided to personnel outside of the licensee's control. In addition, due to the new exercise scenario approval requirements, NRC staff would be required to approve scenarios with implausible accident sequences and consequences. Moreover, this specific event that the NRC suggests here would require licensees to prepare for an event that far exceeds the DBT. It assumes the DBT is not mitigated and a hostile action event ensues with protracted adversarial control of the plant, resulting in radiological release that would consume LLEA resources over an extended period of time. In addition, NEI believes the definition of "hostile action" inappropriately requires consideration of beyond design basis threat (DBT) scenarios without providing useful guidance defining the threat levels beyond the DBT that must be considered and planned for by licensees. Hostile action based exercises should be limited to no or minimal radioactive releases as was negotiated and agreed to at the beginning of the pilot program. A hostile action based event which leads to a large</p>

Rule Language/ ISG Section	Document information	Line in / Line out	Basis / Comment
			<p>radioactive release is overly complicated and is a scenario that is beyond DBT and beyond responsible demonstration of adequate protection. NRC provided discussion pertaining to this point in the Lochbaum petition for rulemaking where a commenter stated that the requirement proposed in the PRM was "too vague in that it [did] not define how far beyond DBT adequate protection should be demonstrated." The NRC's response was, "With respect to the specificity of the petition, the NRC concurs that it would be difficult to construct criteria defining levels beyond the DBT for which demonstrations would be required.</p>

Section V: Backup Means for Alert and Notification (ANS) Systems

General Comments

NEI is concerned that the proposed ANS implementing guidance would not credit a licensee's ANS system that is designed such that no single point-of-failure would preclude successful alerting and notification. Common system attributes include multiple and independent activation points, backup power sources, overlapping acoustical coverage, multiple broadcast stations, etc. This type of robust ANS can complete alerting and notification functions more effectively than a backup ANS. The guidance may also have the unintended consequence of discouraging licensees from upgrading to higher quality ANS systems by diverting resources to, and/or increasing reliance upon, a backup means that, in the end, would be a less effective in protecting public health and safety.

For these reasons, NEI recommends that the guidance be revised to include a set of ANS design criteria or attributes that, if met by a site's ANS configuration, would obviate the need for a backup ANS. This approach would be consistent with the ANS rulemaking discussion presented in SECY-09-0007.

The proposed guidance would encourage, if not require, licensees to work with offsite authorities to establish route alerting systems that are manpower intensive or to install reverse 911-type wide-area telephone notification systems. Route alerting systems are of doubtful utility in northern climates because people in weather-tight homes would be unlikely to hear them or clearly understand the messages conveyed. FEMA has not endorsed the use of reverse 911-type notification systems because of their unreliable capability to notify essentially 100% of the population in a given area (not all households use conventional land-line telephones, not all telephone numbers are published, call volume may overwhelm switching equipment, etc.).

The proposed guidance does not recognize current efforts at the Federal and State level to develop comprehensive emergency alert and notification systems which utilize a wide range of technologies to disseminate messages under diverse conditions and events. These technologies can be utilized for supplemental nuclear power plant emergency alerting and notification purposes, and would be more effective than single purpose methods developed solely for nuclear power plant emergencies. A case in point is the FEMA Integrated Public Alert and Warning System (IPAWS). The vision of IPAWS builds and maintains an effective, reliable, integrated, flexible and comprehensive system that enables the American people to receive alert and warning information through as many means as possible.

During the course of NEI's review, it became apparent that the implementing guidance contained in the ISG and NUREG-0654, Supplement 4 is not aligned with the associated rulemaking discussion presented in SECY-09-0007. Specifically, the implementing guidance introduces requirements and expectations that go beyond the stated intent of the rule change, and their basis is unclear. The implementing guidance should be carefully reviewed to ensure that it does not introduce unnecessary or unwarranted requirements, or is otherwise more restrictive than the basis in SECY-09-0007.

Finally, both the ISG and NUREG-0654, Supplement 4, are promulgating guidance concerning backup ANS's; however, there are discrepancies in the text between the two documents. To promote better understanding and implementation, NEI recommends that ANS guidance be deleted from the ISG and reside solely within NUREG 0654, Supplement 4.

Specific Comments

This section revises NUREG-0654/FEMA-REP-1, Rev. 1 to require licensees to have a backup capability for the primary ANS. "The revisions also clarify that the backup capability does not have to meet the same time requirements as the primary ANS or its supplemental route alerting. However, if the backup capability is to become a temporary substitute for the primary alert system (e.g., due to an extended outage of one or more sirens), then the backup capability must also meet the same design objectives (e.g., time and coverage) as the primary means."

According to both the draft NRC ISG and Supplement 4, NUREG-0654/FEMA-REP-1, Appendix 3, Section B.2, is revised as shown by strikethrough and underlined text in the following:

The minimum acceptable design objectives for coverage by the system are:

- a) Capability for providing both an alert signal and an informational or instructional message to the population on an area wide basis throughout the 10 mile EPZ, within 15 minutes.
- b) The initial notification system will assure direct coverage of essentially 100% of the population within 5 miles of the site.
- c) Special arrangements Supplemental alerting and notification methods will be made established to assure essentially 100% coverage within 45 minutes of the population who may not have received the initial alert and notification within the entire plume exposure EPZ.
- d) Utility operators shall identify and develop, in conjunction with State and local officials, both administrative and physical means for a backup public alert and notification system capable of covering essentially 100% of the population within the entire plume exposure EPZ in the event the primary method is unavailable. The backup means of alert and notification shall be conducted within a reasonable time.

Following this passage, the NRC ISG continues on with a discussion paragraph (pp 46-47) that describes expectations for backup alerting plans that differs from the discussion in Supplement 4 (page 13). However, both paragraphs end with "OROs and utility operators attempt to establish backup means that will reach those in the plume exposure EPZ within 45 minutes of failure of the primary alert and notification system."

NEI requests that this last statement regarding a 45 minute requirement for the backup means be deleted from both the ISG and Supplement 4 discussions. This last statement contradicts statement "d)" above that states that, "The backup means of alert and notification shall be conducted within a reasonable time." NEI endorses the expectation that the backup means be conducted within a reasonable time.

This section also cites a revision to NUREG-0654/FEMA-REP-1, Appendix 3, Section C.3.g, shown by adding the underline text in the following:

NRC's licensees are urged to cooperate with State and local governments in the use of cost effective combinations of systems, including those already in place, as a means of satisfying this objective.

The siren signal shall be a 3 to 5 minute steady signal as described in Paragraph IV E of CPG-1-17 and capable of repetition.

An independent backup means of public notification is required as stated in section B of this Appendix. Backup power for fixed sirens is not required unless mandated by other regulation or legislative act.

Again, NEI recommends that the guidance be revised to include a set of ANS design criteria or attributes that, if met by a site's ANS configuration, would obviate the need for a backup ANS. This approach would be consistent with the ANS rulemaking discussion presented in SECY-09-0007.

**NEI COMMENTS ON EMERGENCY PREPAREDNESS RULE – 10/19/2009
COMMENTS ON NRC REGULATORY ANALYSIS ASSOCIATED WITH COST**

I. Introduction

NEI reviewed Appendix A: Regulatory Analysis Assumption and Inputs, by Regulatory Input¹ and compared cost provided by the NRC with costs determined by a survey of 3 nuclear power plants for 5 of the rule areas that had the most significant cost impact.

II. Conclusions

NEI concludes based on a review of five of the more cost significant changes that NRC's estimates in some cases do not appear to be accurate and for one case Alert and Notification System Backup, does not match the requirements of the rule.

III. Cost Numbers

Rule Area	Industry One Time Cost	NRC Estimate of Industry One Time Cost
A.1 (A.6) On-Shift Staff ²	36,000	42,000
A.4 (A.5) Licensee Coordination	Implement Rule and Orders = 35,000 State and Local = 30,000 Total = 65,000	Implement Rule = 15,000 Implement Orders = 75,000 State and Local = 36,000 Total = 121,000
A.6 (A.3) Challenging Drills And Exercises	Implement Rule = 5,200 1 st Exercise = 150,000	Implement Rule = 12,800 1 st Exercise = 83,000
B.1 (A.11) Backup Means for ANS	Cost Vary by site ³	177,212 ⁴
B.4 (A.4) Evacuation Time Updating	120,000	211,200 ⁵

¹ Note that Appendix A is not organized in the same order as Federal Register/Vol. 74, No 94. Federal Register order is follow in the cost table and in the discussion. To provide clarity the Appendix A reference is provided also.

² Number is based on performing a job task analysis. No assumed costs off adding staff if JTA indicates additional on-shift staff required.

³ Cost vary based on method to comply with rule and will be discuss in section III.

⁴ This reported value is a weighted average cost based on some sites electing to use route alerting and some sites electing to upgrade or replace their siren system.

⁵ Note: Value reported on table A.4 of Appendix A is \$211,200 and is based on significant ETE update. Value reported on Exhibit 4-4 on page 30 is \$106,800 and is based each site determining if the ETE needs updating on only 50% of the sites requiring first year ETE updates.

IV. Discussion

A.1 On-Shift Staffing

NEI agrees with NRC estimate.

Rule would require licensees to perform job task analysis (JTA). Licensee JTA estimate is less than but within reason of NRC estimate. Numbers provided do not assume additional on-shift staff has to be added based on results of the JTA.

A.4 Licensee Coordination with ORO

NEI does not agree with NRC estimate.

The current rule would require the licensee to coordinate with the ORO to carry out planned functions, such as traffic control and route alert during a hostile action based event. As discussed in Enclosure 1, A.4 section of comments, the rule and ISG indicate coordination requires the licensee to ensure that the OROs are available to respond to a hostile action event and specifically compels certain actions of the ORO through the licensee. During public meetings NRC indicated verification of mutual aid agreements implement the rule. The NRC's estimate of \$121,000 over estimates verification of mutual aid agreements. During preparation for the Hostile Action Based drills, licensees coordinated with the ORO by performing tours of the Protected Area, working with the licensee to determine where Incident Command Posts would be located and performing various table top drills. The industry value \$65,000 value is indicative of that level of planning that was required for the hostile action based drills.

NEI believes it would be difficult to provide an estimate of rule implementation cost due to the vagueness of the current ISG implementing the rule.

A.6 Challenging Drills and Exercises (A.3)

NEI does not agree completely with NRC's estimate.

A main component of this rule is the requirement to perform Hostile Action Based Exercises. NEI believes that the NRC's one time cost, to revise existing schemes to track implementation of the various scenario objectives is in agreement with industry estimates. Although the NRC estimate is \$7,200 higher than industry, industry may be overly optimistic in their estimate.

NRC accounts for some governmental costs in the estimate, FEMAs. However, the NRC estimate does not account for State and local participation in a hostile action based exercise. The industry estimate does account for State and local participation. Therefore NEI believes that NRC has not fully accounted for all costs associated with this rule.

B.1 Backup Means for Alert and Notification

NEI does not agree with the NRC estimate. The estimate does not reflect the requirements of the rule.

Appendix A, A.11 states as one assumption (1) Twenty one sites already have backup power to sirens as a backup alerting mechanism. However, these sites would not be fully-

compliant with the proposed rule. They would need to upgrade their siren activation system in order to comply with the rule.

NEI does not believe this is not allowed by the current ISG. In fact in the NEI comments, NEI's revision to the rule and ISG suggests this method of compliance with the rule should be allowed.

NRC's cost for evaluation of the method to be used as a backup seems agrees with industry. NRC states \$7,000 and industry about \$9,000.

NRC's estimate for implementing route alerting appears to be accurate. Industry's estimate for a siren system upgrade ranges from \$65,000 to enhance some components to \$600,000 for a major upgrade like battery backup. Industry estimates a full replacement at one site at \$1.5 million.

NEI believes that due to the variability of costs between upgrading a siren systems or replacing siren systems, NRC's overall site specific number, based on different siren upgrade and route alerting options is a good estimate, if the rule language was revised to reflect siren upgrade as an acceptable method of compliance with the rule. NRC's number for upgrade and full replacement are in line with NEI's.

In summary, a siren upgrade does not appear to implement the rule. If NEI's comments on the rule are implemented, NRC's estimate would then be in line with the requirements of the rule.

B.4 Evacuation Time Updating

NEI agrees with NRC's estimates.

Industry estimates an ETE update would cost around \$120,000. The sites surveyed had moderate EPZ population sizes. The NRC uses a conservative number for a significant ETE update.